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A COMPARISON OF TECHNICAL TRACK AND GENERAL TRACK TRANSFER STUDENTS AT A TECHNICAL UNIVERSITY

By

Daniel L. Burcham

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ABSTRACT

A COMPARISON OF TECHNICAL TRACK AND
GENERAL TRACK STUDENTS AT A TECHNICAL INSTITUTION

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The purpose of this study was to compare community college transfer students in technical curricula with transfer students in general curricula. When technical-occupational students enter the university, are they the students who were predisposed to transfer? Did they interact with their community college in different ways than their general track peers? Do they "use" or interact with four-year institutions differently?

A survey was conducted of community college transfer students at a rural, technical university. Six major areas were analyzed: demographic characteristics, predisposition to transfer to a four-year institution, student interaction with the community college, student interaction with the four-year university, suggestions for improvement for transfer services at the community college, and suggestions for improvement for transfer services at the university.

The student responses to the survey were analyzed through multiple means. The different groups' responses were shown by descriptive data, including frequencies, means, percentages, and standard deviations. Chi-square analysis, Multiple Analysis of Variance, simple Analysis of Variance, the Scheffe' Procedure, as well as descriptive and subjective treatment of open-ended questions were used. The study included comparisons of disaggregated curriculum groups as well as the comparisons of combined technical curriculum groups and combined general curriculum groups.

One of the most important findings from this study was that technical transfer students tend not to show a disposition to transfer, whereas the general transfer students do. Technical students' interaction with both the community colleges and the university seem not to differ considerably, however, from general transfer students. Both technical and general track students saw the need for more specialized transfer counseling at both the community college and the university.

The students saw a need to improve communications between the institutions. The transfer process requires a series of steps beginning with initial decision-making and culminating after credit transfer and adaption to the university. Since the act of transfer is made up of different steps, different information becomes important as one goes through the process; therefore, student needs are different, depending upon the stage at which one finds oneself.

Dissertation Direction: Dr. Charles A. Blackman, Professor, Curriculum and Instruction

This work is dedicated to three individuals who brightened my life. I miss them.

John Case
He serves as my devil's advocate still.
Our dialogues will continue.
This is just an intermission.

Patti Hale
I hear my "other daughter's" laughter every day.

Rex Ray
Through some twist of fate, I followed him to three different universities.
I wish he could have seen the completion of the endeavor to which he recruited me.

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CHAPTER I

Introduction

Perhaps more than any other nation, the United States has developed for its citizens a wide range of post high school educational opportunities. To the traditional, four-year liberal arts degrees have been added one-year certificates, two-year degrees (many with a clearly technical focus), and specialized baccalaureate degrees. These various degrees differ greatly in their immediate relevance for employment, in the degree of selectivity in program admissions and in the geographical distribution of offering institutions.

The initial educational decisions made by students and their families are often not lasting decisions, at least in the sense that original degree choices remain the same. Circumstances, such as new insights or new career goals, often lead to student movement between institutions. In Michigan, for example, according to the Data Source (March 1991), 11,572 new Fall 1990 transfer students enrolled into four-year institutions from community colleges.

A great deal of time and effort is invested by personnel from community colleges and four-year institutions in advising and in providing support services. Students and their families are helped to make important decisions that will have long-term, professional and financial implications for the students.

The purpose of this study is to assess characteristics of particular curriculum groups of community college transfer students. In what ways do attitudes, behaviors, opinions and needs influence those who transfer to four-year institutions? This study is focused specifically on transfers from Michigan community colleges to one vocational-technical, four-year institution.

As the review of literature will show, studies of this kind are needed to examine the assumptions behind current transfer activities of higher education institutions. The research in the last few years has brought into question many commonly held beliefs. First, many researchers question the very function of the community college as a transfer institution, believing that the community college experience negatively, rather than positively, influences student transfer. Secondly, because of inadequate data, particularly data having to do with the transfer experience itself, questions remain about how best to encourage transfer and to provide student services for transferring students. National data indicate that many student transfers are not transfer students with two-year transfer degrees. The so-called "terminal degree" is increasingly used to transfer. These terminal degrees focus on technical, applied subjects and are often lacking in liberal arts offerings. Even the assumption that students will hold a two-year degree before transferring must be questioned: an informal investigation of transfer students at a four-year Michigan university showed that many transfers effect a transfer before gaining a degree.

If one cannot assume that many students in the current transfer population are prepared to make transfer, there are many implications for higher education. Those individuals responsible for academic programs may need to re-examine the curriculum for additional transitional classroom experiences for transfers. Similarly, different skill levels in independent thinking and communication may dictate different teaching techniques.

Obviously, deficient skills may bring into question the appropriateness of services to transfer students. If transfer students are found to be—as some researchers indicate—"freshmen twice," additional, and different, services may be needed. Additional and different learning center activities, tutorial services, advising, and counseling focused upon transfer students may be required.

Statement of the Problem

There is growing national- and state-level concern regarding transfer of students from two-year institutions to four-year institutions (Cohen, 1988). Even though it appears that national and State of Michigan interests would be served well by increasing the transfer rate, most researchers, and critics, feel that the transfer rate has steadily declined in the past twenty years (Kissler, 1988).

There is also a lack of consistent data. Aggregate data do not show at what point students transfer (after graduation or before), the distribution of courses taken, the quality of those courses, the quantity of instruction, nor is the content of individual courses known. Further, simple anomalies in methodology negate generalizations.

Transfer opportunities for career-track students have been largely dismissed even though this is the largest growing segment of the transfer population of transfer. "While critics have deplored the impact of growth in vocational programs on transfer education, and educators have ignored the transfer needs of career students, students have resolved their predicament in much the same way Alice [Alice in Wonderland] does when she simply opens the door and goes in" (Prager, 1988, p.77).

The concern for more closely examining the transfer experiences of technical-occupational students lies in the "climate of negativity" that surrounds transfer of vocational students: "the transfer data now collected are seldom solicited for or segregated by occupational-technical degree holders" (Prager, p.78).

The Cohen, Lombardi, and Brawer's Student Predisposition to Transfer (1984) survey does not include data which differentiate technical curricula students from others. Further, the survey instrument, which was adapted for this study, contains no requests for current community college curriculum.

Efforts need to be made to ascertain which Michigan community college transfer students show a predisposition to transfer. Further research efforts are needed to

determine if there are distinctions between technical-occupational students and their more traditional counterparts, particularly when they enter four-year institutions.

Purpose of the Study

One purpose of this study is to determine if the disaggregation of transfer population subsets is warranted in making decisions about transfer students. Since national studies do not, in general, differentiate between traditional and technical-occupational transfer students, there has been a variety of research conclusions drawn based on aggregation of students with rather wide-ranging differences in preparation and intention. Do transfer students show different predispositions, attitudes, and behaviors, depending upon the degree or curriculum to which they transfer? Another purpose of this study is to examine if technical-occupational transfer students interact with sending and receiving institutions differently than their traditional peers. Lastly, how do both groups of students—technical and general—describe needed improvements for transfer at the sending institutions and the receiving university.

Setting of the Study

Ferris State University, in Big Rapids, Michigan, provides an appropriate setting to conduct such research. First, it is an "opportunity" college which not only enrolls a great many students who might fit the profile of community college students, but it also serves as one of the community colleges for a four-county area, including Newaygo, Lake, Osceola, and Muskegon counties.

Secondly, community college transfers represent a significant portion of the university's students. Fall quarter (1991-92) 1,278 students transferred to Ferris; only 405 of these students were from Michigan four-year institutions, or out-of-state institutions and foreign institutions. Thus, 873 students transferred from two-year institutions. The trend seems to be increased transfer from these institutions as shown below:

	1990	1989	Diff.	%
Michigan Public Community/Jr. College	645	602	43	7.14
	1991	1990	Diff.	%
Michigan Public Community /Jr. College	829	645	184	28.53

Ferris functions internally as a transfer institution: fifty-six "2+2" programs are currently offered, with some two-year degrees having 25 options.

Ferris clearly provides a convenient site to examine differences between technical-occupational and traditional community college transfers. Ferris offers not only a number of liberal arts-centered curricula, but also offers a wide array of technical programs. A recent, informal examination of transfer folders showed that the College of Arts and Sciences, for the most part, received traditional Associate of Arts and Associate of Science degree transfers. The College of Technology, in general, received Associate in Applied Science degree transfers. The College of Business, however, received a mixture of Associate of Arts, Associate of Science, and Associate in Applied Science degrees. The College of Education also received a mixture of Associate of Arts, Associate of Science, and Associate in Applied Science degrees. For the purposes of this study, the Colleges of Pharmacy and Optometry were seen as professional colleges and their transfers were not included: both colleges offer doctorates and often enroll students holding baccalaureate degrees.

Significance of the Study

The research on transfer students is hampered by a paucity of data: much aggregate data are not collected in any consistent fashion. It is not unusual for states, as well as individual institutions, to collect data inconsistently and without specific guidelines. Those students who transfer without completing a two-year degree, for example, may not be distinguished from those who do transfer with a degree. Because two separate institutions

are involved in transfer, it is rare that the entire process is carefully monitored or evaluated. Even very simple relationships between institutions are confused: the recent State of Michigan report by Maureen Neal (1988) noted that two-year and four-year institutions often disagreed whether or not articulation agreements existed between them. To make the situation even more complex, the technical degree, long seen as a terminal degree, is now increasingly used as a transfer degree. Little research exists to clarify the transfer experiences of these students utilizing such degrees.

Recent interest in examining the transfer of two-year students to four-year institutions has stemmed from a variety of sources. The Ford Foundation has funded a number of grants designed to research the transfer phenomenon, and both state and national government agencies have supported research and special programs related to transfer. Both the Federal Department of Labor and State of Michigan's Adult Literacy Task Force (1988) have indicated a need to upgrade and continue education for technical workers, including those technical workers with two-year degrees.

The overall importance of the issues can be lost in vagueness of definitions (e.g., the word articulation is a particularly multi-faceted word, meaning any number of things from "simple transfer of credit" to the "providing of services to transfer students.") Similarly, limitations are placed upon a thorough understanding of the transfer process because of misunderstandings relating to institutional function. One need only to read Parnell's The Neglected Majority (1985) to understand that the community college function is seen by many not as a mechanism to supply baccalaureate-oriented students to four-year institutions, but rather as a terminal training experience for students who will form the technological strata of our new society.

Other researchers (Prager, 1988, and others) note that the comprehensive community college, even though its primary stated goal is to provide students access to a four-year degree, is often staffed by those who see the community college's primary role as providing services to its immediate constituency or geographical area. Quite often these

services are not degree-granting activities. Many are self-improvement courses or health service oriented, and/or involve short-term work training. Even when degrees are granted, these degrees may be technical degrees designed to be terminal and often with few liberal arts courses. Paradoxically, it has been the technical-degree student, according to some researchers, whose transfer rate is on the rise—not the transfer-degree student.

If this were not enough ambiguity, community colleges have been blamed for performing a "cooling out" function. The original phrase came from an essay by Burton Clark (1960) who borrowed a phrase from con-man argot of "cooling out the mark" or sucker (Reisman, 1980). Counselors convinced the lower socioeconomic strata "they had a crack at higher education while gently persuading them that they were not "college material" (Reisman, p. 185). Some researchers even hypothesize that the students themselves have a negative influence upon the institutions they enter: an institutional culture springs up based on the culture of the students served. The resultant situation limits both staff and students.

While many researchers disagree as to the exact reasons transfer between two-and-four year institutions is difficult, it is clear that the overall transfer rate has decreased even as Technical transfers have increased. Further, there is little question that successful transfer programs are a worthy goal: the community colleges, as many researchers note, enter students who ordinarily would have little opportunity for higher education. Regardless of how one may evaluate the overall function of these community colleges, no one questions their ability to enter students who are minorities and/or economically disadvantaged.

Criticism is not limited to two-year institutions, however. In 1983 a number of California-based action groups, representing minority concerns, filed suit against the California State Board of Regents for not encouraging the transfer function (Avila, 1983). Perhaps the most important aspect of this petition was the fact that the four-year degree was described as now equal to the high school degree, in the sense that a baccalaureate

degree is required if one is to function well in society. Those filing the petition feel that an opportunity must be provided for all students, particularly minorities, to obtain such degrees. Too often other critics feel the four-year colleges are only too glad to see the community colleges practice a "cooling out" effect.

Two well-published researchers on transferability, Richardson and Bender, feel that there has been little progress in making four-year institutions accessible to the underclass. While community colleges are remaining open-door, public universities are "stiffening admission requirements in response to public concerns about quality" (p. 37). The authors do not see a national movement toward survival: "In fact, judging from the declining percentages of minorities attending public four-year institutions, little enthusiasm for the task is apparent" (p.37). One senses, then, a drawing apart of two huge sections of American Education: the community colleges, as a part of their collective missions, enroll increasing numbers of minority, underclass, ill-prepared and non-traditional students while the four-year universities move further away in their efforts to accommodate these students.

If the results of this study contrast with national data, further research, including the collection of aggregate data, is clearly indicated. Similarly, if differences are shown between technical and traditional community college degree seekers, much aggregate national transfer data, particularly those data relating to predisposition to transfer, may be called into question. More careful collection of data would need to be carried out, including the disaggregation of technical student data.

The transfer experiences of technical students may differ from those the traditional, liberal arts transfer student may have. Different types of transfer students may require different services.

Research Questions

1. How do Technical, Arts and Sciences Technical, Arts and Sciences General, Business Technical, Business General, Education Technical and Education General transfer students differ in respect to demographic variables?
2. How do Technical, Arts and Science Technical, Arts and Sciences General, Business Technical, Business General, Education Technical and Education General transfer students differ in their interaction with the community college?
3. How do Technical, Arts and Sciences Technical, Arts and Sciences General, Business Technical, Business General, Education Technical and Education General transfer students differ in their interaction (use of academic support services and transfer services) with the university?
4. How do Technical, Arts and Sciences Technical and Arts and Sciences General, Business Technical and Business General, Educational Technical and Education General transfer students differ in predisposition to transfer characteristics?
5. How do Technical, Arts and Sciences Technical, Arts and Sciences General, Business Technical, Business General, Education Technical and Education General transfer students describe needed improvements to the transfer experience at the community college?
6. How do Technical, Arts and Sciences Technical, Arts and Sciences General, Business Technical, Business General, Education Technical and Education General transfer students describe needed improvements to the transfer experience at at Ferris State University?

To answer the research questions, the following hypotheses are considered.

Null Hypothesis

Hypothesis 1: There are no differences between the curriculum groups in demographic characteristics.

Hypothesis 1.1: There are no differences between the curriculum groups as measured by age.

Hypothesis 1.2: There are no differences between the curriculum groups in regard to ethnicity.

Hypothesis 1.3: There are no differences between the curriculum groups as measured by gender.

Hypothesis 1.4: There are no differences between the curriculum groups as measured by hours of employment.

Hypothesis 1.5: There are no differences between the curriculum groups as measured by income.

Hypothesis 2: There are no differences between the curriculum groups in their interaction with the community colleges.

Hypothesis 2.1: There are no differences between the curriculum groups in their use of academic counseling.

Hypothesis 2.2: There are no differences between the curriculum groups in their interaction with the community college as measured by their use of career counseling.

Hypothesis 2.3: There are no differences between the curriculum groups in their attendance at study groups.

Hypothesis 2.4: There are no differences between the curriculum groups as measured by their attendance at study skills workshops.

Hypothesis 2.5: There are no differences between curriculum groups in their use of tutorial services.

Hypothesis 2.6: There are no differences between the curriculum groups in their attendance at orientation sessions at Ferris.

Hypothesis 2.7: There are no differences between the curriculum groups in their attendance at recruiting meetings.

Hypothesis 2.8: There are no differences between the curriculum groups in their attendance at application workshops.

Hypothesis 2.9: There are no differences between the curriculum groups in receiving community college assistance with transfer.

Hypothesis 2.10: There are no differences between the curriculum groups as measured by their attitudes toward assistance from counselors.

Hypothesis 2.11: There are no differences between the curriculum groups as measured by their awareness of special services for students who want to transfer to four-year colleges.

Hypothesis 2.12: There are no differences between the curriculum groups as measured by their difficulties to gain transfer information from community colleges.

Hypothesis 3: There are no differences between the curriculum groups in their interaction with Ferris State University.

Hypothesis 3.1: There are no differences between the curriculum groups in the importance of counselors providing information.

Hypothesis 3.2: There are no differences between the curriculum groups in their evaluation of the importance of teachers as information sources.

Hypothesis 3.3: There are no differences between the curriculum groups in their evaluation of the importance of friends providing transfer information.

Hypothesis 3.4: There are no differences between the curriculum groups in their evaluation of the importance of the Admissions Office at the University in gaining transfer information.

Hypothesis 3.5: There are no differences between the curriculum groups in their participation in academic counseling.

Hypothesis 3.6: There are no differences between the curriculum groups in their participation in career counseling.

Hypothesis 3.7: There are no differences between the curriculum groups in their participation in study groups.

Hypothesis 3.8: There are no differences between the curriculum groups in their participation in study skills workshops.

Hypothesis 3.9: There are no differences between the curriculum groups in their use of tutorial services.

Hypothesis 3.10: There are no differences between the curriculum groups in their use of the library.

Hypothesis 3.11: There are no differences between the curriculum groups in their making appointments with instructors.

Hypothesis 3.12: There are no differences between the curriculum groups in their use of faculty advice.

Hypothesis 3.13: There are no differences between the curriculum groups in their engaging in informal discussions with faculty.

Hypothesis 3.14: There are no differences between the curriculum groups in their taking of detailed notes.

Hypothesis 3.15: There are no differences between the curriculum groups in the taking of notes from assigned readings.

Hypothesis 3.16: There are no differences between the curriculum groups in their requesting additional references from their instructors.

Hypothesis 3.17: There are no differences between the curriculum groups in their attendance of lectures on campus.

Hypothesis 3.18: There are no differences between the curriculum groups in their engaging in discussions of transfer to the University.

Hypothesis 3.19: There are no differences between the curriculum groups in their reading of the school paper.

Hypothesis 3.20: There are no differences between the curriculum groups in their looking at bulletin boards for announcements of special activities.

Hypothesis 4: There are no differences between the curriculum groups in regard to their predisposition to transfer.

Hypothesis 4.1: There are no differences between the curriculum groups in their primary reason for attending a community college.

Hypothesis 4.2: There are no differences between the curriculum groups in their use of catalogs or course schedules to determine if courses transfer.

Hypothesis 4.3: There are no differences between the curriculum groups in use of counseling to determine which courses transfer.

Hypothesis 4.4: There are no differences between the curriculum groups in their communication with Ferris State University.

Hypothesis 4.5: There are no differences between the curriculum groups in their use of friends to find out which courses at the community college were for transfer.

Hypothesis 4.6: There are no differences between the curriculum groups in their knowledge of transfer credit.

Hypothesis 4.7: There are no differences between the curriculum groups in their contacting the University and requesting catalogs and application forms when planning transfer to the receiving institution (Ferris State University).

Hypothesis 4.8: There are no differences between the curriculum groups in consulting counselors for transfer information.

Hypothesis 4.9: There are no differences between the curriculum groups in their visits to the University.

Hypothesis 4.10: There are no differences between the curriculum groups in their completing and submitting applications.

Hypothesis 4.11: There are no differences between the curriculum groups in discussing transfer opportunities with friends.

Hypothesis 4.12: There are no differences between the curriculum groups in seeking information from the counseling office.

Hypothesis 4.13: There are no differences between the curriculum groups in their knowledge of the number of credits the University would accept toward elective requirements.

Hypothesis 4.14: There are no differences between the curriculum groups in their knowledge of the number of credits the University would accept toward major requirements.

Hypothesis 4.15: There are no differences between the curriculum groups in their evaluation of the importance of teachers and counselors influencing the transfer to the University.

Hypothesis 4.16: There are no differences between the curriculum groups in their decision to attend the University because they wanted to live at home.

Hypothesis 4.17: There are no differences between the curriculum groups in attending the University because they could not afford another college.

Hypothesis 4.18: There are no differences between the curriculum groups in making the decision to attend the University because of the program of greatest interest is offered.

Hypothesis 4.19: There are no differences between the curriculum groups in their decision to attend the University because the students could hold a job.

Hypothesis 4.20: There are no differences between the curriculum groups in their enrolling at the University because they could not find a job.

Hypothesis 4.21: There are no differences between the curriculum groups in deciding to attend the University to be with friends.

Hypothesis 4.22: There are no differences between the curriculum groups in deciding to attend the University because they were given no information on other colleges.

Hypothesis 4.23: There are no differences between the curriculum groups in deciding to attend the University because they would not qualify for admission to other four-year colleges.

Hypothesis 4.24: There are no differences between the curriculum groups in their receiving encouragement to consider transferring to a four-year college.

Hypothesis 4.25: There are no differences between the curriculum groups in believing transferring to a four-year college was important.

Hypothesis 4.26: There are no differences between the curriculum groups in believing transferring to a four-year college was too far in the future to worry about when in community college.

Hypothesis 4.27: There are no differences between the curriculum groups in being disappointed if they had not transferred to a four-year college.

Hypothesis 4.28: There are no differences between the curriculum groups in talking to friends about transferring to a four-year college.

Hypothesis 4.29: There are no differences between the counseling groups in wanting transfer information, but not knowing from whom to get information.

Hypothesis 4.30: There are no differences between the curriculum groups in looking at the college catalog to determine what courses would qualify for transfer.

Hypothesis 4.31: There are no differences between the curriculum groups in their evaluating getting a job as more important that transferring to a four-year college when in community college.

Hypothesis 5: There are no differences between the curriculum groups in suggestions for improving transfer at the community college.

Hypothesis 6: There are no differences between the curriculum groups in suggestions for improving transfer to the university.

Definition of Terms

Technical Degree: A degree which features the immediate application of practical, specialized skills in a focused area. The technical curriculum places emphasis on functional competencies, although a theoretical foundation is required. In general, these degrees are Associate in Applied Science degrees or the four-year degrees to which Associate in Applied Science degree students transfer to finish 2+2 options.

General Degree: A degree which may feature a specific curriculum field such as business, but which depends on the liberal arts as a large part of its base, as well as for a theoretical foundation.

Demographic Variables: The following data were requested:

a. age

b. race

c. gender

d. hours currently employed

e. family income

Community College Variables: The students' interaction with their community college will be measured through a survey of activities participated in while in community college. These activities include the counseling staff, admissions office, study groups, and study skills workshops.

Receiving Institution Variables: These variables include application to other colleges, career sought, and the reason for attending present college. These variables also included whether the student contacted the receiving institution and knew what courses transferred. The variables included activities the student is engaged in, such as taking notes, asking for additional references, and having informal conversations with professors.

Predisposition to Transfer Variables: The predisposition to transfer variables include the following types of data:

1. The amount of preparation to transfer, including contacting and visiting the 4-year institution.
2. Use of community college services to gather information on transfer.
3. Attitudes toward transfer.

Needed Improvements to Transfer Experience Variables: The student was asked to suggest ways to improve educational and counseling services for transfer students at the community college. Another open-ended question asked the student to suggest ways to improve educational and counseling services for transfer students at the university.

Receiving Institution: The four-year institution receiving the community college transfer: in this case, Ferris State University, a polytechnical university offering a variety of technical and liberal arts degrees.

Arts and Sciences General Classification: The Arts and Sciences General classification included Arts and Sciences curricula, with the exception of three Technical degrees, both two- and four-year curricula. These curricula are made up mostly of Arts and Sciences courses.

Arts and Sciences Technical Classification: Those curricula in Arts and Sciences identified as occupational: Journalism (A.A.A.), Ornamental Horticulture (A.A.S.), and Industrial Chemical Technology (A.A.S.)

Technical Group Classification: The curricula of both the Colleges of Technology and Allied Health were included in the Technology Classification. Both colleges have technical curricula and technical course offerings.

Business Technical Classification: The Business Technical classification included those curricula, both two- and four-year, which are specialized, such as Visual Communications, which has both B.S. and Associate in Applied Science degrees. Similarly, Food Service Management (A.A.S.) and Quantitative Business (B.S.) would fall into the Business Technical classifications.

Business General Classification: Those business curricula which feature heavy numbers of liberal arts courses and have their genesis in theoretical foundations formed the Business General Classification. Curricula such as Business Administration, Economics, Accountancy and International Business would be included in this classification.

Education Technical Classification: The Education Technical classification included such degrees as Technical Education, Training in Business and Industry, and Wage Earning Home Economics Education.

Education General Classification: The Education General classification included such degrees as Science Education, Mathematics Education, and Pre-elementary Education and Pre-secondary Education.

Limitations and Delimitations

Limitations

1. A lower response rate occurred because of the length of the survey and the lack of reward for filling out the survey. Two mailings were made at two-week intervals to enhance response rate. Also, telephone interviews were conducted, not only to improve response rate, but to provide opportunities to discuss the transfer process with students.
2. The transfer environments at sending institutions vary immensely: research shows that community colleges differ in their institutional cultures, with transfer tendencies as one variant. While the survey instrument items include some institutional characteristics and student interactions, the institutional differences of sending institutions were not measured further, particularly in regard to "academic atmosphere."
3. The transfer population in this study are those from only one of many receiving institutions. While its various curricula appear to make it an appropriate choice to examine differences of technical and traditional transfer students,

Ferris also attracts a very specific student population. One would assume, for example, a very high career orientation, even among Arts and Sciences students.

4. The quality and content of the various community college curricula was not known or measurable. In a recent manual examination of files, it became clear that one cannot assume that the listing of a curriculum is an indicator of course selection. Some students had all liberal arts courses except one technical course, even though they were listed as a technical student.
5. Similarly, even though students tended to enter a particular curriculum which corresponded to previous educational experiences, there are many instances of technical students entering liberal arts-oriented curricula and liberal arts degree students choosing technical curricula. In this study students are grouped by the curriculum to which the students transferred.

Delimitations

1. The curriculum areas chosen for this study represent the configuration of one institution only. Ferris State University offers technical curricula and general curricula within the same college. For the purpose of this study the curriculum of the College of Business was divided into two parts: Business Technical and Business General. Similarly, the College of Education was divided into two parts: Education Technical and Education General. The College of Arts and Sciences also had two groups, Arts and Sciences General and Arts and Sciences Technical.
2. The 1991-92 fall enrolled transfer students who came from community colleges to Ferris State University were the target population, even though other transfer students enter the other three terms. The characteristics of the transfer students from other terms are unknown. Extension students were excluded.

3. The administration of the survey is a one-time-only measurement. Spring 1991-92 was the only administration of the survey.

Organization

In Chapter I the study is introduced and a statement of the problem is provided. The purpose of the study and a clarification of method, including research questions, are given. Also included in Chapter I are the significance of the study, definitions of terms, identification of limitations and delimitations, and an overview of the study.

Chapter II is an overview of research literature, in four parts. There are discussions of the importance of the subject: the declining transfer rate, the demographic makeup of community college students, implications for Michigan and the Nation. Secondly, there is a discussion of the nature of the problem, the difficulties inherent in the transfer process. Solutions which have been suggested by researchers, including those focusing on technical transfer are outlined in part three. Last is a section focused upon the transfer function and how this study supports this function.

Chapter III includes a description of an adapted survey instrument, the research design, the target population, the sampling process, analysis of data, and the statistical treatment used.

The plan for data reporting and findings, and a presentation of the data are explained in Chapter IV.

Chapter V contains the Summary, Conclusions, and Recommendations.

CHAPTER II

REVIEW OF THE LITERATURE

The following review of literature begins with a section entitled, "Importance of Subject." In this section there is a discussion of National and state interest in the transfer process and its importance in attaining social, economic, and educational goals. A second section, "The Nature of the Problem," delineates the problems associated with the transfer process. In a third section entitled, "Suggested Solutions," an overview of successful transfer procedures is discussed. The latter part of this section focuses upon the transfer of technical degrees, the use of 2+2 programs, and differing approaches to the transfer of technical students. A final major section, "Related National Studies," overviews some predisposition to transfer studies, including the Bensimon and Riley study which provided impetus for this study. Last, a summary of the review of literature ends the chapter.

Part One: Importance of Subject

Since the early 1980's there has been an increased interest nationally in the transfer of community college students to senior institutions. At least part of this interest was spurred by the Ford Foundation, which, in 1983, began funding grants to advance transfer in urban, public community colleges. Such interest includes not only a consideration of those factors which determine student predisposition to transfer, but also what actions by both community colleges and senior institutions enhance successful transfer.

Transfer between the two-year and four-year institutions, as many researchers comment, deserves a larger place as a research topic for a number of important reasons, most of which have national implications.

At the heart of all research and considerations of the transfer issue lies a general principle, stated or unstated: postsecondary education needs to provide access to as many students, regardless of diversity, as reasonably possible. Ernest L. Boyer, in College: The Undergraduate Experience in America makes the following comment:

> We have created the world's first system of universal access to higher education. It provides entrance somewhere to virtually all who want to enroll and offers an almost unlimited choice of subjects to be studied (p.2).

Boyer finds, however, that the "undergraduate college, the very heart of higher learning is a troubled institution" (p.2). There seems to be "discontinuity" between schools and higher education. One of Boyer's oft-quoted statements serves well here: "We begin this report with the conviction that the nation's education structure should be a seamless web" (p.2).

It is this conviction that there should be a "seamless web" of education which prompts many to question the transfer function between two-year and four-year colleges. There is little question that the community college, or, more correctly, the transfer from community college to four-year institutions, poses serious problems in developing a "seamless web." James Palmer, in "Bolstering the Community College Transfer Function," notes that the two-year institutions "developed as adjunctive colleges, largely outside of the educational continuum stretching from kindergarten through graduate school" (p.4). Palmer speaks also of the need to place the community college more securely into the educational mainstream.

At least one reason for the increasing interest in student transfer from community colleges to senior institutions stems from the basic confusion surrounding the role of community colleges in supporting transfer. Simply put, the expectation that the community colleges faculty see the transfer function as central to institutional mission is not warranted. Carolyn Prager, editor (and contributing author) of Enhancing Articulation and Transfer (1988), states that the "most comprehensive community college mission

statements list the transfer function as the first of the institution's missions." Nevertheless, there is considerable evidence that transfer has declined during the period in which most of us reading this page have been associated with colleges" (p.1). At least part of this decline is attributed to what Prager calls "mission schizophrenia." Even though the public sees transfer as the primary purpose of community colleges, and although the majority of community college students have the baccalaureate as their goal, only 19 percent of the faculty believe that "the primary mission of the community college should be preparation for transfer" (p.1).

While several researchers attempt to explain the causes of dwindling transfer numbers, not one questions that it is occurring. Gerald R. Kissler, whose two 1980 reports seemed to spark a great deal of controversy at the beginning of the previous decade, explains that there was already an ongoing debate at the time he published, and there should be no surprise that some professionals were threatened and others challenged. In the end, however, one fact remains, according to Kissler, "no one disagrees that fewer students are transferring, that the ratio of transfers to total community college enrollments has declined, and that the number of transfers is not as high as it was once hoped to be" (Kissler, "The Decline of the Transfer Function," p.24). As one researcher comments, "At particular risk is the survival of a coherent two-year sequence for the declining number of full-time students interested in earning a baccalaureate degree" (Richardson and Bender, p.v).

Certainly, Michigan shows similar tendencies in transfer of two-year students to four-year institutions. In a draft copy of a Michigan Department of Education report entitled, "Transfer Data, 1986 and 1987" (provided by Catherine B. Smith), the following comment is made:

> On the basis of the volume of transfer students moving from community college to public universities, it could be argued that transfer education is not a very big issue for either community colleges or universities. Comparing each year's transfer students to the previous year's fall

> enrollment headcount, community colleges sent only 4.3 percent of their 1985 headcount on to the university in the following year and only 3.9 percent of their 1986 headcount transferred on in the next year (p.8).

The concern of most educators, however, is not just the diminishing transfer rate: it is the demographic characteristics of those students in community colleges who do not transfer. As one researcher is quoted later in this report, the community colleges have become the Ellis Island of the educational world. More educationally disadvantaged, more minorities, and more poor students, proportionately attend community colleges.

Arthur M. Cohen, in "Trends and Issues in Community Colleges: Minority Student Transfer," 1988, provides interesting aggregate data on enrollment in community colleges. Following are percentages of enrollment by race:

> 34% of all White undergraduates
> 39% of all Black undergraduates
> 53% of all Hispanic undergraduates
> 51% of all American Indian undergraduates
> 43% of all Asian undergraduates (p.3).

The percentages of black undergraduates seem low, but Cohen notes that, in the south particularly, many black students enroll in all-black colleges, most of which offer four-year degrees.

Also, Cohen indicates that the "community colleges receive higher proportions of the students from low socio-economic groups and with lower academic ability" (p.3). In 1982, 58 percent of students in the highest socio-economic quartile enrolled in senior institutions—21 percent in community colleges. Similarly, 63 percent of those students in the highest academic quartile entered universities, but only 16 percent entered community colleges.

As one would expect, Michigan minority student transfer is also quite low. The same "Transfer Data, 1986 and 1987" report confirms this conclusion. "There is no evidence that black community college students have been especially encouraged to prepare for transfer" (p.8). Similarly, the Michigan Department of Education Office of

Minority Equity, in a request for grant proposals for the Michigan College/University Program, states that in 1988 there were more minority students (Black, Hispanic, and Native American) in community colleges than in public universities (26,271 compared to 21,999). Further, "in 1987, only 616 community college minority students transferred to public universities—7.6 percent of all transferring students, even though they comprised 12.6 percent of community college enrollment" (p.1).

Also, there is another unique population largely served by community colleges; the vocational-technical student has become an important part of national education efforts. The "reformation" often called for by experts cannot mean a return to transfer options of twenty years ago. Rather, options must be "reformed" to include all academic tracks:

> ...the fact that the transfer rate of occupational technical students now equals or exceeds that of liberal arts and science students calls into question the validity of distinguishing between those two groups in terms of transfer and non-transfer tracks. It also calls into question the adequacy of career program preparation for baccalaureate degree educational options for career students (Prager, p.2).

The labor needs of the United States seem to demand these baccalaureate degree options. Perhaps one of the more paradoxical situations relating to American economic well-being is found in the duality of training which exists in the United States and the inherent weaknesses which result from this duality. A recent U.S. Department of Labor publication, "The Learning Enterprise," by Anthony P. Carnevale and Leila J. Gainer, delineates clearly the strengths and weaknesses of American production capabilities. Carnevale and Gainer discuss the "competitive cycle," the process through which products or services are brought to the marketplace. Simply put, the American production dilemma stems from our inability to match other countries' cycle time:

> Cycle time is generally too long in the United States. It takes the Japanese 40 months to get a new car to market; it takes Americans 60 months. The United Kingdom is able get pharmaceuticals to the

> market in 2 1/2 months, one half the time it takes American pharmaceutical companies (Carnevale and Gainer, p.5).

It appears that the American Economic system is quite effective in early phases of the cycle (initial innovation), but less competitive in production. Interestingly, the authors see parallels in the American learning system: our training for the professional, managerial, and technical elites is excellent, but...

> ...except for a scattering of excellent junior colleges, technical schools, and some training in the military, post-secondary education and training for non-college youth is often weak or nonexistent (Carnevale and Gainer, p.5).

But these youth are those who work at the point of production or service delivery. Further, those who directly supervise these youth (first-line supervisors) suffer from quality and quantity in training. Supervisors have less formal education and receive less training than high-level managers after they begin work; at the same time the role of supervisor is rapidly becoming increasingly complex. Even though technical skills allow such supervisors to gain their positions, an entirely new set of skills must be practiced: a range of interpersonal and managerial (Carnevale and Gainer, p.28).

The advent of working teams and the various technological changes place the first-line supervisor in an increasingly autonomous role:

> In some industries, the demise of middle management's role as information organizer and gatekeeper has propelled first-line supervisors to assume new linkage and information-gathering roles. In some cases, hierarchical levels have collapsed; middle and first-line management have combined into teams that work on all aspects of operations with non-supervisor personnel. This new participative management requires the first-line supervisor to spend more time dealing with conceptual and human resource issues than previously (Carnevale and Gainer, p.28).

It is not enough, then, that the educational system prepares individuals with only technical skills; it must develop a highly trained technical worker group— one which can function independently.

In "Countdown 2,000: Michigan's Action Plan for a Competitive Workforce" (1988), the Adult Literary Task Force makes the following projection:

> Thirty percent of the new jobs that will be created between 1987 and 2000 will require at least four years of college; only 17 percent of Michigan's work force possesses college credentials (p.4). (The last set of italics is the author's.)

One might add that the need for a baccalaureate will likely increase. In brief, the community colleges clearly serve a different clientele—a clientele which will be increasingly important in years to come, particularly for the State of Michigan. As Harold L. Hodgkinson has pointed out in his demographic report, "Michigan: The State and Its Educational System" (1987), "The past has shown a relatively poorly educated population making very high wages in industry. That clearly will not be the state's future, as education and re-education become a vital part of the restoration of the state's economy" (p.2).

Hodgkinson further points out that to carry out such a mission requires nothing less than a paradigm shift in thinking: "As the number of children born in poverty increases in Michigan, as the number of children who enter public school at risk gets larger, the function of education begins to change, from picking winners to creating winners, a much more difficult task" (p.9).

Part Two: The Nature of the Problem

Once one has established the importance of the transfer function, it is necessary to examine the nature of the problems that exist in a student's successful transfer. As indicated earlier, one of the recurring difficulties cited by researchers is a paucity of data: In general, neither the community colleges nor four-year institutions was often interested

in collecting meaningful data. Even when data are available, interpretations of the data pose particularly difficult problems. For example, if one is to understand the efficiency of either the community college or the four-year institutions in the transfer function, one must assess what type of student attempts transfer and why the transfer is made. Is the student a transfer-track student while attending the community college, or is the student one who took only general "appreciation" courses? Is the student an occupational student whose degree is designated as terminal? Was the student graduated from the community college before application to a four-year institution? Do personal living changes dictate transfer? These questions, and other similar questions, are often not answered through the use of aggregate data. In brief, the reasons for low transfer rates may well be inherent within student characteristics, but often these characteristics are not available to the researcher.

Similarly, researchers stress that one cannot underplay the impact of the physical and social environment upon student transfer. Cohen ("Trends") and others state flatly that living quarters have the greatest effect on the probability of finishing college. Richardson and Bender, "Students in Urban Settings: Achieving a Baccalaureate Degree," quote a 1984 CUNY Task Force Report which illustrates the problems arising from the socio-economic backgrounds of urban community college students:

> Our students do not live in dormitories isolated from reality by monthly allowances and clean laundry from provident parents. They are not isolated by the ivy-covered buildings from the shocks and assaults of urban life (Task Force, p.2). (Quoted from p.6 of Richardson and Bender.)

Obviously, the social difficulties often facing urban community college students result in attitudinal tendencies in community college faculty and state-funding agencies. Often, as Richardson and Bender point out, "The inner city of the urban community college district often suffers from an image problem traceable to attitudes toward the socio-economic status of its clientele" (p.8).

This image problem results in faculty seeking suburban assignments, less comprehensive programs, greater emphasis on remediation and inadequate physical facilities. The authors conclude that, "for those reasons, it is difficult to generalize about urban community colleges without disaggregating the individual campuses and the communities they serve" (Richardson and Bender, p.8). In the same way, the transfer function and the performances of community colleges and four-year institutions must be analyzed within the same limitations.

Given the above conclusions, one might conjecture that the internal environment of the community college is different, and there are strong indications that this is the case. Considerable research has taken place to attempt to examine the community college environment. Cohen ("Facilitating") concludes that the environment of the community college is designed for easy access and makes few demands on those who participate: "It is not disparaging to say that the community college environment is a cross between the comprehensive high school and the community center. It is certainly quite unlike the selective four-year college with which it is sometimes untowardly compared" (Cohen, p. 15). The College and University Environment scales test (CUES) was refined for community colleges and was administered to 95 community colleges (Hendrix, 1967, cited by Cohen ("Facilitating," p.15). The findings of this research were that "the range of differences at senior institutions was much greater than among the community colleges that he studied and that any difference in pattern of environment increases the likelihood of certain institutional objectives being achieved and decreases the likelihood of others" (Cohen, "Facilitating," p.16).

In an analysis in 1983, Richardson, Fisk, and Okun, using the observational technique in an Arizona Community College, found the staff not requiring students to read and write. Cohen ("Facilitating") also cites two studies by London (1987) and Weiss (1985), both of which confirm the close interplay of education, students, and environment. London found that "the institution supported limited aspiration of its blue collar student

population (Cohen, "Facilitating," p.19). Weiss found that students reproduce their community culture within the institution. As Cohen states, "the culture they produce mitigates the effect that the school can have on them" (p.19).

At the heart of the transfer problem is the suspicion by four-year institutions that the educational environment of the community college intrudes upon the classroom and the level of instruction. Many researchers believe this is so. Dympha Bowles in her article, "Transferability in the Liberal Arts and Sciences," discusses the discrepancies in community college course work, and four-year institutions' course work in liberal arts in particular, but also addresses the difficulties students have in transferring technically related courses and remedial courses.

Bowles, who also cites Richardson's and Bender's work, feels:

> that the award of transfer credit is in worse shape today than it was a decade ago and that senior colleges have become less willing to accept courses and grades earned in community colleges. The differing missions and traditions of senior and community colleges, the entry of large numbers of underprepared students through operations among students enrolled in nominally terminal career programs account for much of the difficulty in assessing the transferabilty of liberal arts courses to senior college programs. (p.28)

Bowles further delineates the difficulties of transfer from two- to four-year institutions by discussing the policies of the CUNY system of "nine senior and seven community colleges." One policy guarantees a place for an Associate of Arts or Associate of Science degree at one of the senior colleges. Another policy "stipulates the full transferability of all liberal arts and sciences courses to senior colleges throughout the system" (p.29).

Yet, in practice, implementation has not been effective:

> While these policies are coherent and well intentioned, and while they point the way toward improved articulation, the implementation of these policies has been uneven within the system. In a number of cases, students have accumulated in excess of 128 credits for the baccalaureate degree.

> Given CUNY's stated missions of access and excellence and the disproportionate number of minority students enrolled in its community colleges, such discrepancies between policy and practice are disturbing (Bowles, p.29).

Also, the more career-oriented courses students take, the more difficulties students experience in transfer: "Almost 90 percent of the liberal arts and sciences transferred compared to approximately 51 percent of the career-oriented courses" (Bowles, p.30). Both kinds of courses, however, had the same proportion (one-fourth) evaluated as free electives. Thus, in 1988, in a rather controlled educational system, with clearly delineated policies, one finds serious breaches in the system. Similarly, Bowles states that interdisciplinary courses such as "Humanism and Technology," "Biology and the Law," and "Art, Politics, and Protest" suffer from transfer-for-credit problems. Often, these courses reflect creativity and the kind of cohesive, integrated viewpoint other educators attempt to encourage. Bowles feels that "if students are to be treated fairly and the transfer process is to be rational, faculties must move beyond the concept of equivalencies or exact fit to a more flexible standard of evaluation" (Bowles, p. 33).

Basic skills courses, whether credit or non-credit (such as reading, writing, and mathematics) are not generally acceptable transfer courses. Often transfer students are required to pass through "validation" exams, even though "native" students are not required to pass comprehensives once they pass a course. As Bowles states,

> The courses offered at these two settings often cover the same topic and competencies, but, because the senior colleges have higher admissions standards, they often do not consider community skills courses to be comparable to their own. Thus, whether community college basic courses are credit or noncredit, they are generally evaluated as not transferable to the senior colleges (Bowles, 35).

One recurring paradox in transfer and articulation research is the clear understanding of the need for remediation coupled with a general distaste for remedial/devel-

opmental activities. Cohen ("Facilitating," p.28) comments that remedial/developmental education is "non-directive education." His statement follows:

> This type of instruction, typically placed under the rubric of remedial or developmental education, has the disadvantage of being open-ended; students cannot perceive a value in learning literacy with no visible payoff. A higher attention to strong academic supports for students in courses that carry transfer credit is the more useful option (p.28).

Cohen does not suggest what the strong academic supports are for courses that carry transfer credits. Certainly, Richardson and Fisk and Okun (Literacy in the Open-Access College) feel that one of the dilemmas of community college instruction is that general learning is supported, but that reading and writing skills are not often developed. The community college educator, then, may be placed in an untenable position: while society expects the social ills of the immediate geographical area to be addressed by a comprehensive community college (and this includes entering many students without degree aspirations), four-year institutions demand from community colleges rigid content courses which duplicate four-year offerings. Further, in carrying out these tasks, the community college educator is advised by some writers not to address the cognitive skills weaknesses of the community college student through specified courses—even though this is regularly done in four-year institutions—but to carry out remediation during regular instructional activities.

In fairness to the various researchers mentioned, one must add that these writers recognize the Catch-22 dilemma of community college educators and praise them for resilience and dedication in carrying out the community college functions. As a matter of fact, Richardson and Bender make it clear that community colleges are beleaguered: "While it is easy to be critical of current practice, a careful review of the circumstances suggests urban colleges and universities deserve considerable credit for coping with the problem as well as they do" (p.14).

Richardson and Bender provide a seven-point list of difficulties provided by CUNY'S Task Force on Student Retention and Academic Performance because CUNY is "perhaps the one place in the country where the smallest number of problems from an organizational perspective ought to exist" (Richardson and Bender, p.14). They feel, however, that this list summarizes the difficulties found by the entire United States Educational system:

(1) inadequate means of informing and advising students on appropriate programs and supplementary services;

(2) lack of programs for students for whom English is a second language;

(3) underprepared freshmen and the wastefulness of students' repeating remedial courses with little chance of progress;

(4) lack of faculty and administrative involvement in coordinated efforts at retention;

(5) disparity in retention rates between professional programs and liberal arts programs;

(6) the need to improve articulation between senior and community colleges; and

(7) the demoralizing effect of inadequate or unsafe physical facilities and inadequate staff (p.37).

In their final chapter, Richardson and Bender use the 1980 report of the Carnegie Council as something of a comparison mark to assess progress toward what the report calls "signs of the new emphasis on survival." The signs from the Carnegie Council are listed below:

(1) lower admissions standards

(2) a search for non-traditional students who in the past were least preferred

(3) an increased emphasis on retention

(4) grade inflation to attract and retain students

(5) a trend toward vocational and professional subjects in response to students' demands (p.37).

The authors feel that these signs have not appeared in their research. In assessing progress in transfer the last four years, Richardson and Bender use the (original) ten problem areas affecting transfer identified in a Ford Foundation Project of over ten years ago (Willingham, 1972); following are the areas with a commentary by Richardson and Bender regarding progress:

1. **Curriculum articulation.** Little evidence of improvement has surfaced during the past decade. In fact, some earlier practices of a promising nature seem to have fallen into disuse.

2. **Inadequate information.** Information for students' guidance and its dissemination to potential students was inadequate in 1972 and remains inadequate.

3. **Orientation practices.** It is now innovative to have a well-designed orientation program in a community college. The increase in part-time students and part-time faculty overwhelmed an advising system that was never particularly robust.

4. **Admissions procedures.** Special programs exist in all public universities to encourage the enrollment of minority students as entering freshmen. Less attention is given to encouraging minority transfers, with some notable exceptions, such as in the area of engineering.

5. **Diverse academic standards.** The situation in this area is probably worse than it was 10 years ago. This study suggests the discrepancies between academic requirements and standards of community colleges and universities may be widening in most urban areas.

6. **Credit.** Again, the assessment must be that conditions are worse. Four-year institutions have become less willing to accept courses and grades earned in community colleges.

7. **Access/retention.** One of the concerns identified by Willingham was the absence of information on holding patterns of transfers, particularly as it related to minority students. The good news is that a growing number of universities now have studies covering seven or more years disaggregated by ethnic status. The bad news is that these studies confirm discrepancies between retention and degree achievement for minority and non-minority students.

8. **Financial aid.** This area is much improved. Federal financial aid transfers readily, but the concern is that funding may be severely reduced under priorities of the current administration.

9. **Need for space.** Enough seats seem to be available to accommodate all students sufficiently prepared to benefit from the opportunity to attempt a baccalaureate education. These seats, however, like the faculty members who serve them, are badly distributed in terms of students' current interests.

10. **Articulation.** Willingham (1972) emphasized the need for additional state monitoring, and Moore (1981) concluded that stronger state policies will be necessary before meaningful articulation practices can be expected from public universities. Yet in many states, institutional autonomy is championed regardless of the consequences for social equity (pp. 38-41).

The evaluation of progress in ten specific areas reinforces those weaknesses delineated by other researchers. The suspected causes of low transfer rates are of such complexity that there appear to be few simple answers. First, there continues to be a lack of data for the students and advisors to make correct choices and to plan transfer. Further, it seems that transfer is to a great extent affected by inherent or systemic weaknesses of the institutions involved in the process. As Richardson and Bender indicate, many of the comprehensive community colleges, particularly urban colleges, seem neglected by state funding agencies because of unfavorable image problems stemming from the socio-economic status of the community college students served.

Further, it appears that the influence of the students themselves upon the institutional culture alters the effects the community colleges may have. In fact, some researchers see the institutions themselves adopting the value system of their clientele. Four-year institutions, with some exceptions, struggle with providing the support which such students would require, not just because of lack of interest and finances, but because the four-year institutions face a deteriorating base of qualified students; the basic skills deficiencies of their own freshman class dictate increasing time, personnel, and financial investments. While it does appear true, as Richardson and Bender state, that there is

"little enthusiasm" for amelioriating the situation, there is no doubt that state departments of education personnel and some funding agencies are concerned and intend to facilitate problem solving.

In Michigan, the Department of Education, in its publication, Data Source, now reports transfer data. The department has also begun funding of MICUP grants (Michigan College and University Partnership), which are designed to encourage transfer relationships between community colleges and four-year institutions. Last, the Michigan State Board of Education in 1988 released a report by Maureen T. Neal entitled, "Student Transfers from Community Colleges to Baccalaureate Institutions in Michigan." While it has been established in the first part of this report that minority transfer specifically is a concern, the Neal report, in total, shows Michigan transfer in a rather positive light.

The Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) began an articulation initiative in 1972. At this point, "52 public and independent senior institutions and 24 public community colleges and 3 independent two-year colleges are MACRAO signators" (Neal, p.7). Perhaps the most promising statement in Neal's report is that "students who adhere to the criteria established by MACRAO have little difficulty in transferring their community college credits to the senior colleges" (Neal, p.7).

Unfortunately, no agreement serves in such general fashion (or such efficiency) in degrees not included in liberal arts curricula. There are, however, agreements between senior institutions and community colleges which serve to improve the transfer of students in occupational programs. From the findings of the Neal Report, it seems that the results of applying these agreements are somewhat variable.

The Neal report also lists six methods of processing credit transfer as identified by MODAC (Michigan Occupational Deans Administrative Council). Following is a list of methods designed to enhance occupational transfers:

(1) *"Earned credit"* - students may actually register for courses at the four-year institution.

(2) *"Transfer credit"* - credit earned at another institution and transferred to the four-year college.

(3) *"Credit by Examination"* - for students who claim proficiency in specific sources and with [sic] to claim credit without repeating that work.

(4) *"Equivalency Credit"* - based on documentation that equivalent subject matter has been earned and repetition would be a waste of time.

(5) *"Advanced Standing"* - a student may enter a program at a level beyond the beginning courses.

(6) *"Performance Contract"* - the student may earn credit through the private sector by contract.

Three types of curricula are used to accommodate transfer to Michigan colleges and universities: these are the capstone, the equivalencies, and the 2+2. The capstone, as discussed before, allows an occupational student to complete a four-year degree by taking the junior and senior years at a senior college. Wayne State's two types of programs are titled: the Technological/Professional Capstone and the General Studies Capstone.

In the equivalency model, courses are "matched" on a course-by-course basis. Such a procedure is used to establish the "advanced standing" listed previously. The 2+2 model is one in which there is no consistent approach (and is often called capstone). An equivalent of two years of credit is transferred, often including both occupational and general education courses. It appears that there is little agreement on whether a program is 2+2 or capstone: "the community college 'partner' in the agreement almost always referred to the agreement as a 2+2 arrangement rather than using the term 'capstone'" (p.13).

Overall, 1,154 articulation agreements exist between the 29 community colleges and the senior institutions according to the Maureen Neal study. The number of

agreements between two-year and four-year institutions was 724: 256 of these are occupational agreements (Neal, p.13).

As indicated in the introduction of the Neal report, there remains in Michigan a discrepancy between minority enrollment in community colleges and resultant transfers to senior institutions. "The actual number of minority transfer students is small, considering the size of community college minority population" (Data Source, May 1988 p.2).

Also, as indicated earlier in this report, transfers in general do not serve as a large percentage of university enrollment. The Michigan Department of Education draft copy, "Transfer Data (1986-1987)," previously cited suggests that Michigan data are similar to national data in terms of associate degree transferring to four-year colleges—about 40 percent.

The Neal study also includes a survey of Michigan college and university presidents. There were differing viewpoints depending on the type of institution represented: community college presidents thought the amount of acceptable transferred credit was the most important issue; public university presidents thought the lack of students' understanding of college planning is the crucial issue. Independent college presidents thought "quality" the most important issue. While "better communications" and "standardization" were suggested by all these groups of presidents, they did not believe there should be state mandates or state policies to solve the problem.

There is, Neal believes, support for state incentives and encouragement. Some of the suggestions which were not generally supported were "a statewide course numbering system, clarification as to what constitutes 'general education,' a state wide system of course evaluations similar to the ESCALATE initiative attempt and development of a common procedure and format for articulation agreements" (p.10).

Another component of the Neal report was a survey of counselors. This survey was conducted by asking the presidents of the colleges and universities to identify two counselors who worked with transfers and who would complete the survey. Since the

sampling was not scientific, results cannot be generalized. Most responses were quite positive—it is from these results that the report concludes that "most counselors believed that both the MACRAO agreement and the occupational education agreements their colleges had with other institutions was a satisfactory arrangement for transfer of credits for most students" (p.3).

There are negative findings in the Neal report, however. Only 5-6 percent of the counselors believe community college students are encouraged to transfer. Also, even though 78 percent of the counselors believed that community college students served as a major source of recruitment for students admitted to four-year institutions, only 43 percent thought minorities were a major source (p.3).

What is identified as the "most controversial statement in the survey" was one which asked if faculty thought lower division courses at four-year colleges were better than courses at community colleges. Only 6 percent of community college respondents agreed, but 64 percent of public and 65 percent of independent counselors agreed. Similarly, senior college counselors felt community colleges offer enough "breadth" in their offerings, but they do not feel enough "depth" is offered. The technical education courses, as one might expect, were assessed as those degrees which are the most difficult to transfer. The formal agreements bear out such tendencies. "Thirteen was the median number of public universities with which the two-year colleges had any type of agreement. For only occupational agreements, the median number dropped to six" (Neal, p.12). Any evaluation of these data, however, must be done in light of potential transfer; in other words, it is a simple fact that some four-year institutions lend themselves to occupational agreements, some do not.

Not surprisingly, there are some disagreements about what constitutes a formal agreement: Neal states that "there were numerous occasions where one of the 'partner' colleges reported a program or MACRAO agreement, but such was not reported by the

other college" (p.11). These discrepancies occurred, apparently, in both MACRAO and occupational agreements.

Part Three: Suggested Solutions

Virtually every article which deals with transfer and articulation at some point cites the lack of information available to researchers, institutional decision makers, and counselors/advisors and admissions officers. Some rather far-sweeping systems are now in operation for providing such information. For example, Bowles describes the CUNY system which, with the assistance from the Ford Foundation, maintains a guide which includes the senior college evaluation of community college courses. In 1988, 10 colleges had evaluated 3,768 community college courses for a total of 37,680 evaluations. While, according to Bowles, the results of the use of this information are rather dismal there is now, within the CUNY system, information available for making transfer decisions and, therefore, course choice.

Schinoff and Kelley ("Improving Academic Advisement Through Technology," 1982) describe the Florida system where students work with a "computer-based system," that is used to monitor student progress. Called AGIS, or Advisement and Graduation Information System, the system provides up-to-date information on graduation requirements. "An additional feature of the system informs students of specific courses suggested and/or required by the 72 associate in arts degree programs in order to transfer to an upper-division university in Florida" (p.73).

As students progress through their prescribed two-year degree, then, there is also a constant evaluation of overall course transferability. Other community colleges, such as Montgomery College in Maryland, have constructed program articulation information systems through a computerized system in which the community college's central articulation office constructs a draft of proposed transfer courses which would apply to various programs in four-year institutions. The list of courses (now a program of courses) is

entered onto a disk which is sent to the transfer college. Here any needed changes are made by the transfer college and returned to Montgomery College. The program is then removed from draft stage and is available for future reference (Price and Miller, p.44). While the process may be slow and involved, it appears that there is progress in developing programs, rather than one-time evaluations of courses.

Joaquin G. Avila and others offers a series of recommendations to improve articulation and transfer, particularly to improve minority transfer. A summary of recommendations follows:

Remedies to Improve Transfer

1. Mandate that upon enrolling all incoming community college freshmen consult with counselors trained in transfer and career counseling, as well as all aspects of financial aid planning.

2. Mandate complete disclosure of transfer information at the community colleges as a requisite for continued accreditation.

3. Establish a mandatory transfer system between the community colleges and four-year schools upon satisfactory compliance with transfer requirements, as disclosed above in paragraph two. Articulation agreements would become mandatory rather than voluntary.

4. Establish a transfer center at each community college where students will be able to obtain transfer and financial aid information in addition to that set out in the catalogues.

5. Establish a mandatory system whereby potential transfer students may have their transcripts and credentials evaluated for articulation prior to the actual transfer and on a periodic basis, as necessary.

6. Ensure uniformity in course numbering among community colleges.

7. Ensure greater uniformity in course content among community college based on systematic academic performance standards.

8. Strengthen academic preparation of community college students for transfer.

9. Identify the 25 community colleges with the highest percentages of Black and Chicano students and target specific remedial transfer programs toward those colleges.

10. Establish a Board to oversee increasing transfer from the community colleges to UC and CSUC (pp. 31-33).

While these remedies were originally aimed at solving Californian difficulties, they seem to provide a starting point to discuss solutions to transfer problems elsewhere. At the same time one is struck by the general nature of some of the recommendations.

Some researchers such as Dorothy M. Knoells believe that the institution must go beyond identification and advising of self-identified transfer students: "the identification and counseling of students with the potential to succeed in baccalaureate degree programs are also important elements of the transfer function, particularly among students who may have low educational and career aspirations" (p.13).

It does appear that beyond the admittedly low ability levels of community college students lies the problem of low aspirations and motivation. Some researchers suggest that the immediacy of work-related training may encourage short term goals. Regardless, at some point those students aspiring to a baccalaureate degree must reconcile aspirations and abilities. This reconciliation may not be easy. As Knoell states, "In view of the apparent decline in basic skills of college students, community colleges may require remediation to take place before students enroll in transfer courses in which certain levels of reading, writing, and mathematics skills are needed" (p.15). She states that current practice is to enroll remedial students concurrently so normal progress may be made. Vocational programs of study, preparation for transfer, and survival of the student must be balanced.

Very often when recommendations are made, such as in the Avila report, many of the services suggested fall to the community college, often the institution least likely to have staff or monies to provide such support. Gerald R. Kissler, who is often cited by other researchers for a variety of studies delineating the loss of the transfer function,

believes baccalaureate-granting institutions have a responsibility to "improve communications and articulation. Expectations should be clearly communicated to ensure that transfer students are prepared to enter upper-division programs" (p.28). George B. Vaughn and Charles R. Dassance in "The Missing Link in the Student Consumer Movement" go even further in delineating the responsibilities of the four-year institution:

> No segment of articulation is more in need of revitalization; the solution proposed here is to view the community college transfer as a new consumer of services at the receiving institutions. The student moving from the community college has had no champion at either the state or national level (p.32).

The authors quote David Riesman who points out that the transfer student is a freshman twice. Worse, "the irony and tragedy of the situation is that rarely does the student, the receiving institution, or the community college acknowledge the 'freshman' status of transfer students" (Vaughan and Dassance, p.32). Inherent in such observations is the feeling that there must be a conscious effort to reduce "transfer shock." The authors believe that "transfer students face many of the same adjustment problems as freshmen (37). Rather than transferring credit, community colleges and four-year institutions should focus on transferring persons; "the more basic and more human question" should be "will this individual transfer?" (p.39).

A great deal of research and effort goes into the compilation of data regarding the transfer of credit, largely on a course-by-course basis. Perhaps one way of dealing with this complex problem lies in adopting a new viewpoint. Kenneth B. Woodbury, Jr. in "Articulation and Dual Admissions" believes that the answer lies in focusing on transfer as a concept:

> This approach involves scrapping the numbers game and concentrating instead on the principles of transfer articulation. Establishment of such principles is a precondition for discussion between the community college and the transfer colleges (p.8). Following is a discussion of Woodbury's principles.

One principle is that the associate degree represents the first half of a baccalaureate degree (degree integrity). Such a principle assumes that the student makes application in the same program completed for the associate degree. Also assumed is internal validity; the degree is not just a collection of unrelated courses. Courses must represent collegiate-level work. Last, the transfer college may set a minimum exit standard.

The second principle is equitable treatment in regard to housing, financial aids, prerequisites, student services, computation of academic honors, and dean's list status.

Program articulation may supplement institutional agreements, but agreements should make it clear how transfer courses are to be treated. Data follow-up is encouraged even if student waivers must be sought so that progress reports (grades) may be sent to the sending college. Such information will assist in program assessment and curriculum development at the sending institution.

If required of native students, diagnostic testing may be done. Those students who take remedial-developmental courses should receive the same treatment as those who do pre-college work at the transfer institution.

Two other principles are cited: Transfer Worthiness, Time and Liaison. With the exception of certain career areas such as nursing or allied health, the courses of an associate degree should be "acceptable regardless of the data of completion." Each institution should appoint a liaison officer who "ensures maintenance of communication between the institution and acts as the campus watchdog and monitor" (p.10).

Woodbury feels that the receiving institution must recognize the standards and qualitative judgements of the sending college. He states,

> There are as many varieties of baccalaureate curricula within a given field as there are four-year colleges. Naturally, no community college two-year curriculum quite matches the lower-division work at any university; but, while differences are to be expected, they should be differences only of degree, not of kind. A four-year college that cannot recognize, tolerate, and accept these differences should not recruit community college transfer students (p.10).

Such a statement is indeed a strong one and is not likely to gain instant acceptance nationally. Perhaps those institutions objecting most strongly would be those with accrediting bodies which dictate the content of the first two years of education, even if this instruction is not carried out at the baccalaureate-granting institutions.

An even stronger method of ensuring excellent transfer and articulation is, according to Woodbury, dual admissions. The author describes such an arrangement as one in which a high school senior is "admitted almost simultaneously to both a two-year and a four-year program, as a result of which the student's entire four-year sequence has been approved before the student receives the high school diploma" (p.11). Some advantages are that "the entire lower-division curriculum can be tailored to the requirements of the designated transfer college" (p.11).

Woodbury lists the following benefits as those accruing to such an arrangement:

1. **Bonding.** Under dual admissions, the transfer college accepts an obligation to provide follow-up services to "its" student before the student matriculates as a junior. These activities are limited only by the creativity of the participating institutions.

2. **Benefits.** Dual admissions enables the transfer college to anticipate its junior transfer class. The process also provides it with an enhanced recruitment staff at high schools in the community college's area. Community college staff become extensions of the transfer college's admissions office, helping to promote both the community college and the baccalaureate institution.

3. **Retention.** The most obvious benefit that accrues to the community college under dual admissions is retention. Extending the student's goal from the associate degree to the bachelor's degree and offering a concrete path that enables the student to reach that goal helps to build student motivation.

4. **Prestige by Association.** Under dual admissions, the community college also gains the advantage of prestige by association.

5. **Fiscal and Social Benefits.** All students gain financially, and some students gain socially from the arrangement. For some, dual admissions may be the only way they can afford the more expensive transfer college. Some students may need the extra two years at home to mature and prepare to accept the responsibilities of an independent life.

6. **Social Pluralism**. Community colleges have successfully served as the Ellis Island of higher education. They have accepted the unprepared and underprepared learners who seek the job advancement and higher pay that comes from earning associate and baccalaureate degrees. Dual admissions allows a selective-admissions college to take a chance on a high school student that it would otherwise have rejected (pp.11-12).

One should note, however, that the plan discussed by Woodbury would work largely only for those students originally predisposed to transfer.

Woodbury does bring up an interesting issue: he encourages the receiving institution to set exit criteria for community college graduates. Several states such as New Jersey and Texas have a statewide system to test all higher education students between the second and third years of college. Woodbury feels that while community college leaders may well be placed in difficult situations in terms of meeting a number of societal and work-related demands, they can be forthright in establishing what their associate degrees represent in terms of competencies.

Richardson and Kintzer in a brief article entitled, "The Articulation Transfer Phenomenon," feel that there are signs indicating that a re-examination of the transfer function in general is needed. One important recommendation that the authors make focuses on testing:

> Community colleges should take leadership in identifying and assessing appropriate exit competencies for students who have transfer as a primary objective. Community colleges should develop their own plans for dealing with the competency issue rather than wait for the state or nearby senior institutions to preempt them (p.21).

Given some of the previous comments by researchers, one might add that identifying "students who have transfer as a primary objective" is not an easy task: increasingly transfers come from so-called terminal degree programs and occupational-technical programs.

Most researchers agree that the occupational-technical degrees remain the most difficult programs from which to effect satisfactory transfer. Prager speaks to the negative attitudes associated with career programs which have hampered transfer and articulation, even though transfer numbers from those programs grow and those from the liberal arts dwindle. She does, however, see some advantages of structural models; she sees the "current articulation activity focuses on the compilation of course equivalancies" (p.80). A recent midwestern study (rather small--4,300 students) showed that 2+2 students required even fewer hours for the bachelor's degree than students who had completed traditional transfer programs or who were covered by special inter-institutional agreements (Prager, p.81).

The article which Prager discusses, John Swift, Jr., "The Community College Transfer and 'Plus Two' Programs: Access to a Baccaulaureate Degree in Four Years?," also called for community colleges to "request the creation and adoption for their graduates of plus two curricula" (Swift, p.314). Interestingly, the college which entered the most 2+2 students was a University College at Toledo University. The degrees granted were Business Services, Criminal Justice, the Individualized Program of Study, and Institutional Health Care Supervision.

In addition to the 2+2 models, Prager describes two other formats: the contract major and the capstone. The contract major was developed at Southern Illinois University-Carbondale. The contract is an individual program planned for the transfer student. "This approach transfers the associate degree in full as the major,in effect reversing the sequence of the traditional baccalaureate degree" (p.81). The Wayne State University Capstone Program "accepts the technical degree in full and leads to a Bachelor in General Studies" (p.81). Carl E. Rollyson, Jr., in his article entitled "Capstone: The Community College-University Connection," describes the Wayne State Capstone: "Capstone, as Weekend College has defined it, provides the technical degree holder with

two additional years of primarily upper division courses leading to a Bachelor of General Studies Degree" (Rollyson, p.42).

The Capstone represents an innovative, flexible approach to instruction. Following is an outline of the program:

1. Orientation to Interdisciplinary and Capstone Study: Weekend Conference format. Four-hour course.

2. Communication (Composition): Workshop format. Four-hour course.

3. Lower Division Study: Seven hours each in Humanities, Social Science, and Science and Technology. Workshop, television and conference formats. Twenty-one hours (six courses).

4. Upper Division Study: Foundations of Knowledge (theory and methods courses). Workshop and conference formats. Seven hours (two courses).

5. Senior Capstone Project: Independent research and writing in close consultation with an instructor. Four-hour course.

6. Electives: Must be 300-level or above (Rollyson, p.42).

The instruction is largely carried out through group exercises in which actual problems are discussed and in which students can use their technological backgrounds. The curriculum is not discipline based, but represents the application of different approaches in learning:

They are told that it is desired that they learn about themselves as well as about the curriculum they are about to follow as to a large extent that curriculum will have to be responsive to their concerns. Rather than presenting a discipline to them, they are introduced to alternative ways of learning in the humanities, in the social sciences, and in science and technology. This is done with the help of Weekend College colleagues. Wherever possible, they are assigned readings in which thinkers like Jacob Bronowski show how the arts and sciences can be applied to the same problems or how one discipline can learn from the methods of another (Rollyson, p.43).

Wenrich and Coyle describe some innovative 2+2 transfer options in their 1986 article, "The Ferris Factor." They see Ferris State University "fulfilling its commitment to articulation by the development of prototype vocational programs at the lower-division level (which can be duplicated in community colleges), provision of laddered upper-division programs to which community college graduates can transfer; provision of leadership in ... service functions..." (p.22), as well as Vo-tech teacher training and outreach activities to meet business and industry needs.

The authors discuss the establishment of a 2+2 concept where a community college student may "ladder" into a four-year program and graduate without a loss of credit:

> For example, a student with an associate degree in welding may transfer into Ferris' upper-division programs in welding engineering technology, manufacturing engineering technology, vocational teacher education, or any one of seventeen business majors. Similarly associate degree graduates of Northwestern Michigan College in Traverse City and Southwestern Community College in Dowagiac have the option of laddering without leaving their institutions. Through cooperative programming Ferris provides the final two years of the baccalaureate degree in business on those community college campuses (p.23).

An examination of the various efforts toward transfer and articulation reveals that most efforts are piecemeal. Even in the most controlled and state-mandated systems some difficulties remain to be solved.

Related National Studies

Prager (1988), summarizes well the situation that exists at this time:

> What do we know about the transfer of students in the A.A.S. or related degree? One sure way of answering this question is that we know less about them than we do about A.A. and A.A.S. Degree recipients—and we know very little about them (p.78).

Prager points out that, "There are few longitudinal studies for which data are collected or segregated by occupational-technical degree holders" (p.78).

Moreover, not only Prager, but numerous researchers question the veracity of the data which do exist, and the evaluation of these data. In early 1992, Adelman brought into question many recent studies which used the National Longitudinal Study of the High School Class of 1972 (NLS-72):

> ...the difference between the survey and the transcript data is so significant as to call such analysis into question. For example, Cohen (1988) says that only 825 NLS-72 students enrolled directly in community colleges following high school graduation. Tinto (1987) says 815, Velez and Javagli (1987) say 1,407, and Grubb (1991)—who presumably used the transcripts—never says. I tried to figure out where figures came from in the survey data and gave up (p.3).

Adelman, who found 2,867 students from the survey who immediately enrolled, says, with considerable understatement, "The differences in these figures are too great for comfort" (p.5). Later in the monograph, The Way We Are: The Community College as American Thermometer, he decries the methodology of both detractors and supporters of community colleges, calling it "hocus-pocus" research (p.25). Yet, in fairness, the individuals mentioned also speak to the lack of consistent data, though the vivid contrasts cannot be easily dismissed.

There are recent efforts to build a useful baseline data for those students in community colleges. The National Effective Transfer Consortium (NETC) was founded to improve the community colleges to improve transfer to four-year colleges and universities. NETC proposed, through the study of 14,000 students at 28 colleges, to measure the predisposition to transfer tendencies of community college students and the resultant transfer rates:

Relationship Between
Transfer Goals and Transferring

Leavers Who:	Transferred	Have Not Transferred
Considered Transfer Important	Type I 20%	Type II 21%
Considered Transfer Not Important	Type III 7%	Type IV 52%

Adapted from Enhancing Transfer Effectiveness (AASC), 1990.

As the table above shows, only 7 percent of the community college students who indicate they considered transfer "Not Important" transferred. Largely, this group did not transfer (52 percent). Many researchers believe that the vocationalism of community colleges is related to this tendency not to transfer.

Bensimon and Riley (in which the survey instrument adapted for this study is described) sought to find the same type of information, at least in the sense of determining predisposition to transfer. The initial research using the predisposition to transfer index devised by Bensimon and Riley found 58.8 percent of the students falling into the low predisposition to transfer compared to 59 percent of the students in the NETC study who indicated that transfer was not important.

The purpose of this study is to examine those transfer students in different university curricula to determine if they differ in their transfer experiences, particularly if they showed negative predisposition to transfer.

Summary

Much is said concerning the place of the community college in enhancing the transfer function, including upgrading transfer track options and exit testing. Many of the recommendations cited earlier in this report (Avila and others) center upon state-mandated

transfer but largely require significant community college changes and services. As other researchers (Knoll, Kissler, Vaughn, Dassance, Woodbury, and others) note, however, the four-year institutions must reach out beyond the simple transfer of credit. Transfer and articulation are two words which often are used simultaneously (and often synonomously). As Kintzer ("Improving," p.1) points out, it is only transfer, the "exchange of credits, courses, and curriculums," which is most carefully monitored, not articulation (services) for the student. The four-year institution cannot simply offer information and codify requirements and course equivalencies; it must recognize the integrity of the sending institution, and, moreover, recognize the individual as one who has become a "freshman twice." Specialized services (articulation) before and after the student matriculates are needed if the transfer path is to be smooth. Unfortunately, there is yet no strong movement in this direction. In the end, one must conclude that at the heart of transfer and articulation problems lies a great deal of apathy by both two-year and four-year institutions. Kintzer, in a one-page monograph, "Statewide Articulation and Transfer," points out that we must see the entire activity as a "series of processes." He makes the statement which should conclude this chapter:

> The total activity--the articulate relationship--is also an attitude. It is people driven. No matter how beautiful the paper agreement, success is strongly dependent on the understanding and support of the administration, faculty, and staff who deal directly with students at both the sending and receiving institutions (p.35).

CHAPTER III

METHOD

Introduction

The major purpose of this study was to examine the differences between technical-occupational transfer students and general transfer students. The study was conducted through the use of a survey instrument and telephone interviews.

One group of questions was focused upon demographic factors, in order to learn if technical transfer students and general transfer students differ demographically.

Another analysis was made regarding interaction between technical-transfer students and community colleges and the interaction between general-transfer students and community colleges. Also, the interactions between technical-transfer students and Ferris State University, and general transfer students and Ferris State University were analyzed.

The survey instrument was designed particularly to examine the differences between technical transfer students and general transfer students in their predisposition to transfer and preparation for transfer.

Last, all transfer groups, through the use of open-ended questions, were asked to suggest improvements in transfer activities at community colleges and at Ferris State University.

The Population Studied

The survey sample was from a target population of students who transferred from Michigan Public Community/Junior Colleges to Ferris State University, Fall quarter, 1991-92. These were students who were not attending extension centers. The surveyed

population were community college transfers from five academic colleges only: Allied Health, Arts and Sciences, Business, Education, and Technology. The Colleges of Optometry and Pharmacy both offer doctorate degrees and often enroll transfer students with baccalaureate degrees. These colleges' transfers were not considered as part of this study.

The sample was selected from the newly enrolled transfer students fall term, 1991-92. This list of transfer students was generated from the Ferris State University Registrar's Office, Computer Center, and Institutional Studies.

After extension students were purged from the list of community and junior college transfers who had enrolled in fall 1991-92, there were 510 enrolled students and 38 withdrawn students, a total of 548 students. There were 370 returned mail surveys or successful phone interviews, resulting in a 67.5 percent response rate. Of the 510 enrolled students, 344 students returned the survey or were interviewed by phone (a 67.4 percent return rate). The withdrawn students (those students who left at the end of fall or winter terms) had a 68 percent return rate: 26 of 38.

Design of the Study

The study utilized both a mail survey and a telephone interview and was both quantitative and qualitative. Students were asked, in two open-ended questions on the survey, for suggestions for improving transfer services at both the community colleges and Ferris State University. The analysis used both multivariate and univariate statistics.

Instrumentation

The prime data source was a student survey extensively adapted for this specific research. Developed by Arthur M. Cohen, John Lombardi, and Florence B. Brawer at the Center for the Study of Community Colleges, the original survey, which was administered at 24 colleges participating in the Ford Foundation Transfer Opportunities

Program, was utilized to test 1,613 students. Estele M. Bensimon and Michelle J. Riley (1984), who report on the use of this survey, list five general assessments carried out by this instrument:

1. Background and demographic information.
2. Students' academic orientation as exemplified by study habits and involvement in education related activities.
3. Students' self-appraisal of their competency in areas of general education.
4. Students' perceptions of institutional effectiveness regarding transfer-related services.
5. Extent of student involvement in the overall institutional environment (p. 8-9).

Also a part of this survey instrument are 27 items "designed for the purpose of assessing student predisposition to transfer" (Bensimon and Riley, p. 8). Through the use of factor analysis, the authors identified 11 index items which indicated positive or negative predisposition to transfer.

Reliability and Validity

Both reliability and validity of the instrument have been tested. The various statistical analyses (using the SPSSX Reliability Procedure) indicated that all but one item on the questionnaire showed acceptable reliability. Overall, Bensimon and Riley evaluate the total index as "consistent and stable."

The questionnaire originally focused primarily on community college activities. Considerable adaptations were done to assess student interaction with community colleges, as well as interaction with the University. Also, telephone interviews gave insight into the articulation needs of transferring students from the students' perspective.

The questionnaire, in its original form, was 11 pages long, even with extremely small print. This questionnaire was given to those students who were participants in the Ferris State University/Grand Rapids Community College, Michigan College/University Program (MICUP), a Michigan Department of Education initiative funded through the Office of Minority Education. This effort was designed to encourage the transfer of minority students from the community college to the University. The students' evaluation of the questionnaire was that it was too lengthy and not particularly appealing.

To shorten the questionnaire, several questions were deleted:

(1) What courses the student had completed (5 questions).

(2) How many credits had been earned by the student.

(3) What was the student's high school grade point average and community college grade point average (2 questions).

(4) What rank the students were in their high school graduating class.

(5) What degree was previously obtained by the student and the highest degree planned.

(6) When the student expected to earn a degree.

(7) Had the student made application to other colleges and the personal choice of where the student wanted to attend (4 questions).

(8) If English was the native language.

(9) What career the student planned to begin.

(10) Student ability in different subject areas (5 questions).

(11) What courses students are taking and if they know which courses are eligible for transfer.

(12) How many four-year colleges and universities to which the student had applied.

(13) Attitudes about the community college (6 questions).

(14) What written assignments were assigned.

(15) How many hours were spent studying.

(16) How many books were read in the past year.

The open-ended question was retained, but with two variations: one which asked for suggestions to improve community college transfer, and another which asked for suggestions to improve university transfer services. Two questions were added: what was your curriculum area before transfer and what is your present curriculum? The questions asking family income had two choices added, $30,000-39,999 and $40,000 plus. Those questions relating to the community college were rewritten in the past tense. Some explanatory notes were added to make to make it clear to the student which questions referred to community colleges and which to the University.

Care was taken to maintain the predisposition to transfer questions. In other words, those questions which Bensimon and Riley had found valid and reliable and the result of a sampling of respondents, were retained. The deletion of questions allowed the construction of a seven-page questionnaire with large print and appropriate spacing. Major questions were in bold face type. Each curriculum group's questionnaire was color coded.

The College of Arts and Sciences was also divided into two groups, Arts and Sciences Technical and Arts and Sciences General. The Arts and Sciences Technical Group was formed by combining the students in curricula evaluated as occupational under the Carl Perkins Act: Industrial Chemical Technology (A.A.S.), Journalism (A.A.A.) and Ornamental Horticulture (A.A.S.). All other curricula, largely liberal arts courses, made up the Arts and Sciences General Group.

The College of Education was also divided into two groups. The Education General Group consisted of Science Education, Mathematics Education, and Pre-Teaching Curricula. All others were programs entering technical students, such as Allied

Health Education, Technical Education and Wage Earning Home Economics. All such curricula formed the Technical Group.

The original intent of the study was to survey, both by mailed survey and telephone survey, seven different curriculum groups:

1. Arts and Sciences General Transfers
2. Arts and Sciences Technical Transfers
3. Business General Transfers
4. Business Technical Transfers
5. Education General Transfers
6. Education Technical Transfers
7. Technical Group (The combined curricula of the College of Allied Health and the College of Technology)

The limited returns and successful telephone surveys, however, resulted in two groups' responses being deleted for the final statistical analysis. This deletion involved four students: one in Arts and Sciences Technical and three in Education Technical. For this reason, then, the analyses which are done later in this study involved five curriculum groups.

Each student was sent a survey packet. Those students who were in campus residence halls received their survey packet by campus mail. Those students who lived off-campus were sent packets by mail.

In each packet was a survey, color coded to represent the appropriate curriculum group. Each survey was introduced by a letter which spoke to the importance of transfer students and the importance of each student's response. The students who had withdrawn received a slightly different letter. This letter asked their reason for leaving and did not encourage their visiting the office, since all withdrawn students were located off-campus.

Each packet contained the following materials:

(1) The letter of introduction. The letter varied, as indicated earlier, depending on whether the student was/was not attending.

(2) The survey.

(3) A blue postcard, addressed to the researcher's office.

If the student was on-campus, the postcard was simply addressed. If the student was off-campus, the blue postcard was also stamped. The blue postcard was entitled in the following way:

YES: I have filled out and returned the Student Transfer Survey.

NAME_____

STUDENT I.D._____

The introductory letter explained that the student should send the card back separately to insure confidentiality.

(4) An envelope, addressed to the researcher's office. If the students was on-campus, the envelope was simply addressed. If the student was off-campus, the envelope was also stamped.

The introductory letter explained the questionnaire should be returned in this envelope.

The questionnaires were sent out the week of April 7, 1992. Ten days later, a reminder was sent to any student who had not responded. The reminder card was a blue postcard with a graphic of an index finger circled with a string tied in a bow; underneath the graphic was the inscription, "Just a reminder." The student was reminded of receiving the survey and was requested to return it.

Telephone Survey

Simultaneously, telephone interviews began. The purpose of the telephone interviews was to increase the survey return rate and to gain anecdotal data from students.

When calling students, interviewers followed this procedure:

(1) To introduce oneself, the interviewer said, "Hello, I'm _____from Student Development at Ferris State University. We are doing a study of community college transfer students. We recently sent you a survey. Have you received it?

If the student responded positively, he/she was asked if the survey was returned. If not, the student was given the opportunity to take the survey over the telephone. In situations where the student had returned the survey, discussion was encouraged, particularly regarding the two open-ended questions, which asked for suggestions for the improvement of transfer services at the community college and for suggestions for improvement of services at Ferris State University.

In some cases, the student requested another packet of materials and was sent one. Over one-half of the students who responded were called, and 109 students answered the survey by phone.

Statistical Analysis

Categorical and Interval Data

Answers to specific questions which required yes or no answers or required checking appropriate responses related to ethnicity, and family income were treated as categorical. In these cases, the answers were analyzed using percentages and chi-square. When answers to questions were continuous, interval data were analyzed through a comparison of means, ANOVA, and MANOVA.

The SSPSX statistical package was utilized to carry out data analysis.

Statistical Treatment

Research Question I

How do Technical, Arts and Sciences General, Arts and Sciences Technical, Business Technical, Business General, Education Technical, and Education General Transfer students differ with respect to demographic variables?

Hypothesis 1: There are no differences between the curriculum groups in demographic characteristics.

The variables included were:

(1) age (continuous)

(2) ethnicity (categorical)

(3) gender (categorical)

(4) hours worked weekly (categorical)

(5) family income (categorical)

Where dependent data were categorical, chi-square was used to analyze the differences. An alpha level of .05 was utilized.

Those data evaluated as continuous (age) were evaluated through ANOVA. An alpha level of .05 was utilized.

Research Question II

How do Technical, Arts and Sciences General, Arts and Sciences Technical, Business Technical, Business General, Education Technical, and Education General transfer students differ in their interaction with their community colleges?

Hypothesis 2: There are no differences between the curriculum groups in their interaction with community colleges.

This hypothesis was tested through a collection of questions involving the types of activities participated in at the community college. The respondent was asked to indicate if he/she participated in eight separate activities. If the respondent did not

participate, he/she was to indicate why by checking blanks under these headings: "I did not need it," "I had no time for it," and "not aware of it." Those dependent variables were treated as categorical, and chi-square was utilized to analyze the differences. An alpha level of .05 was utilized for this measure.

This hypothesis was also tested through five questions relating to transfer services at the community college. These questions were answered through responding to five-part, Likert-style answers, ranging from Strongly Disagree to Strongly Agree. Those data were treated as continuous. Those data were analyzed first through MANOVA and then individual sets of means were analyzed through ANOVA.

Research Question III

How do Technical, Arts and Sciences General, Arts and Sciences Technical, Business Technical and Business General, Education Technical, and Education General transfer students differ in their interaction with the university?

Hypothesis 3: There are no differences between the curriculum groups in their interaction with Ferris State University.

This hypothesis was tested through three sets of questions, one set relating to individuals and office helpful to transfer, and two sets relating to activities at the University. All of these answers were categorical and Chi-square was used for analysis. An alpha level of .05 was utilized for all measures of statistical significance.

Research Question IV

How do Technical, Arts and Sciences General, Arts and Sciences Technical,Business Technical, Business General, Education Technical and Education General, students differ in predisposition to transfer?

Hypothesis 4: There are no differences between curriculum groups in their predisposition to transfer.

Four sets of questions were used to examine reasons for attending the University and how transfer was planned. These questions requested categorical responses. Chi-square analysis was used. An alpha level of .05 was used as statistical significance.

Another group of questions involved attitudinal questions relating to the community colleges. These questions had five-part, Likert-style responses, which ranged from "strongly disagree" to "strongly agree." Those responses were treated as continuous data with a MANOVA statistical analysis with follow-up ANOVA at the univariate level. Where significance was found, the Scheffe' procedure was used to determine which group means were significantly different from other specific group means.

Research Question V

How do Technical, Arts and Sciences General, Arts and Sciences Technical, Business General, Business Technical, Education General, and Education Technical students describe needed improvements to the transfer experience at the university?

Hypothesis 5: There are no differences between the curriculum groups in suggestions for improving transfer at the community college.

Research Question VI

How do Technical, Arts and Sciences General, Arts and Sciences Technical, Business General, Business Technical, Education Technical, and Education General transfer students describe needed improvements to the transfer experience at the University?

Hypothesis 6: There are no differences between the curriculum groups in suggestions for improving the transfer process at the University.

Both research questions V and VI were open-ended questions and were evaluated through content analysis. The answers were processed qualitatively. Common answers were sorted, and general categories were ascribed. A compilation of frequencies for each category was done. Phone interviews were utilized to gain some of this information and to gain additional insights.

Following is a listing of major hypotheses and the various sub-hypotheses which were used to analyze each major hypothesis. Hypotheses 5 and 6 are analyzed through open-ended questions and do not have sub-hypotheses listed.

Hypothesis 1: There are no differences between curriculum groups in demographic characteristics.

Hypothesis 1.1: There are no differences between the curriculum groups as measured by age.

Hypothesis 1.2: There are no differences between the curriculum groups in regard to ethnicity.

Hypothesis 1.3: There are no differences between the curriculum groups as measured by gender

Hypothesis 1.4: There are no differences between the curriculum groups as measured by hours of employment.

Hypothesis 1.5: There are no differences between the curriculum groups as measured by income.

Hypothesis 2: There are no differences between the curriculum groups in their interaction with community colleges.

Hypothesis 2.1: There are no differences between the curriculum groups in their use of academic counseling.

Hypothesis 2.2: There are no differences between the curriculum groups in their use of career counseling.

Hypothesis 2.3: There are no differences between the curriculum groups in their attendance at study groups.

Hypothesis 2.4: There are no differences between the curriculum groups in their use of study skills.

Hypothesis 2.5: There are no differences between the curriculum groups in their use of tutorial services.

Hypothesis 2.6: There are no differences between the curriculum groups in their attendance at orientation sessions at Ferris State University.

Hypothesis 2.7: There are no differences between the curriculum groups in their attendance at recruiting meetings.

Hypothesis 2.8: There are no differences between the curriculum groups in their attendance at application workshops.

Hypothesis 2.9: There are no differences between the curriculum groups in receiving community college assistance with transfer.

Hypothesis 2.10: There are no differences between the curriculum groups as measured by their attitudes toward assistance from counselors.

Hypothesis 2.11: There are no differences between the curriculum groups as measured by their awareness of special services for students who want to transfer to four-year colleges.

Hypothesis 2.12: There are no differences between the curriculum groups as measured by their difficulties in gaining transfer information from community colleges.

Hypothesis 3: There are no differences between the curriculum groups in their interaction with Ferris State University.

Hypothesis 3.1: There are no differences between the curriculum groups in the importance of counselors providing information.

Hypothesis 3.2: There are no differences between the curriculum groups in their evaluation of the importance of teachers as information sources.

Hypothesis 3.3: There are no differences between the curriculum groups in their evaluation of the importance of friends providing transfer information.

Hypothesis 3.4: There are no differences between the curriculum groups in their evaluation of the importance of the Admissions Office at the University in gaining transfer information.

Hypothesis 3.5: There are no differences between the curriculum groups in their participation in academic counseling.

Hypothesis 3.6: There are no differences between the curriculum groups in their participation in career counseling.

Hypothesis 3.7: There are no differences between the curriculum groups in their participation in study groups.

Hypothesis 3.8: There are no differences between the curriculum groups in their participation in study skills workshops.

Hypothesis 3.9: There are no differences between the curriculum groups in their use of tutorial services.

Hypothesis 3.10: There are no differences between the curriculum groups in their use of the library.

Hypothesis 3.11: There are no differences between the curriculum groups in their making appointments with instructors.

Hypothesis 3.12: There are no differences between the curriculum groups in their use of faculty advice.

Hypothesis 3.13: There are no differences between the curriculum groups in their engaging in informal discussions with faculty.

Hypothesis 3.14: There are no differences between the curriculum groups in their taking of detailed notes.

Hypothesis 3.15: There are no differences between the curriculum groups in their taking of notes from assigned readings.

Hypothesis 3.16: There are no differences between the curriculum groups in their requesting additional references from their instructors.

Hypothesis 3.17: There are no differences between the curriculum groups in their attendance of lectures on campus.

Hypothesis 3.18: There are no differences between the curriculum groups in their engaging in discussions of transfer to the University.

Hypothesis 3.19: There are no differences between the curriculum groups in their reading of the school paper.

Hypothesis 3.20: There are no differences between the curriculum groups in their looking at bulletin boards for announcements of special activities.

Hypothesis 4: There are no differences between the curriculum groups in regard to predisposition to transfer.

Hypothesis 4.1: There are no differences between the curriculum groups in their primary reason for attending a community college.

Hypothesis 4.2: There are no differences between the curriculum groups in their use of catalogs or course schedules to determine if courses transfer.

Hypothesis 4.3: There are no differences between the curriculum groups in use of counseling to determine which courses transfer.

Hypothesis 4.4: There are no differences between the curriculum groups in their communication with Ferris State University.

Hypothesis 4.5: There are no differences between the curriculum groups in their use of friends to find out which courses at the community college were for transfer.

Hypothesis 4.6: There are no differences between the curriculum groups in their knowledge of transfer credit.

Hypothesis 4.7: There are no differences between the curriculum groups in their contacting the University and requesting catalogs and application forms when planning transfer to the receiving institution (Ferris State University).

Hypothesis 4.8: There are no differences between the curriculum groups in consulting counselors for transfer information.

Hypothesis 4.9: There are no differences between the curriculum groups in their visits to the University.

Hypothesis 4.10: There are no differences between the curriculum groups in their completing and submitting applications.

Hypothesis 4.11: There are no differences between the curriculum groups in discussing transfer opportunities with friends.

Hypothesis 4.12: There are no differences between the curriculum groups in seeking information from the counseling office.

Hypothesis 4.13: There are no differences between the curriculum groups in their knowledge of the number of credits the University would accept toward elective requirements.

Hypothesis 4.14: There are no differences between curriculum groups in their knowledge of the number of credits that the University would accept toward major requirements.

Hypothesis 4.15: There are no differences between the curriculum groups in the evaluation of the importance of teachers and counselors influencing the transfer to the University.

Hypothesis 4.16: There are no differences between the curriculum groups in their decision to attend the University because they wanted to live at home.

Hypothesis 4.17: There are no differences between the curriculum groups in attending the University because they could not afford another college.

Hypothesis 4.18: There are no differences between the curriculum groups in making the decision to attend the University because the program of greatest interest is offered.

Hypothesis 4.19: There are no differences between the curriculum groups in their decision to attend the University because the students could hold a job.

Hypothesis 4.20: There are no differences between the curriculum groups in their enrolling at the University because they could not find a job.

Hypothesis 4.21: There are no differences between the curriculum groups in deciding to attend the University to be with friends.

Hypothesis 4.22: There are no differences between the curriculum groups in deciding to attend the University because they were given no information on other colleges.

Hypothesis 4.23: There are no differences between the curriculum groups in deciding to attend the University because they would not qualify for admissions at other four-year colleges.

Hypothesis 4.24: There are no differences between the curriculum groups in their receiving encouragement to consider transferring to a four-year college.

Hypothesis 4.25: There are no differences between the curriculum groups in believing transferring to a four-year college was important.

Hypothesis 4.26: There are no differences between the curriculum groups in believing transferring to a four-year college was too far in the future to worry about when in community college.

Hypothesis 4.27: There are no differences between the curriculum groups in being disappointed if they had not transferred to a four-year college.

Hypothesis 4.28: There are no differences between the curriculum groups in talking to friends about transferring to a four-year college.

Hypothesis 4.29: There are no differences between the curriculum groups in wanting transfer information, but not knowing from whom to get information.

Hypothesis 4.30: There are no differences between the curriculum groups in looking at the college catalog to determine what courses would qualify for transfer.

Hypothesis 4.31: There are no differences between the curriculum groups in their evaluating getting a job as more important than transferring to a four-year college when in community college.

Hypothesis 5: There are no differences between the curriculum groups in suggestions for improving transfer at the community college.

Hypothesis 6: There are no differences between the curriculum groups in suggestions for improving transfer at the university.

Pilot Testing

The adapted survey instrument was tested twice before full administration.

Fourteen students in the Automotive and Heavy Equipment Management program were tested at the beginning of spring term, 1992. The Automotive and Heavy Equipment Management Program is a third and fourth year curriculum representing a 2+2 option at Ferris State University. This administration was successful and received good responses from the students. Each student not only took the survey but made notes and suggestions. Minor changes were made in the instrument, such as placing modifying clauses at the beginning of responses for further clarification.

> Example: When I first started attending community college, getting a job after graduating from the community college was more important than transferring to a four-year college.

Also, early in spring term, pilot telephone surveys were conducted, beginning with a list of 113 community college transfer students who were identified as having withdrawn from the University fall and winter terms. While some students who were surveyed were truly withdrawn students, it became clear that the list contained many extension students who had not made a transfer to the University, but who were at a branch college and who had taken some course or courses from Ferris.

Several of these students had been dually-enrolled, attending community college courses and Ferris State University simultaneously. Some students were taking advantage of extension courses from other universities. Perhaps most importantly, these students did not see themselves as either transfers or dropout students. Parenthetically,

these pilot telephone surveys did provide valuable insight for future research and perspective for retention studies and data collection in the future.

This withdrawal list, however, was not useful for the purposes of this study. Neither was an existing list of all currently enrolled transfer students acceptable, because it also would include extension students. Special computer lists had to be generated for both those students who transferred fall 1991-92 and were still enrolled and for those students who had withdrawn fall and winter terms. These lists had all extension students deleted.

CHAPTER IV

FINDINGS

Attitudes and experiences of community college transfer students who made the transfer to a technical, career-oriented university were investigated in this study. Five curriculum groups were compared in their demographic characteristics, interaction with sending institutions (community college), interaction with the University, and predisposition to transfer. Students were asked to suggest improvements for transfer activities at both community colleges and the University. Students were surveyed both by mailed questionnaires and by phone surveys. The study used both quantitative and qualitative data.

The Population Studied

The survey sample was from a target population of students who transferred from Michigan Public Community/Junior Colleges to Ferris State University, fall quarter, 1991-92. These were students who were not attending extension centers. The surveyed population were community college transfers from five academic colleges only: Allied Health, Arts and Sciences, Business, Education, and Technology. The Colleges of Optometry and Pharmacy both offer doctorate degrees and often enroll transfer students with baccalaureate degrees. These colleges' transfers were not considered as part of this study.

The sample was selected from the newly enrolled transfer students fall term, 1991-92. This list of transfer students was generated from the Ferris State University Registrar's office, Computer Center, and Institutional Studies.

After extension students were purged from the list of community and junior college transfers who had enrolled in fall 1991-92, there were 510 enrolled students and 38

withdrawn students, a total of 548 students. There were 370 returned mail surveys or successful phone interviews, resulting in a 67.5 percent response rate. Of the 510 enrolled students, 344 students returned the survey or were interviewed by phone (a 67.4 percent return rate). The withdrawn students (those students who left at the end of fall or winter term) had a 68 percent return rate: 26 of 38.

Data Management

The survey analysis relied heavily on cross-tabulated data and Chi-square analysis. Dependable Chi-square analysis requires a minimum expected cell frequency. In some cases, the question responses were too few to meet the minimum. Therefore, original response categories were collapsed to satisfy the statistical requirement. With each data adjustment, however, the intent of the question or its appropriateness for the study was not altered. The following describes the data management.

Several procedures were carried out to make further analysis possible and meaningful. Following is a list of data management procedures and the reasons for modifying survey response categories to attain proper statistical analysis.

Since the Arts and Sciences Technical group returned one survey and the Education General group returned three surveys, these surveys, along with all individual survey responses, were dropped from the overall statistical analysis. Otherwise, many of the various "cells" of the Chi-square would have been empty, preventing analysis. Thus, instead of seven curriculum groups analyzed, only five are analyzed throughout the study.

Question 15 (how many hours the student worked) had six responses, ranging from "None" to "over 40 hours." Once again, because Chi-square cell frequencies would be too few, the categories were collapsed. The responses 4-6, including "21-30 hours," "31-40 hours," and "over 40 hours" became one category, renamed "21 plus." The first three categories, "none," "1-10 hours," and "11-20 hours" all remained.

Question 18, which asked how many hours the student was employed, had six possible responses, ranging from "none" to "over 40 hours." Because responses were low enough to have empty cross-tabulated cells, six categories were grouped: (1) Responses 1-4 which had graduations of income from less than $5,999 to $20,999 became one category--"up to $20,999"; (2) Responses 5-7 which had three graduations became one category--"$21,000 to $25,999"; and (3) Response 8 ("$40,000 plus") was retained as one category.

Question 7 asked the student, "did you attend the following activities at community colleges?" Eight activities were listed with the choice of "yes" or "no" answers. If the student answered "no." three options were available to explain "why not." These options were: "Didn't need it," "No time for it," and "Not aware." To allow Chi-square analysis, the questions was analyzed simply as a "yes" and "no" response question. This procedure was carried out through questions 7.1 to 7.8.

Question 10 asked the student the following question: "In which of the following activities have you participated since you first enrolled at Ferris State University? If you have not participated, why not?" The choices of "yes" and "no" were available with an explanation for the "no" choice. As with Question 7, all "no" responses were collapsed, and Question 10 was treated as a question with "yes" and "no" responses.

For the last three sub-questions of Question 10, content was not analyzed because phone interviews made it clear that these responses were not measuring one variable. Questions 10.6 was "orientation session for freshmen (at Ferris)." This question was retained from the original survey and "at Ferris" added in parentheses because some respondents in early pilot surveys indicated that they had attended orientation sessions, but not transfer orientation sessions. Later, as the phone surveys were focused on regular, non-extension students, it became clear that many students answered the question "yes" if they had attended any orientation, including transfer sessions. Similarly, two questions, which received positive responses in pilot testing, did not serve well when applied to the

larger group of students. These two questions were: "Meeting with recruiters from four-year colleges" and "workshops on how to complete applications to four-year colleges." The telephone surveys revealed that students often answered in the affirmative even though they had participated in these activities in community college only.

Question 1 had four answers to "What was the primary reason that you attended a community college?" Two of these answers, "to gain skills necessary to enter a specific occupation" and "to gain skills necessary to advance in a current occupation," were collapsed to form a third category, "To Gain Skills." Once again, this was done to obtain a usable Chi-square statistic.

Also, on Question 9 (9.1 - 9.9), students were asked to rank nine reasons for attending the University as "Very Important," "Somewhat Important," and "Not Important." The first two rankings were collapsed into "Important" for each item.

Post-Hoc Analysis of Data

The disaggregation of data from the transfer population of the University was the focus of this study. To examine individual curriculum groups' responses regarding transfer was carried out. In contrast to several national studies which tend to present conclusions based on aggregate data, the design of this study was structured to analyze discrete curriculum groups in an effort to contrast the transfer experiences, attitudes and characteristics. Similarly, the statistical analyses of the research questions were structured to determine the differences between a number of curriculum groups.

After the completion of these analyses, however, a post-hoc analysis was conducted to examine the differences between the aggregated technical groups: the Technical Group (the College of Technology and the College of Allied Health) and the Technical curricula of the College of Arts and Sciences, College of Business and College of Education were compared to the aggregated general-track groups (the General curricula of the College of Business and the College of Arts and Sciences).

Following each of the statistical treatments of the various hypotheses is a post-hoc analysis of the data generated by the aggregated groups, Technical and General. While these analyses of the aggregated groups did not show the number of significant differences as the original analysis of the individual groups, some statistically significant differences between aggregated groups were found.

Statistical Analysis

The statistical analysis in this study is designed to examine differences between five curriculum groupings selected to represent certain curricular characteristics or career intents. In brief, the primary question asked was if characteristics of "technical occupational" transfer students are different than those of "general transfer" students.

Hypothesis 1: There are no differences between the curriculum groups in demographic characteristics.

Hypothesis 1 was measured using Chi-square to analyze categorical data and ANOVA to analyze the age (continuous) data. The dependent data evaluated were as follows:

(1) age (continuous)

(2) ethnicity (categorical)

(3) native English (categorical)

(4) gender (categorical)

(5) hours worked weekly (categorical)

(6) family income (categorical)

Analysis of Hypothesis 1.1

H_o 1.1: There are no differences between the curriculum groups as measured by age.

While the Arts and Sciences General students were older, and the Business General students were younger, the groups are basically the same approximate age. There was no

statistical difference between the curriculum categories at the .05 alpha level. **The null hypothesis 1.1 was not rejected.**

TABLE 1: COMPARISON OF CURRICULUM GROUPS BY AGE				
Curriculum Groups	**Mean**	**SD**	**F**	**P**
Technical	**22.7**	**3.88**	**.0692**	**.656**
Business Tech.	**22.9**	**4.71**		
Education Tech.	**23.1**	**5.43**		
Business General	**22.6**	**4.35**		
A & S General	**23.8**	**6.07**		

Analysis of Hypothesis 1.2

H_o **1.2**: There are no differences between the curriculum groups in regard to ethnicity. **The null hypothesis (1.2) was not rejected.** While the two general curricula groups showed somewhat higher percentages of minorities (Business General 6.5% and Arts and Sciences General 8.3%) compared to the Technical Group (5.3%), Business Technical (5.3%), and Education Technical (4.4%), there were no significant differences between the groups.

TABLE 2: COMPARISON OF CURRICULUM GROUPS BY ETHNICITY

Curriculum Groups	MAJORITY		MINORITY		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	161	94.7	9	5.3	170
Business Tech.	36	94.7	2	5.3	38
Education Tech.	43	95.6	2	4.4	45
Business General	58	93.5	4	6.5	62
A & S General	44	91.7	4	8.3	48
Combined Freq.	342 (94.2%)		21 (5.8%)		363

Chi-Square = .865 DF = 4 p = .930

Analysis of Hypothesis 1.3

H_o 1.3: There are no differences between the curriculum groups as measured by gender.

The Technical category, which represents the combined student groups of the College of Allied Health and Technology, clearly held more males than females. The Business Technical group had more females (65.8%) as compared to males (34.2%). **The null hypothesis was rejected** at a .05 alpha level (.001).

TABLE 3: COMPARISON OF CURRICULUM GROUPS BY GENDER

Curriculum Groups	MALE		FEMALE		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	118	69.4	52	30.6	170
Business Tech.	13	34.2	25	65.8	38
Education Tech.	28	62.2	17	37.8	45
Business General	37	59.7	25	40.3	62
A & S General	25	52.1	23	47.9	48
Combined Freq.	221 (60.9%)		142 (39.1%)		363

Chi-Square = 18.176 DF = 4 p = .001

Analysis of Hypothesis 1.4

H_o **1.4**: There are no differences between the curriculum groups as measured by hours of employment. Students were asked to respond to the following question: "On the average, how many hours per week are you currently employed for pay (Circle one answer)?" As indicated earlier in the Data Management section, six responses were made available to the student:

1. none
2. 1- 10 hours
3. 11-20 hours

4. 21-30 hours
5. 31-40 hours
6. Over 40 hours

Because of the low number of responses in some cells of the Chi-square, four categories were formed: None, 1-10 hours, 11-20 hours, and 21 plus hours.

Though one sometimes finds some conjecture that technical community college students may work in addition to going to college, this tendency was not borne out by these survey results. As a matter of fact, the Technical group had 70 percent of the respondents working no hours. The A&S General group had only 47.9 percent working no hours. The A&S group also had the highest percentage of their students working more than 21 hours a week.

No statistically significant difference between the groups was noted in the amount of hours of employment. **The null hypothesis was not rejected.**

TABLE 4: COMPARISON OF CURRICULUM GROUPS BY HOURS EMPLOYED

Curriculum Groups	NONE		1 - 10		11 - 20		21 +		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	119	70.0	13	7.6	23	13.5	15	8.8	170
Business Tech.	21	55.3	7	18.4	7	18.4	3	7.9	38
Education Tech.	29	64.4	4	8.9	6	13.3	6	13.3	45
Business General	35	57.4	9	14.8	11	18.0	6	9.8	61
A & S General	23	47.9	8	16.7	12	25.0	5	10.4	48
Combined Freq.	227 (62.7%)		41 (11.3%)		59 (16.3%)		35 (9.7%)		362

Chi-Square = 13.942 DF = 12 p = .304

Analysis of Hypothesis 1.5

H_o 1.5: There are no differences between the curriculum groups as measured by income. The survey asked that students indicate parents' income, or if independent, their personal income. Eight responses were possible:

1. less than 5,999
2. $6,000 - 10,999
3. $11,000 - 15,999
4. $16,000 - 20,999
5. $21,000 - 25,999
6. $26,000 - 29,999
7. $30,000 - 39,999
8. $40,000 - plus

Because the number of responses in some cells of the Chi-square were small (or because no responses were made), these groupings were made (cf. Data Management): Up to 20,999, 21 K to 39,999, and 40 K plus.

As shown in Table 5, 58 percent of the respondents in the Business General Curriculum category had incomes of $40,000 or more. This percentage was followed closely by the Business Technical group (53.3%) and Education Technical (53%). The highest percent totals in the lowest income group was registered by the Arts and Sciences General curriculum category.

A Chi-square analysis on these cells did result in statistically significant differences. **The null hypothesis was rejected.**

TABLE 5: COMPARISON OF CURRICULUM GROUPS BY FAMILY INCOME

Curriculum Groups	UP TO 20K		21K TO 39K		40K +		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	45	34.6	37	28.5	48	36.9	130
Business Tech.	10	33.3	4	13.3	16	53.3	30
Education Tech.	7	20.6	9	26.5	18	52.9	34
Business General	16	32.0	5	10.0	29	58.0	50
A & S General	17	45.9	6	16.2	14	37.8	37
Combined Freq.	95 (33.8%)		61 (21.7%)		125 (44.5%)		281

Chi-Square = 16.339 DF = 8 p = .038

Post-Hoc Analysis of Hypothesis 1

In a post-hoc analysis of the various hypotheses testing Hypothesis 1, the five curriculum groups were aggregated: the Technical Group (Colleges of Technology and Allied Health), the Business Technical Groups, and the Education Technical Groups were placed in one "Technical" grouping; the Arts and Science Group and Business General Group were placed in one "General" grouping. The hypotheses were analyzed using the same statistical analyses, except the two groups were compared, rather than five.

Only one hypothesis (1.5 Family Income) showed statistical significance at the .05 alpha level. The Technical grouping and the General groupings were significantly different (.047). The responses to this question showed 49.4 percent of the "General" Groups with 40K-plus family incomes and the "Technical" Group with 42.3 percent. The "General" Group also had the highest number of responses in the up-to-20K category compared to the "Technical" Group (32%). The greatest differences occured in the 21K to 39K category: "General" (12.6%) and "Technical" (25.8%). This hypothesis was also statistically significant in the original five-group analysis.

Hypothesis 2: There are no differences between the curriculum groups in their interaction with community colleges.

The null hypothesis for measure of student interaction with community colleges was done first through a survey of questions asking if students had attended certain activities. Even though the survey asked students if they did not attend activities and why they did not--"Didn't need it, no time for it, and not aware"—the Chi-square test for significance at an .05 alpha level of significance was done by grouping all "No" answers. The statistical analysis, then, tested "Yes" and "No" answers only.

Analysis of Hypothesis 2.1

H_o 2.1: There are no differences between the curriculum groups in their use of academic counseling.

The first answer to "Did you attend the following activities at Community Colleges?" was academic counseling.

The only curriculum category showing more than 12 percentage points difference between "Yes" and "No" answers was the Business Technical grouping: Yes (36.8%) and No (68.2%).

The Chi-square analysis showed no statistically significant differences. **The null hypothesis was not rejected.**

TABLE 6: COMPARISON OF CURRICULUM GROUPS IN USE OF COMMUNITY COLLEGE COUNSELING

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	78	47.0	88	53.0	166
Business Tech.	14	36.8	24	63.2	38
Education Tech.	25	55.6	20	44.4	45
Business General	34	54.8	28	45.2	62
A & S General	24	50.0	24	50.0	48
Combined Freq.	175 (48.7%)		184 (51.3%)		359

Chi-Square = 4.147 DF = 4 p = .386

Analysis of Hypothesis 2.2

H_o 2.2: There are no differences between the curriculum groups in their use of career counseling.

The null hypothesis was tested through a Chi-square test run on the "Yes" and "No" responses to the question, "Did you attend the following activities at community colleges?" in relation to career counseling. No statistical significance differences were found; **the null hypothesis was not rejected.**

TABLE 7: COMPARISON OF CURRICULUM GROUPS IN USE OF COMMUNITY COLLEGE CAREER COUNSELING

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	46	27.4	22	72.6	168
Business Tech.	13	34.2	25	65.8	38
Education Tech.	13	28.9	32	71.1	45
Business General	24	39.3	37	60.7	61
A & S General	10	20.8	38	79.2	48
Combined Freq.	106 (29.4%)		254 (70.6%)		360

Chi-Square = 5.3575 DF = 4 p = .253

Analysis of Hypothesis 2.3

H_o 2.3: There are no differences between the curriculum groups in their attendance at study groups.

As shown in Table 8, the Chi-square measure shows no statistically significant differences. Therefore, **the null hypothesis was not rejected.** The Business Technical groups showed the least use of study groups, and A&S General showed the most use (25.5%), even though the Technical and Business General groups showed similar use.

TABLE 8: COMPARISON OF CURRICULUM GROUPS IN USE OF COMMUNITY COLLEGE STUDY GROUPS

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	38	22.6	130	77.4	168
Business Tech.	4	10.5	34	89.5	38
Education Tech.	7	15.6	38	84.4	45
Business General	15	24.2	47	75.8	62
A & S General	12	25.5	35	74.5	47
Combined Freq.	76 (21.1%)		284 (78.9%)		360

Chi-Square = 4.525 DF = 4 p = .340

Analysis of Hypothesis 2.4

H_o 2.4: There are no differences between the curriculum groups in their use of study skills workshops.

Although the Technical group showed somewhat more use than the other groups (19.6%) and Business Technical showed the least usage, there were no statistically significant differences. **The null hypothesis was not rejected.** The various responses and analysis are shown in Table 9.

TABLE 9: COMPARISON OF CURRICULUM GROUPS IN USE OF COMMUNITY COLLEGE STUDY SKILLS WORKSHOPS

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	33	19.6	135	80.4	168
Business Tech.	3	7.9	35	92.1	38
Education Tech.	7	15.6	38	84.4	45
Business General	9	14.5	53	85.5	62
A & S General	7	14.6	41	85.4	48
Combined Freq.	59 (16.3%)		302 (83.7%)		361

Chi-Square = 3.6021 DF = 4 p = .463

Analysis of Hypothesis 2.5

H_o 2.5: There are no differences between the curriculum groups in their use of tutorial services.

As shown in Table 10, the Chi-square test shows a statistically significant difference between the five curriculum groups. **The null hypothesis was rejected.** The Business General group showed the highest percent of Tutorial service use (34.4%). Education Technical showed the least usage (13.6%).

TABLE 10: COMPARISON OF CURRICULUM GROUPS IN ATTENDANCE OF COMMUNITY COLLEGE TUTORIAL SERVICES

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	42	25.0	126	75.0	168
Business Tech.	6	15.8	32	84.2	38
Education Tech.	6	13.6	38	86.4	44
Business General	21	34.4	40	65.6	61
A & S General	7	14.6	41	85.4	48
Combined Freq.	82 (22.8%)		277 (77.2%)		359

Chi-Square = 10.134 DF = 4 p = .038

Analysis of Hypothesis 2.6

H_o**2.6**: There are no differences between the curriculum group in their attendance of orientation sessions at Ferris State University.

As shown in Table 11, the Chi-square analysis revealed no statistically significant difference between the groups; though A&S General had 52.1 percent attend transfer orientation, all other groups had at least 63 percent attend orientation. **The null hypothesis was not rejected.**

TABLE 11: COMPARISON OF CURRICULUM GROUPS IN ATTENDANCE OF FERRIS STATE UNIVERSITY ORIENTATION SESSIONS

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	106	63.5	61	36.5	167
Business Tech.	27	71.1	11	28.9	38
Education Tech.	29	64.4	16	35.6	45
Business General	43	69.4	19	30.6	62
A & S General	25	52.1	23	47.9	48
Combined Freq.	230 (63.9%)		130 (36.1%)		360

Chi-Square = 4.566 DF = 4 p = .335

Analysis of Hypothesis 2.7

H_o 2.7: There are no differences between the curriculum groups in their attendance at recruiting meetings.

As shown in Table 12, while the educational technical group attended fewer meetings with recruiters from four-year colleges, no statistically significant differences were noted. **The null hypothesis was not rejected.**

TABLE 12: COMPARISON OF CURRICULUM GROUPS IN ATTENDANCE OF RECRUITING WORKSHOPS

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	41	24.3	128	75.7	169
Business Tech.	11	28.9	27	71.1	38
Education Tech.	6	13.3	39	86.7	45
Business General	17	27.4	45	72.6	62
A & S General	9	18.8	39	81.3	48
Combined Freq.	84 (23.2%)		278 (76.8%)		362

Chi-Square = 4.422 DF = 4 p = .352

Analysis of Hypothesis 2.8

H_o 2.8: There are no differences between the curriculum groups in their attendance at application workshops.

As shown in Table 13, there appear to be only a few students in the entire student sample who attended any workshop to complete application to four-year colleges (7). A Chi-square analysis showed most responses were in the "no" category. There were no statistical significant differences between the groups. **The null hypothesis was not rejected.**

TABLE 13: COMPARISON OF CURRICULUM GROUPS IN ATTENDANCE OF APPLICATION WORKSHOPS

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	4	2.4	165	97.6	169
Business Tech.			38	100.0	38
Education Tech.	1	2.2	44	97.8	45
Business General	2	3.2	60	96.8	62
A & S General			48	100.0	48
Combined Freq.	7 (1.9%)		355 (98.1%)		362

Chi-Square = 2.429 DF = 4 p = .657

Analysis of Hypothesis 2.9

H_o 2.9: There are no differences between the curriculum groups in receiving community college assistance with transfer.

Four sub-questions in section number eight dealt with student interaction with the community college. The question was phrased in the following way:

"How do you feel about the following? Please note that these questions are about your community college. (Please mark one response for each item.)"

1. Strongly disagree (SD)
2. Disagree (D)
3. Neutral (N)
4. Agree (A)
5. Strongly Agree (SA)

The null hypothesis was tested by the use of the MANOVA, a multivariate analysis of variance. The MANOVA (Wilk's lambda) allows a measurement between the multiple means of both dependent and independent variables. As shown in Table 14, the MANOVA measured no statistically significant differences in the responses to questions 1-4 ($p=.476$). An ANOVA, an analysis of variance, measured the differences of each set of means on each question. The ANOVA is a univariate analysis, measuring the difference in the five curriculum groups' responses upon one variable; therefore, the curriculum groups' responses were tested for statistical differences on each of the individual four questions. Once again, as shown in Table 14, the five curriculum groups' responses showed no statistically significant difference. **The null hypothesis was not rejected** for all four questions.

TABLE 14: COMPARISON OF CURRICULUM GROUPS BY ATTITUDES TOWARD COMMUNITY COLLEGES

MANOVA Wilk's Lambda = .8093 F = .9803 p = .476

ANOVA

Questions	Technical	Business Technical	Education Technical	Business General	A & S General	F	P
	Mean SD	Mean SD	Mean SD	Mean SD	Mean SD		
8.1 My community college provided excellent information on transfer opportunities.	3.234 1.168 (N=170)	3.378 1.209 (N=37)	3.444 1.340 (N=45)	3.532 1.126 (N=62)	3.458 1.110 (N=48)	1.029	.392
8.2 Students who want to transfer get assistance from counselors with applications for admissions and financial aid.	3.282 1.089 (N=170)	3.648 1.033 (N=37)	3.422 1.305 (N=45)	3.596 1.031 (N=62)	3.291 1.1051 (N=48)	1.534	.165
8.3 Special services are provided for students who want to transfer to 4-year colleges.	2.923 1.154 (N=169)	3.324 1.055 (N=37)	3.000 1.167 (N=45)	3.032 1.100 (N=62)	2.937 1.079 (N=48)	1.014	.400
8.4 It was difficult to tell from the college catalog which courses I needed to take to qualify for transfer to a 4-year college	2.787 1.215 (N=169)	2.945 1.322 (N=37)	2.886 1.243 (N=44)	2.741 1.091 (N=62)	2.50 1.091 (N=48)	.9066	.460

Post-Hoc Analysis of Hypothesis 2

In a post-hoc analysis of the various hypotheses testing Hypothesis 2, the five curriculum groups were aggregated: the Technical Group (Colleges of Technology and Allied Health), the Business Technical Groups, and the Education Technical Groups were placed in one "Technical" grouping; the Arts and Science Group and Business General Group were placed in one "General" grouping. The hypotheses were analyzed using the same statistical analyses, except the two groups were compared, rather than five.

The post-hoc comparisons of aggregated groups showed no statistically significant differences between the aggregated groups. In the five-group comparison, one hypothesis

(2.5) showed statistically significant differences between the groups in their use of tutorial services.

Hypothesis 3: There are no differences between the curriculum groups in their interaction with Ferris State University.

This hypothesis was measured through the analysis of three major sets or groups of questions. One group (Section 6) asked the importance of certain individuals and offices in providing information regarding transfer. A second group of questions (Section 10) asked students to identify student services (e.g. tutoring) which they have participated in since attending the university. Last, one group of questions (Section 11) asked how often the students had engaged in other campus-related activities, such as discussions with instructors and attending lectures.

The first section of questions (6) asked the student to "Indicate how important each of the following individuals and/or offices has been in providing information regarding transfer opportunities to a four-year college or university." Each office or individual was rated as "Very important," "Somewhat important," or "Not important."

Analysis of Hypothesis 3.1

H_o 3.1: There are no differences between the curriculum groups in the importance of counselors providing information.

The Business Technical group showed 21.6 percent of the respondents felt the counseling staff was important in providing transfer information, but 41.7 percent of Arts and Sciences saw counselors as important sources of information. Interestingly, the Arts and Sciences General group also had the highest percentage of respondents in the "Not Important" category. While all other curriculum groups tended to center responses (38.7%-43.7%) toward "Somewhat important," Arts and Science General had over 80 percent of its responses divided between "Very important" and "Not important." **The null hypothesis was not rejected**.

TABLE 15: COMPARISON OF CURRICULUM GROUPS IN THEIR EVALUATION OF COUNSELORS AS INFORMATION SOURCES							
Curriculum Groups	VERY IMPORTANT		SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	50	29.8	65	38.7	53	31.5	168
Business Tech.	8	21.6	16	43.2	13	35.1	37
Education Tech.	12	26.7	18	40.0	15	33.3	45
Business General	16	25.8	25	40.3	21	33.9	62
A & S General	20	41.7	9	18.8	19	39.6	48
Combined Freq.	106 (29.4%)		133 (36.9%)		121 (33.6%)		360

Chi-Square = 9.494 DF = 8 p = .302

Analysis of Hypothesis 3.2

H_o 3.2: There are no differences between the curriculum groups in their evaluation of the importance of teachers as information sources.

As shown in Table 16, this particular question had varied responses. The Technical group had 29% of its responses in the "Very important" category, while the Business General group had 14.5% Also, Educational Technical, Business General, and Arts and Sciences averaged nearly 60% of their respondents in the "Not important" category; the Technical group and Business Technical averaged over 40%.

The Chi-square statistical analysis showed that the results were statistically significant at the .05 level. **The null hypothesis was rejected.**

TABLE 16: COMPARISON OF CURRICULUM GROUPS IN THEIR EVALUATION OF TEACHERS AS INFORMATION SOURCES

Curriculum Group	VERY IMPORTANT		SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	50	29.6	45	26.6	74	43.8	169
Business Tech.	6	15.8	17	44.7	15	39.5	38
Education Tech.	9	20.0	9	20.0	27	60.0	45
Business General	9	14.5	17	27.4	36	58.1	62
A & S General	9	18.8	11	22.9	28	58.3	48
Combined Freq.	83 (22.9%)		99 (27.3%)		180 (49.7%)		362

Chi-Square = 16.565 DF = 8 p = .035

Analysis of Hypothesis 3.3

H_o 3.3: There are no differences between the curriculum groups in their evaluation of the importance of friends providing transfer information.

The Business General group had the most responses (21%) in the "Very important" category; the Technical group had the most responses in the "Not important" category. The Chi-square statistical analysis, however, resulted in no statistically significant results. **The null hypothesis was not rejected.**

TABLE 17: COMPARISON OF CURRICULUM GROUPS IN THEIR EVALUATION OF FRIENDS AS INFORMATION SOURCES

Curriculum Groups	VERY IMPORTANT		SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	26	15.4	38	22.5	105	62.1	169
Business Tech.	6	15.8	12	31.6	20	52.6	38
Education Tech.	8	17.8	14	31.1	23	51.1	45
Business General	13	21.0	27	43.5	22	35.5	62
A & S General	9	18.8	13	27.1	26	54.2	48
Combined Freq.	62 (17.1%)		104 (28.7%)		196 (54.1%)		362

Chi-Square = 14.303 DF = 8 p = .074

Analysis of Hypothesis 3.4

H_o 3.4: There are no differences between the curriculum groups in their evaluation of the importance of the Admissions Office at the University in gaining transfer information.

The Business Technical group had the largest percentage of responses in the "Very important" category and the lowest percentage of responses in the "Not important" The Technical group had the lowest percentage of responses in the "Very important" category.

The Chi-square analysis showed no statistically significant difference between the groups. **The null hypothesis was not rejected.**

TABLE 18: COMPARISON OF CURRICULUM GROUPS IN THEIR EVALUATION OF THE FSU ADMISSIONS OFFICE AS AN INFORMATION SOURCE

Curriculum Groups	VERY IMPORTANT		SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	43	25.9	63	38.0	60	36.1	166
Business Tech.	15	39.5	14	36.8	9	23.7	38
Education Tech.	13	28.9	15	33.3	17	37.8	45
Business General	18	29.0	23	37.1	21	33.9	62
A & S General	15	31.3	15	31.3	18	37.5	48
Combined Freq.	104 (29.0%)		130 (36.2%)		125 (34.8%)		359

Chi-Square = 4.323 DF = 8 p = .827

The next set of questions (Section 10) was, in effect, a repeat of questions which were asked about the use of activities at the community college, except students were to evaluate their participation at the University.

1. Academic counseling
2. Career counseling
3. Study group
4. Study skills workshop
5. Tutoring
6. Orientation session for freshmen (at Ferris State University.)
7. Meeting with recruiters from four-year colleges
8. Workshops on how to complete applications to four-year colleges

These questions are a continuation of the questions relating to the overall research question number three, "Do the curriculum groups differ in their interaction with the receiving institution?"

Analysis of Hypothesis 3.5

H_o 3.5: There are no differences between the curriculum groups in their participation in academic counseling.

The Educational Technical group showed the highest percentage of respondents reporting use of academic counseling. Arts and Science General reported the lowest percentage of use. The Chi-square analysis showed no statistically significant differences between the groups. **The null hypothesis was not rejected.**

TABLE 19: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF FSU ACADEMIC COUNSELING

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	100	58.8	70	41.2	170
Business Tech.	21	55.3	17	44.7	38
Education Tech.	29	64.4	16	35.6	45
Business General	34	54.8	28	45.2	62
A & S General	25	52.1	23	47.9	48
Combined Freq.	209 (57.6%)		154 (42.4%)		363

Chi-Square = 1.844 DF = 4 p = .764

Analysis of Hypothesis 3.6

H_o 3.6: There are no differences between the curriculum groups in their participation in career counseling.

As shown in Table 20, the highest percentage of career counseling use was the Business Technical group (31.6%) closely followed by the Technical group (31.2%) and Educational Technical (28.9%). The two lowest percentages were shown by the two general curricula: Business General (20%) and Arts and Science General (20.8%).

The Chi-square analysis did not show statistically significant differences between the groups. **The null hypothesis was not rejected.**

TABLE 20: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF FSU CAREER COUNSELING

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	53	31.2	117	68.8	170
Business Tech.	12	31.6	26	68.4	38
Education Tech.	13	28.9	32	71.1	45
Business General	12	20.0	48	80.0	60
A & S General	10	20.8	38	79.2	48
Combined Freq.	100 (27.7%)		261 (72.3%)		361

Chi-Square = 4.245 DF = 4 p = .373

Analysis of Hypothesis 3.7

H_o 3.7: There are no differences between the curriculum groups in their participation in study groups.

As shown in Table 21, the Business Technical group had the lowest percentage (31.6%) respondents using study groups, and Arts and Science General had the highest (50%) the entire sample population, 39.4 percent of the respondents used study groups, 60.6% did not. The Chi-square analysis resulted in no statistically significant findings. **The null hypothesis was not rejected.**

TABLE 21: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF FSU STUDY GROUPS

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	70	41.2	100	58.8	170
Business Tech.	12	31.6	26	68.4	38
Education Tech.	17	37.8	28	62.2	45
Business General	20	32.3	42	67.7	62
A & S General	24	50.0	24	50.0	48
Combined Freq.	143 (39.4%)		220 (60.6%)		363

Chi-Square = 4.831 DF = 4 p = .305

Analysis of Hypothesis 3.8

H_o 3.8: There are no differences between the curriculum groups in their participation in study skills workshops.

As shown in Table 22, both Business groups, Business Technical (10.5%) and Business General (9.7%), showed slightly less use of study skills workshops. The highest use was by the Technical Group (17.8%). The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected.**

TABLE 22: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF FSU STUDY SKILLS WORKSHOPS

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	30	17.8	139	82.2	169
Business Tech.	4	10.5	34	89.5	38
Education Tech.	7	15.6	38	84.4	45
Business General	6	9.7	56	90.3	62
A & S General	7	14.6	41	85.4	48
Combined Freq.	54 (14.9%)		308 (85.1%)		362

Chi-Square = 3.007 DF = 4 p = .557

Analysis of Hypothesis 3.9

H_o 3.9: There are no differences between the curriculum groups in their use of tutorial services.

Business General (30.6%) and Business Technical (26.3%) showed the highest use of tutorial services. Educational Technical showed the least use of tutorial services. The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected.**

TABLE 23: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF UNIVERSITY TUTORIAL SERVICES

Curriculum Groups	YES		ALL NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	35	20.7	134	79.3	169
Business Tech.	10	26.3	28	73.7	38
Education Tech.	5	11.4	39	88.6	44
Business General	19	30.6	43	69.4	62
A & S General	7	14.6	41	85.4	48
Combined Freq.	76 (21.1%)		285 (78.9%)		361

Chi-Square = 7.771 DF = 4 p = .100

As indicated in the Data Management Section, three questions from the activities section were deleted from analysis: Question 6 (orientation for freshmen at Ferris), Question 7 (meeting with recruiters), and Question 8 (workshops on applications).

The following set of questions continued the research question number three, which was the interaction of curriculum groups with the receiving institutions (Ferris State

University). Instead of answering "yes" or "no," students were asked to indicate how often they engaged in the activities: frequently, occasionally, or rarely.

Analysis of Hypothesis 3.10

H_o 3.10: there are no differences between the curriculum groups in their use of the library.

The most frequent use of the library response was by the Business General Group (35.5%), followed closely by the Business Technical Group (34.2%). The Technical Group indicated the lowest percentage of "rarely" responses. The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected.**

TABLE 24: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF FSU LIBRARY

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	47	27.6	71	41.8	52	30.6	170
Business Tech.	13	34.2	16	42.1	9	23.7	38
Education Tech.	12	26.7	22	48.9	11	24.4	45
Business General	22	35.5	31	50.0	9	14.5	62
A & S General	14	29.2	21	43.8	13	27.1	48
Combined Freq.	108 (29.8%)		161 (44.4%)		94 (25.9%)		363

Chi-Square = 6.980 DF = 8 p = .539

Analysis of Hypothesis 3.11

H_o 3.11: There are no differences between the curriculum groups in their making appointments with instructors.

The Technical group showed more frequent use of appointments with instructors (37.6%). Both Business Technical (26.3%) and Education Technical (26.7%) had more "frequent" responses than either general curriculum.

The Chi-square analysis of this question showed statistically significant differences at a .05 alpha level. **The null hypothesis was rejected.**

TABLE 25: COMPARISON OF CURRICULUM GROUPS IN MAKING APPOINTMENTS WITH INSTRUCTORS

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	64	37.6	77	45.3	29	17.1	170
Business Tech.	10	26.3	14	36.8	14	36.8	38
Education Tech.	12	26.7	22	48.9	11	24.4	45
Business General	13	21.0	32	51.6	17	27.4	62
A & S General	11	22.9	20	41.7	17	35.4	48
Combined Freq.	110 (30.3%)		165 (45.5%)		88 (24.2%)		363

Chi-Square = 16.314 DF = 8 p = .038

Analysis of Hypothesis 3.12

H_o 3.12: There are no differences between the curriculum groups in their use of faculty advice.

The Technical group used faculty advice for making future plans at a higher percentage than any other group (35.9%). The group using the least faculty advice was the Business General group (22.3%).

The Chi-square analysis did show statistically significant difference. **The null hypothesis was rejected** at a .05 alpha level.

TABLE 26: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF FACULTY ADVICE

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	61	35.9	55	32.4	54	31.8	170
Business Tech.	5	13.2	13	34.2	20	52.6	38
Education Tech.	7	15.6	19	42.2	19	42.2	45
Business General	7	11.3	24	38.7	31	50.0	62
A & S General	7	14.9	20	42.6	20	42.6	47
Combined Freq.	87 (24.0%)		131 (36.2%)		144 (39.8%)		362

Chi-Square = 26.899 DF = 8 p = .001

Analysis of Hypothesis 3.13

H_o 3.13: There are no differences between the curriculum groups in their engaging in informal discussions with faculty.

The Technical Group engaged in more frequent informal discussions with instructors. Education Technical showed the least percentage of "frequent" responses and the highest percentage of "rarely" responses (77.8%), followed closely by Business Technical (76.3%).

The Chi-square analysis showed no statistically significant differences. **The null hypothesis was not rejected.**

TABLE 27: COMPARISON OF CURRICULUM GROUPS IN ENGAGING IN INFORMAL DISCUSSIONS WITH FACULTY

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	31	18.3	42	24.9	96	56.8	169
Business Tech.	3	7.9	6	15.8	29	76.3	38
Education Tech.	3	6.7	7	15.6	35	77.8	45
Business General	8	12.9	14	22.6	40	64.5	62
A & S General	5	10.4	10	20.8	33	68.8	48
Combined Freq.	50 (13.8%)		79 (21.8%)		233 (64.4%)		362

Chi-Square = 11.514 DF = 8 p = .174

Analysis of Hypothesis 3.14

H_o 3.14: There are no differences between the curriculum groups in their taking of detailed notes.

The Education Technical group showed the highest percentage of "frequent" responses. The Business General group showed the lowest percentage of "frequent" answers.

The Chi-square analysis resulted in no significantly significant differences. **The null hypothesis was not rejected.**

TABLE 28: COMPARISON OF CURRICULUM GROUPS IN THEIR TAKING DETAILED NOTES

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	149	87.6	16	9.4	5	2.9	170
Business Tech.	34	89.5	4	10.5			38
Education Tech.	42	93.3	2	4.4	1	2.2	45
Business General	53	85.5	8	12.9	1	1.6	62
A & S General	43	91.5	4	8.5			47
Combined Freq.	321 (88.7%)		34 (9.4%)		7 (1.9%)		362

Chi-Square = 4.912 DF = 8 p = .767

Analysis of Hypothesis 3.15

H_o 3.15: There are no differences between the curriculum groups in their taking of notes from assigned readings.

The Arts and Sciences General group had the highest percentage of "frequent" answers (69.6%). The Technical group recorded the lowest percentage of "frequent" responses (49.4%), with Business General close behind (50%).

The Chi-square analysis resulted in no statistically significant results. **The null hypothesis was not rejected.**

TABLE 29: COMPARISON OF CURRICULUM GROUPS IN TAKING NOTES FROM ASSIGNED READINGS

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	84	49.4	51	30.0	35	20.6	170
Business Tech.	21	55.3	11	28.9	6	15.8	38
Education Tech.	28	62.2	15	33.3	2	4.4	45
Business General	31	50.0	19	30.6	12	19.4	62
A & S General	32	69.6	10	21.7	4	8.7	46
Combined Freq.	196 (54.3%)		106 (29.4%)		59 (16.3%)		361

Chi-Square = 12.443 DF = 8 p = .133

Analysis of Hypothesis 3.16

H_o 3.16: There are no differences between the curriculum groups in their requesting additional references from their instructors.

The Technical Group showed the highest percentage of "frequent" responses, and the Business General group the least. The entire population had 53.4 percent of its responses in the "rarely" category. The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected.**

TABLE 30: COMPARISON OF CURRICULUM GROUPS IN REQUESTING ADDITIONAL REFERENCES

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	35	20.6	57	33.5	78	45.9	170
Business Tech.	5	13.2	11	28.9	22	57.9	38
Education Tech.	7	15.6	11	24.4	27	60.0	45
Business General	7	11.3	13	21.0	42	67.7	62
A & S General	6	12.5	17	35.4	25	52.1	48
Combined Freq.	60 (16.5%)		109 (30.0%)		194 (53.4%)		363

Chi-Square = 11.5275 DF = 8 p = .174

Analysis of Hypothesis 3.17

H_o 3.17: There are no differences between the curriculum groups in their attendance of lectures on campus.

The Arts and Sciences General group showed the highest percentage of respondents indicating a "frequent" attendance of campus lectures. The Business General group had the lowest percentage.

The Chi-square analysis showed that there were statistically significant differences in the five groups. **The null hypothesis was rejected** at the .05 alpha level.

TABLE 31: COMPARISON OF CURRICULUM GROUPS IN THEIR ATTENDING CAMPUS LECTURES

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	46	27.1	52	30.6	72	42.4	170
Business Tech.	8	21.1	12	31.6	18	47.4	38
Education Tech.	8	17.8	21	46.7	16	35.6	45
Business General	9	14.5	24	38.7	29	46.8	62
A & S General	20	41.7	14	29.2	14	29.2	48
Combined Freq.	91 (25.1%)		123 (33.9%)		149 (41.0%)		363

Chi-Square = 15.929 DF = 8 p = .043

Analysis of Hypothesis 3.18

H_o 3.18: There are no differences between the curriculum groups in their engaging in discussions of transfer to the University.

Education Technical showed the highest percentage of responses (33.3%) in the "frequent" category. The Business General group had the lowest percentage in the "frequent" category. The Technical group had the lowest percentage (59.8%) in the "rarely" category, and the Business General group had (58.1%) in this category.

The Chi-square analysis showed no statistically significant differences between thegroups. **The null hypothesis was not rejected** at the .05 alpha level.

TABLE 32: COMPARISON OF CURRICULUM GROUPS IN DISCUSSING TRANSFER

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	28	16.6	40	23.7	101	59.8	169
Business Tech.	9	23.7	13	34.2	16	42.1	38
Education Tech.	15	33.3	13	28.9	17	37.8	45
Business General	7	11.3	19	30.6	36	58.1	62
A & S General	12	25.0	14	29.2	22	45.8	48
Combined Freq.	71 (19.6%)		99 (27.3%)		192 (53.0%)		362

Chi-Square = 15.212 DF = 8 p = .055

Analysis of Hypothesis 3.19

H_o 3.19: There are no differences between the curriculum groups in their reading of the school paper.

The Business General group had the highest percentage (79%) of responses in the "frequent" category. Arts and Sciences General had the lowest percentage (58%) The Chi-square analysis showed no statistically significant differences at the .05 alpha level. **The null hypothesis was not rejected.**

TABLE 33: COMPARISON OF CURRICULUM GROUPS IN THEIR READING THE SCHOOL PAPER

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	114	67.5	39	23.1	16	9.5	169
Business Tech.	27	71.1	10	26.3	1	2.6	38
Education Tech.	35	77.8	9	20.0	1	2.2	45
Business General	49	79.0	9	14.5	4	6.5	62
A & S General	28	58.3	16	33.3	4	8.3	48
Combined Freq.	253 (69.9%)		83 (22.9%)		26 (7.2%)		362

Chi-Square = 10.751 DF = 8 p = .216

Analysis of Hypothesis 3.20

H_o 3.20: There are no differences between the curriculum groups in their looking at bulletin boards for announcements of special activities.

The Business General group had the highest percentage of "frequent" responses, and Arts and Sciences General had the lowest. The Business Technical group, which had the second highest percentage of "frequent" responses, had the lowest percentage of "rarely" responses (7.9%).

The Chi-square analysis showed no statistically significantly differences. **The null hypothesis was not rejected** at the .05 alpha level.

TABLE 34: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF BULLETIN BOARDS

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	94	55.3	53	31.2	23	13.5	170
Business Tech.	22	57.9	13	34.2	3	7.9	38
Education Tech.	25	55.6	10	22.2	10	22.2	45
Business General	40	64.5	14	22.6	8	12.9	62
A & S General	25	52.1	18	37.5	5	10.4	48
Combined Freq.	206 (56.7%)		108 (29.8%)		49 (13.5%)		363

Chi-Square = 7.969 DF = 8 p = .436

Post-Hoc Analysis of Hypothesis 3

In a post-hoc analysis of the various hypotheses testing Hypothesis 3, the five curriculum groups were aggregated: the Technical Group (Colleges of Technology and Allied Health), the Business Technical Groups, and the Education Technical Groups were placed in one "Technical" grouping; the Arts and Science Group and Business General Group were placed in one "General" grouping. The hypotheses were analyzed using the same statistical analyses, except the two groups were compared, rather than five.

Four different hypotheses showed statistically significant differences at the .05 alpha level when the curriculum groups were aggregated. Following are two hypotheses which had not shown significance when the five curriculum groups were compared:

(1) Hypothesis 3.3: There are no differences between the curriculum groups in their evaluation of the importance of friends providing transfer information.
Measure: Chi-square
Significance level: .027

(2) Hypothesis 3.6: There are no differences between the curriculum groups in their participation in career counseling.
Measure: Chi-square
Significance level: .042

Two hypotheses which had shown statistically significant differences when a five-group comparison was carried were also significant at the .05 alpha level when the two aggregated groups were compared:

(1) Hypothesis 3.11: There are no differences between the curriculum groups in their making appointments with instructors.
Measure: Chi-square
Significance level: .034

(2) Hypothesis 3.12: There are no differences between the curriculum groups in their use of faculty advice.

Measure: Chi-square

Significance level: .005

Hypothesis 4.0: There are no differences between the curriculum groups in their predisposition to transfer.

The first question (Section I) asked the student, "What was the primary reason that you attended a community college?" As indicated in the Data Management section, the two answers, "to gain skills necessary to enter a specific occupation" and "to gain skills necessary to advance in a current occupation," were grouped to form one, "to gain skills," column within the Chi-square matrix.

Analysis of Hypothesis 4.1

H_o 4.1: There are no differences between the curriculum groups in their primary reason for attending a community college.

As shown in Table 35, there was an increasing percentage of responses in the "prepare to transfer" column, starting with the lowest group, Technical (46.5%), and progressing to the highest, Arts and Sciences General (73.7%).

The Chi-square analysis showed a statistically significant difference between the groups. **The null hypothesis was rejected** at the .05 alpha level.

TABLE 35: COMPARISON OF CURRICULUM GROUPS IN THEIR PRIMARY REASON FOR ATTENDING A COMMUNITY COLLEGE

Curriculum Groups	PREPARE TO TRANSFER		PERSONAL INTEREST		GAIN SKILLS		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	72	46.5	30	19.4	53	34.2	155
Business Tech.	17	60.7	3	10.7	8	28.6	28
Education Tech.	26	63.4	13	31.7	2	4.9	41
Business General	31	64.6	11	22.9	6	12.5	48
A & S General	28	73.7	7	18.4	3	7.9	38
Combined Freq.	174 (56.1%)		64 (20.6%)		72 (23.2%)		310

Chi-Square = 30.418 DF = 8 p = .000

On Question 1, 42 students wrote a primary reason that was not listed on the survey. These responses were categorized and counted with the following results:

1. Economic	23	4. Close to home	5
2. Economic and location	4	5. Convenience	6
3. Scholarship	3	6. Get oriented	1

With the exception of scholarship (3) and get oriented (1), the answers clearly centered around the proximity of the community college.

The next set of questions, designed to measure predisposition of transfer, asked the student, "How did you know which of the courses you took at your community college were for transfer to a four-year university?"

Analysis of Hypothesis 4.2

H_o 4.2: There are no differences between the curriculum groups in their use of catalogs or course schedules to determine which courses transfer.

The Business Technical group had the highest percentage of answers in this category; Arts and Sciences General had the lowest. All three technical groups had higher percentages of responses than the two general groups.

A Chi-square analysis showed no statistically significant differences. **The null hypothesis was not rejected** at .05 alpha level.

TABLE 36: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF CATALOGS OR COURSE SCHEDULE BOOKS

Curriculum Groups	YES		NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	123	72.4	47	27.6	170
Business Tech.	28	73.7	10	26.3	38
Education Tech.	33	73.3	12	26.7	45
Business General	43	69.4	19	30.6	62
A & S General	30	62.5	18	37.5	48
Combined Freq.	257 (70.8%)		106 (29.2%)		363

Chi-Square = 2.153 DF = 4 p = .708

Analysis of Hypothesis 4.3

H_o 4.3: There are no differences between the curriculum groups in use of counseling to determine which courses transfer.

As shown in Table 37, over half of all students used counselors to determine which courses transferred (54.3%). The highest percentage of use occurred in the two general groups. The lowest percentages of use were by the three technical groups.

The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected.**

TABLE 37: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF COUNSELING TO DETERMINE COURSE TRANSFER					
Curriculum Groups	**YES**		**NO**		**COMBINED FREQUENCY**
	FREQ.	**PERCENT**	**FREQ.**	**PERCENT**	
Technical	**86**	**50.6**	**84**	**49.4**	**170**
Business Tech.	**21**	**55.3**	**17**	**44.7**	**38**
Education Tech.	**24**	**53.3**	**21**	**46.7**	**45**
Business General	**38**	**61.3**	**24**	**38.7**	**62**
A & S General	**28**	**58.3**	**20**	**41.7**	**48**
Combined Freq.	**197 (54.3%)**		**166 (45.7%)**		**363**

Chi-Square = 2.510 DF = 4 p = .643

Analysis of Hypothesis 4.4

H_o 4.4: There are no differences between the curriculum groups in their communication with Ferris State University.

As shown in Table 38, the Business General Group had the highest percentage of responses using the university as a source of information. The Arts and Sciences group had the lowest.

The Chi-square analysis did show statistically significant differences between the groups. **The null hypothesis was not rejected** at an .05 alpha level.

TABLE 38: COMPARISON OF CURRICULUM GROUPS IN THEIR COMMUNICATION WITH FSU FOR COURSE TRANSFER

Curriculum Groups	YES		NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	130	76.5	40	23.5	170
Business Tech.	27	71.1	11	28.9	38
Education Tech.	39	86.7	6	13.3	45
Business General	55	88.7	7	11.3	62
A & S General	32	66.7	16	33.3	48
Combined Freq.	283 (78.0%)		80 (22.0%)		363

Chi-Square = 10.993 DF = 4 p = .027

Analysis of Hypothesis 4.5

H_o 4.5: There are no differences between the curriculum groups in their use of friends to find out which courses at the community college were for transfer.

As shown in Table 39, fully 98.3 percent of all respondents used a friend as an information source for this information. The Business Technical group and Business General group both had 100 percent of their students responding to this question. The Arts and Science General group was the lowest frequency at 95.8 percent.

The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected** at the .05 alpha level.

TABLE 39: COMPARISON OF CURRICULUM GROUPS IN THEIR USE OF FRIENDS TO DETERMINE COURSE TRANSFER

Curriculum Groups	YES		NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	167	98.2	3	1.8	170
Business Tech.	38	100.0			38
Education Tech.	44	97.8	1	2.2	45
Business General	62	100.0			62
A & S General	46	95.8	2	4.2	48
Combined Freq.	357 (98.3%)		6 (1.7%)		363

Chi-Square = 3.649 DF = 4 p = .456

Analysis of Hypothesis 4.6

H_o 4.6: There are no differences between the curriculum groups in their knowledge of transfer credit.

As shown in Table 40, 68.6 percent of the entire group of respondents did not know which courses transferred to Ferris State University. Education Technical showed the lowest percentage of responses, closely followed by the Business General group. The Arts and Sciences group had the highest percentage of responses indicating they did not know which of the courses taken at the community college were for transfer.

The Chi-square analysis of this questions showed no statistically significant results. **The null hypothesis was not rejected** at the .05 alpha level.

TABLE 40: COMPARISON OF CURRICULUM GROUPS IN KNOWLEDGE OF TRANSFER CREDIT

Curriculum Groups	YES		NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	116	68.2	54	31.8	170
Business Tech.	28	73.7	10	26.3	38
Education Tech.	28	62.2	17	37.8	45
Business General	39	62.9	23	37.1	62
A & S General	38	79.2	10	20.8	48
Combined Freq.	249 (68.6%)		114 (31.4%)		363

Chi-Square = 4.738 DF = 4 p = .315

Analysis of Hypothesis 4.7

H_o 4.7: There are no differences between the curriculum groups in their contacting the University and requesting catalogs and application forms when planning transfer to the receiving institution (Ferris State University).

As shown in Table 41, no statistically significant differences were found in answering the question, "When you planned your transfer, did you contact the university and request catalogs and application forms?" The Business Technical (71%) and Education

Technical (68.9%) "yes" responses were somewhat lower than then other three groups. **The null hypothesis was not rejected.**

TABLE 41: COMPARISON OF CURRICULUM GROUPS IN CONTACTING FSU					
Curriculum Groups	**YES**		**NO**		**COMBINED FREQUENCY**
	FREQ.	**PERCENT**	**FREQ.**	**PERCENT**	
Technical	108	64.3	60	35.7	168
Business Tech.	27	71.1	11	28.9	38
Education Tech.	31	68.9	14	31.1	45
Business General	40	64.5	22	35.5	62
A & S General	31	64.6	17	35.4	48
Combined Freq.	237 (65.7%)		124 (34.3%)		361

Chi-Square = .899 DF = 4 p = .925

Analysis of Hypothesis 4.8

H_o 4.8: There are no differences between the curriculum groups in consulting counselors for transfer information.

The students were asked if they had requested information on the university from their counselor. As shown in Table 42, no statistically significant differences were found between the five curriculum groups. **The null hypothesis was not rejected.** Less than

60 percent (58.4%) of all respondents used counselor information to find out university requirements.

TABLE 42: COMPARISON OF CURRICULUM GROUPS IN CONSULTING COUNSELORS

Curriculum Groups	YES		NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	93	56.0	73	44.0	166
Business Tech.	23	60.5	15	39.5	38
Education Tech.	28	63.6	16	36.4	44
Business General	39	62.9	23	37.1	62
A & S General	26	54.2	22	45.8	48
Combined Freq.	209 (58.4%)		149 (41.6%)		358

Chi-Square = 1.824 DF = 4 p = .768

Analysis of Hypothesis 4.9

H_o 4.9: There are no differences between the curriculum groups in their visits to the university.

The visits to the university were used by 57 percent of the respondents. While 59.4 percent of the Technical group visited the university, 50 percent of the Arts and Sciences General group visited the university.

As shown by Table 43, the Chi-square statistical analysis showed no statistically significant differences between the groups. **The null hypothesis was not rejected.**

TABLE 43: COMPARISON OF CURRICULUM GROUPS IN VISITS TO FSU

Curriculum Group	YES		NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	98	59.4	67	40.6	165
Business Tech.	21	55.3	17	44.7	38
Education Tech.	25	55.6	20	44.4	45
Business General	36	58.1	26	41.9	62
A & S General	24	50.0	24	50.0	48
Combined Freq.	204 (57.0%)		154 (43.0%)		358

Chi-Square = 1.459 DF = 4 p = .834

Analysis of Hypothesis 4.10

H_o 4.10: There are no differences between the curriculum groups in their completing and submitting applications.

As shown by Table 44, Business Technical group had 13.2 percent of its respondents indicate they had not completed and submitted applications. Education Technical showed the least, 4.4 percent.

The Chi-square analysis of these responses, however, showed no statistically significant differences. **The null hypothesis was not rejected.**

TABLE 44: COMPARISON OF CURRICULUM GROUPS IN COMPLETING AND SUBMITTING APPLICATIONS

Curriculum Groups	YES		NO		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	159	94.6	9	5.4	168
Business Tech.	33	86.8	5	13.2	38
Education Tech.	43	95.6	2	4.4	45
Business General	57	91.9	5	8.1	62
A & S General	44	91.7	4	8.3	48
Combined Freq.	336 (93.1%)		25 (6.9%)		361

Chi-Square = 3.633 DF = 4 p = .458

Analysis of Hypothesis 4.11

H_o 4.11: There are no differences between the curriculum groups in discussing transfer opportunities with friends.

As shown in Table 45, the lowest percentage of responses to the "frequent" category came from the Technical group (19.4%). The Business Technical had the highest frequency of responses. The Arts and Sciences General had the highest percentage of responses in the "rarely" category.

The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected** at the .05 alpha level.

TABLE 45: COMPARISON OF CURRICULUM GROUPS IN DISCUSSING TRANSFER WITH FRIENDS							
Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	39	22.9	68	40.0	63	37.1	170
Business Tech.	11	28.9	15	39.5	12	31.6	38
Education Tech.	16	35.6	16	35.6	13	28.9	45
Business General	23	37.1	24	38.7	15	24.2	62
A & S General	13	27.1	20	41.7	15	31.3	48
Combined Freq.	102 (28.1%)		143 (39.4%)		118 (32.5%)		363

Chi-Square = 7.184 DF = 8 p = .517

Analysis of Hypothesis 4.12

H_o 4.12: There are no differences between the curriculum groups in seeking information from the counseling office.

As shown in Table 46, the most common response by the group as a whole was "rarely" (44.5%). Arts and Sciences General had the highest percentage of "rarely" responses (55.3%), with Technical the next highest (46.5%). Less than one-quarter (22.4%) of all respondents sought information from counselors.

The Chi-square analysis showed no statistically significant results at the .05 alpha level. **The null hypothesis was not rejected.**

TABLE 46: COMPARISON OF CURRICULUM GROUPS IN SEEKING INFORMATION FROM THE COUNSELING OFFICE

Curriculum Groups	FREQUENTLY		OCCASIONALLY		RARELY		COMBINED FREQUENCY
	FREQ.	%	FREQ.	%	FREQ.	%	
Technical	33	19.4	58	34.1	79	46.5	170
Business Tech.	11	28.9	12	31.6	15	39.5	38
Education Tech.	13	28.9	12	26.7	20	44.4	45
Business General	14	22.6	27	43.5	21	33.9	62
A & S General	10	21.3	11	23.4	26	55.3	47
Combined Freq.	81 (22.4%)		120 (33.1%)		161 (44.5%)		362

Chi-Square = 9.473 DF = 8 p = .304

Analysis of Hypothesis 4.13

H_o 4.13: There are no differences between the curriculum groups in their knowledge of the number of credits the university would accept toward elective requirements.

As shown in Table 47, the Education Technical group had the highest percentage of "yes" responses (60%). The Business General group had the lowest percentage. The entire population had only 49 percent of the students who knew if elective credits transferred.

The Chi-square analysis showed no statistically significant differences. **The null hypothesis was not rejected** at a .05 alpha level.

TABLE 47: COMPARISON OF CURRICULUM GROUPS IN KNOWLEDGE OF ELECTIVE TRANSFER CREDITS					
Curriculum Groups	**YES**		**NO**		**COMBINED FREQUENCY**
	FREQ.	**PERCENT**	**FREQ.**	**PERCENT**	
Technical	**88**	**51.8**	**82**	**48.2**	**170**
Business Tech.	**17**	**44.7**	**21**	**55.3**	**38**
Education Tech.	**27**	**60.0**	**18**	**40.0**	**45**
Business General	**21**	**33.9**	**41**	**66.1**	**62**
A & S General	**25**	**52.1**	**23**	**47.9**	**48**
Combined Freq.	**178 (49.0%)**		**185 (51.0%)**		**363**

Chi-Square = 8.836 DF = 4 p = .065

Analysis of Hypothesis 4.14

H_o 4.14: There are no differences between the curriculum groups in their knowledge of the number of credits that the university would accept toward major requirements.

As shown in Table 48, little more than 50 percent of the entire population knew the number of credits to transfer toward their major (52.1%). The Business Technical group had less than 40 percent of the respondents who knew how many credits transferred toward their major.

The Chi-square analysis showed no statistically significant results. **The null hypothesis was not rejected** at the .05 alpha level.

TABLE 48: COMPARISON OF CURRICULUM GROUPS IN KNOWLEDGE OF MAJOR TRANSFER CREDITS					
Curriculum Groups	**YES**		**NO**		**COMBINED FREQUENCY**
	FREQ.	**PERCENT**	**FREQ.**	**PERCENT**	
Technical	**97**	**57.1**	**73**	**42.9**	**170**
Business Tech.	**18**	**47.4**	**20**	**52.6**	**38**
Education Tech.	**23**	**51.1**	**22**	**48.9**	**45**
Business General	**24**	**38.7**	**38**	**61.3**	**62**
A & S General	**27**	**56.3**	**21**	**43.8**	**48**
Combined Freq.	**189 (52.1%)**		**174 (47.9%)**		**363**

Chi-Square = 6.819 DF = 4 p = .146

Analysis of Hypothesis 4.15

H_o 4.15: There are no differences between the curriculum groups in their evaluation of the importance of teachers and counselors influencing the transfer to the university. As shown in Table 49, less than one-half of the respondents saw any importance in the influence of teachers or counselors in making the transfer. The Business General group had the lowest percentage of respondents in the "Important" category, and the Technical had the highest.

The Chi-square analysis showed no statistically significant results at the .05 level. **The null hypothesis was not rejected**.

TABLE 49: COMPARISON OF CURRICULUM GROUPS IN EVALUATING IMPORTANCE OF TEACHERS/COUNSELORS					
Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	81	47.9	88	52.1	169
Business Tech.	17	44.7	21	55.3	38
Education Tech.	21	46.7	24	53.3	45
Business General	19	30.6	43	69.4	62
A & S General	20	41.7	28	58.3	48
Combined Freq.	158 (43.6%)		204 (56.4%)		362

Chi-Square = 5.783 DF = 4 p = .216

Analysis of Hypothesis 4.16

H_o 4.16: There are no differences between the curriculum groups in their decision to attend the university because they wanted to live at home.

Since Ferris is largely a residential campus, one would expect a high number of "not important" responses, and this was the case as 82.6 percent of all respondents saw this reason as not important. The Arts and Sciences General Group had the highest percent indicating that this reason was important (22.9%). The Business General group had the lowest percentage in the "Important" category.

As shown in Table 50, the Chi-square analysis resulted in no statistically significant results at the .05 alpha level. **The null hypothesis was not rejected.**

TABLE 50: COMPARISON OF CURRICULUM GROUPS IN ATTENDING FSU BECAUSE THEY WANTED TO LIVE AT HOME

Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	28	16.6	141	83.4	169
Business Tech.	7	18.4	31	81.6	38
Education Tech.	8	17.8	37	82.2	45
Business General	9	14.5	53	85.5	62
A & S General	11	22.9	37	77.1	48
Combined Freq.	63 (17.4%)		299 (82.6%)		362

Chi-Square = 1.488 DF = 4 p = .829

Analysis of Hypothesis 4.17

H_o 4.17: There are no differences between the curriculum groups in attending the university because they could not afford another college.

The overall population did not evaluate the expense as important in making their decision to attend the university (65.9%). The Business General group had the highest percentage of responses in the "important" category. Arts and Sciences General had the lowest percentage.

As shown in Table 51, the Chi-square analysis showed no statistically significant differences at the .05 alpha level. **The null hypothesis was not rejected.**

TABLE 51: COMPARISON OF CURRICULUM GROUPS IN ATTENDING FSU BECAUSE THEY COULD NOT AFFORD OTHER COLLEGES

Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	52	30.8	117	69.2	169
Business Tech.	16	42.1	22	57.9	38
Education Tech.	13	29.5	31	70.5	44
Business General	28	45.2	34	54.8	62
A & S General	14	29.2	34	70.8	48
Combined Freq.	123 (34.1%)		238 (65.9%)		361

Chi-Square = 6.222 DF = 4 p = .183

Analysis of Hypothesis 4.18

H_o 4.18: There are no differences between the curriculum groups in making the decision to attend the university because the program of greatest interest is offered.

The overall student population showed this reason as "Important" (93.9%). The Technical group had the highest percentage of responses in the "Important" category (98.2). Business General group had the lowest percentage of responses in the "Important" category (85.5%).

The Chi-square analysis showed a statistically significant difference at the .05 alpha level. **The null hypothesis was rejected.**

TABLE 52: COMPARISON OF CURRICULUM GROUPS IN ATTENDING FSU BECAUSE OF PROGRAM OFFERED

Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	167	98.2	3	1.8	170
Business Tech.	36	94.7	2	5.3	38
Education Tech.	41	91.1	4	8.9	45
Business General	53	85.5	9	14.5	62
A & S General	44	91.7	4	8.3	48
Combined Freq.	341 (93.9%)		22 (6.1%)		363

Chi-Square = 14.406 DF = 4 p = .006

Analysis of Hypothesis 4.19

H_o 4.19: There are no differences between the curriculum groups in their decision o attend the university because the students could hold a job.

As shown in Table 53, for over 75 percent of the respondents, holding a job was not important (75.7%). The Business Technical group had the highest percentage of "Important" responses (31.6%); the Educational Technical group had the lowest.

The Chi-square analysis shows no statistically significant results at the .05 alpha level. **The null hypothesis was not rejected.**

TABLE 53: COMPARISON OF CURRICULUM GROUPS IN ATTENDING FSU BECAUSE THEY COULD HOLD A JOB					
Curriculum Groups	**VERY/SOMEWHAT IMPORTANT**		**NOT IMPORTANT**		**COMBINED FREQUENCY**
	FREQ.	**PERCENT**	**FREQ.**	**PERCENT**	
Technical	**41**	**24.1**	**129**	**75.9**	**170**
Business Tech.	**12**	**31.6**	**26**	**68.4**	**38**
Education Tech.	**7**	**15.9**	**37**	**84.1**	**44**
Business General	**14**	**22.6**	**48**	**77.4**	**62**
A & S General	**14**	**29.2**	**34**	**70.8**	**48**
Combined Freq.	**88 (24.3%)**		**274 (75.7%)**		**362**

Chi-Square = 3.498 DF = 4 p = .478

Analysis of Hypothesis 4.20

H_o 4.20: There are no differences between the curriculum groups in their enrolling at the University because they could not find a job.

The Technical group showed a somewhat higher percent of responses in evaluating this question as "Important." In general, however, this was not an important reason for the entire respondent groups to attend the University.

The Chi-square analysis resulted in no statistically significant differences between the groups. **The null hypothesis was not rejected.**

TABLE 54: COMPARISON OF CURRICULUM GROUPS IN ENROLLING BECAUSE THEY COULD NOT FIND A JOB

Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	25	14.7	145	85.3	170
Business Tech.	3	7.9	35	92.1	38
Education Tech.	3	6.7	42	93.3	45
Business General	4	6.5	58	93.5	62
A & S General	5	10.4	43	89.6	48
Combined Freq.	40 (11.0%)		323 (89.0%)		363

Chi-Square = 4.941 DF = 4 p = .293

Analysis of Hypothesis 4.21

H_o 4.21: There are no differences between the curriculum groups in deciding to attend the university to be with friends.

As shown in Table 55, the Business General group had 29 percent of their respondents indicate that "to be with friends" was important in making the decision to attend the university. The Arts and Sciences General group in contrast, had 6.3 percent respond in this same category.

The Chi-square analysis showed statistically significant differences at a .05 alpha level. **The null hypothesis was rejected.**

TABLE 55: COMPARISON OF CURRICULUM GROUPS IN DECIDING TO ATTEND THE UNIVERSITY TO BE WITH FRIENDS

Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	13	7.6	157	92.4	170
Business Tech.	6	15.8	32	84.2	38
Education Tech.	8	17.8	37	82.2	45
Business General	18	29.0	44	71.0	62
A & S General	3	6.3	45	93.8	48
Combined Freq.	48 (13.2%)		315 (86.8%)		363

Chi-Square = 21.176 DF = 4 p = .000

Analysis of Hypothesis 4.22

H_o 4.22: There are no differences between the curriculum groups in deciding to attend the university because they were given no information on other colleges.

As shown in Table 56, not receiving information was not important to 87 percent of the total student population. The Technical group had the highest percentage of "Important" responses, and Educational Technical had the lowest.

The Chi-square analysis measured no statistically significant results at the .05 alpha level. **The null hypothesis was not rejected.**

TABLE 56: COMPARISON OF CURRICULUM GROUPS IN DECIDING TO ATTEND THE UNIVERSITY BECAUSE THEY DID NOT RECEIVE OTHER INFORMATION					
Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	28	16.6	141	83.4	169
Business Tech.	3	7.9	35	92.1	38
Education Tech.	3	6.7	42	93.3	45
Business General	8	12.9	54	87.1	62
A & S General	5	10.4	43	89.6	48
Combined Freq.	42 (13.0%)		315 (87.0%)		362

Chi-Square = 4.663 DF = 4 p = .324

Analysis of Hypothesis 4.23

H_o 4.23: There are no differences between the curriculum groups in deciding to attend the university because they would not qualify for admissions at other four-year colleges.

As shown in Table 57, 87.5 percent of all respondents did not transfer to the university because they did not qualify for admissions to other four-year colleges. The Business General group did have 21 percent of their respondents mark this category as "Important." The Technical group had the lowest percentage in the "Important" category.

The Chi-square analysis showed no statistically significant results at the .05 alpha level. **The null hypothesis was not rejected.**

TABLE 57: COMPARISON OF CURRICULUM GROUPS IN DECIDING TO ATTEND FSU BECAUSE THEY DID NOT QUALIFY FOR OTHER COLLEGES					
Curriculum Groups	VERY/SOMEWHAT IMPORTANT		NOT IMPORTANT		COMBINED FREQUENCY
	FREQ.	PERCENT	FREQ.	PERCENT	
Technical	15	8.8	155	91.2	170
Business Tech.	6	15.8	32	84.2	38
Education Tech.	5	11.1	40	88.9	45
Business General	13	21.0	49	79.0	62
A & S General	6	12.5	42	87.5	48
Combined Freq.	45 (12.4%)		318 (87.6%)		363

Chi-Square = 6.664 DF = 4 p = .155

Analysis of Hypotheses 4.24 - 4.31

As shown in the following table, those questions which focus on attitudes toward predisposition to transfer were analyzed by both MANOVA, Multiple Analysis of Variance, and ANOVA, Analysis of Variance. The MANOVA showed statistically significant differences between the curriculum groups at the .05 alpha. This measure analyzed the multiple groups' means and the multiple variables simultaneously. **The null hypothesis was rejected** at the .000 level.

Also, an ANOVA was used to analyze the curriculum groups' differences on each individual measure. Six of the hypotheses showed statistically significant differences at the .05 alpha level.

The following hypotheses were statistically different:

4.25: There were no differences between the curriculum groups in their receiving encouragement to consider transferring to a four-year college. $p = .001$

4.26: There were no differences between the curriculum groups in believing transferring to a four-year college was too far in the future to worry about when in community college. $p = .044$

4.27: There were no differences between the curriculum groups in being disappointed if they had not transferred to a four-year college. $p = .000$

4.28: There were no differences between the curriculum groups in talking to friends about transferring to a four-year college. $p = .003$

4.30: There were no differences between the curriculum groups in looking at the college catalog or schedule books to determine what courses would qualify for transfer. $p = .012$

4.31: There were no differences between the curriculum groups in their evaluating getting a job as more important than transferring to a four-year college when in community college. $p = .001$

A discussion of each set of means follows the MANOVA-ANOVA.

TABLE 58: MANOVA AND ANOVA
Hypotheses 4.24 - 4.31
Questions 8.5 - 8.12
ANOVA

Questions	Technical	Business Technical	Education Technical	Business General	A & S General	F	P
	Mean SD	Mean SD	Mean SD	Mean SD	Mean SD		
8.5 My teachers encouraged me to think seriously about transferring to a 4-year college.	X	X	X	X	X	.314	.868
8.6 Transferring to a 4-year college was not that important.	2.005 1.136 (N=169)	2.027 1.142 (N=37)	1.522 .820 (N=44)	1.612 .875 (N=62)	1.416 .767 (N=48)	4.879	.001
8.7 When I first started community college, transferring to a 4-year college was too far in the future to worry about.	2.461 1.345 (N=169)	2.378 1.232 (N=37)	2.204 1.304 (N=44)	2.483 1.277 (N=62)	1.829 1.049 (N=47)	2.471	.044
8.8 If I hadn't transferred to a 4-year college, I would have been disappointed.	3.776 1.155 (N=170)	4.135 1.188 (N=37)	4.088 1.202 (N=45)	4.245 .869 (N=61)	4.604 .535 (N=48)	7.057	.000
8.9 My friends and I talked about transferring to a 4-year college.	3.171 1.313 (N=169)	3.513 1.096 (N=37)	3.511 1.236 (N=45)	3.822 .758 (N=62)	3.645 1.020 (N=48)	4.123	.003
8.10 I would have liked to have had some information about transfer opportunities, but I didn't know who to see for it.	X	X	X	X	X	1.333	.257
8.11 Every semester or quarter when I registered for courses, I first looked at the college catalog to determine which courses I needed to qualify for transfer.	3.041 1.255 (N=169)	3.432 1.323 (N=37)	3.044 1.166 (N=45)	2.806 1.239 (N=62)	3.604 1.267 (N=48)	3.254	.012
8.12 When I first started attending community college, getting a job after graduating from the community college was more important than transferring to a 4-year college.	2.366 1.307 (N=169)	2.189 1.350 (N=37)	2.000 1.279 (N=45)	2.209 1.203 (N=62)	1.500 .743 (N=48)	4.749	.001

MANOVA: WILK'S lambda = .8093 F = 2.330 P = .000

Scheffe' Procedure

After these analyses, the Scheffe' procedure was applied to each set of means which had statistically significant variance as measured by the ANOVA. The Scheffe' procedure allows one to determine which pairs of means are statistically significant. No pair of means needs necessarily to be significant.

(1) Transferring to a four-year college was not that important (8.6).

Significance level: .000

The Scheffe' procedure showed that the Technical group and the Arts and Sciences General group were the pair of means significantly different. The Arts and Sciences General group had a higher percentage of respondents to disagree with this statement compared to the Technical Group.

(2) When I first started community college, transferring to a four-year college was too far in the future to worry about (8.7).

Significance level: .038

The Scheffe' procedure showed no two means which were significant at the .05 alpha level.

(3) If I hadn't transferred to a four-year college, I would have been disappointed (8.8)

Significance level: .000

The Scheffe' procedure showed the Technical Group and the Arts and Sciences General Group as statistically different at the .05 alpha level. The Arts and Sciences General group had a higher percentage of respondents to agree with this statement than the Technical Group.

(4) My friends and I talked about transferring to a four-year college (8.9).

Significance level: .002

The Scheffe' procedure showed the Technical Group and the Business General group as significantly different at the .05 alpha level. The Business General group

had a higher percentage of respondents to agree with this statement than the Technical Group.

(5) Every semester or quarter when I registered for courses, I first looked at the college catalog to determine which courses I needed to qualify for transfer.

Significance level: .007

The Scheffe' procedure showed the Arts and Sciences General group and the Business General group as significantly different at the .05 alpha level. The Arts and Sciences General group had a higher percentage of respondents who agreed with this statement than the Business General group.

(6) When I first started attending community college, getting a job after graduating from the community college was more important than transferring to a four-year college.

Significance level: .000

The Scheffe' procedure showed the Technical group and the Arts and Sciences General group were significantly different at the .05 alpha level. The Technical Group had a higher percentage of respondents who agreed with this statement than the Arts and Sciences General group.

Post-Hoc Analysis of Hypothesis 4

In a post-hoc analysis of the various hypotheses testing Hypothesis 4, the five curriculum groups were aggregated: the Technical Group (Colleges of Technology and Allied Health), the Business Technical Groups, and the Education Technical Groups were placed in one "Technical" grouping; the Arts and Science Group and Business General Group were placed in one "General" grouping. The hypotheses were analyzed using the same statistical analyses, except the two groups were compared, rather than five.

While Hypothesis 4.15 had shown no statistically significant results in the multi-group comparison, the post-hoc analysis of Hypothesis 4.15 resulted in statistically significant differences at the .05 alpha level:

(1) **Hypothesis 4.15**: There are no differences between the curriculum groups in their evaluation of the importance of teachers and counselors. The aggregated "Technical" groups evaluated teachers and counselors at a higher percentage (47.2%) than the aggregated "General" group (35.5%).

Measure: Chi-square

Significance level: .038

Two other hypotheses found to have statistically significant differences in the multi-group comparisons were also statistically significant in the post-hoc analysis.

(1) **Hypothesis 4.18**: There are no differences between the curriculum groups in making the decision to attend the university because the program of the greatest interest is offered. The aggregated "Technical" groups evaluated program interest as important at a higher percentage (96.4%) than the aggregated "General" groups (88.2%)

Measure: Chi-square

Significance level: .002

(2) **Hypothesis 4.21**: There are no differences between the curriculum groups in deciding to attend the university to be with friends. The aggregated "General" groups were more likely (19.1%) to attend the university to be with friends, as compared to the aggregated "Technical" groups (10.7%).

Measure: Chi-square

Significance level: .030

The remaining post-hoc analyses of Hypothesis 4 were conducted through Multiple Analysis of Variance (MANOVA) tests of significance and Analysis of Variance (ANOVA). Following are the results of the MANOVA and ANOVA based on the aggregated groups.

Comparison of Attitudes Toward Transfer Questions

The MANOVA showed statistically significant differences between the two curriculum groups:

MANOVA Wilk's Lambda = .9128 F = 4.1196 p = .000

In the original analysis, six in the final section of questions, each having to do with attitudes toward transfer, had been statistically significant at the .05 alpha level. When the analysis was repeated with the same questions but with the two aggregated groups, four of the questions, as indicated below, showed statistically significance at the .05 alpha level:

(1) Transferring to a four-year college was not that important.

The aggregated "General" groups evaluated transfer to a four-year college as more important than the aggregated "Technical" groups.

Measure: ANOVA

Significance level: .001

(2) If I hadn't transferred to a four-year college, I would have been disappointed.

The aggregated "General" groups were more likely to be disappointed than the aggregated "Technical" groups.

Measure: ANOVA

Significance level: .001

(3) My friends and I talked about transferring to a four-year college.

The aggregated "General" groups were more likely to talk about transferring to a four-year college than the aggregated "Technical" groups.

Measure: ANOVA

Significance level: .001

(4) When I first started attending community college, getting a job after graduating from the community college was more important than transferring to a four-year college.

The aggregated "Technical" groups evaluated getting a job after graduation

from the community college as more important than transferring to a four-year college, as compared to the aggregated "General" groups.

Measure: ANOVA

Significance level: .010

Hypotheses 5 and 6

While it was the purpose of this study to examine the differences between the curriculum groups in their suggestions for improving transfer at the community college and at the university, there were answers from less than one-half of the respondents on each of the questions. Also, the largest numbers of responses were of a positive nature. The withdrawn students also had a generally positive evaluation of the transfer process, more positive than the other transfer students. Last, there were few discernible differences between technical and general groups. For these reasons, the responses to the open-ended questions are treated as aggregate responses.

Students were asked to respond to an open-ended question relating to services at the community colleges. Specifically, the question was asked in this manner: "Please indicate some ways in which you think your community college could improve educational and counseling services to assist transferring students." All responses from this question were recorded; then similar responses were grouped to form categories. Following is a listing of those categories:

a. provide more counseling (11)
b. improve counseling (29)
c. advertise transfer services (10)
d. provide more university visits (10)
e. improve attitudes toward transfer (12)
f. improve communication with four-year institutions (28)
g. make transfer more appealing (10)

h. provide career information (5)

i. improve scheduling books and catalogs (27)

j. I never talked to anyone or used any services (12)

k. services were good (48)

The last two sets of responses do not provide additional information regarding improvement of transfer services, but they do reveal attitudes toward transfer. Twelve students noted that they had never discussed transfer with anyone, nor had they used any services; thus, no suggestions for improvement were made.

Forty-eight students had no recommendations for improvement: Some felt services were adequate; others simply said, "good job," or praised their community college's efforts. These responses, coupled with the many students who gave no reply, seem to indicate a general positive transfer experience.

Those students who had suggestions for improvements tended to focus on communications, particularly between the community colleges and the university. In fact, while a separate category was created for the student responses which specifically cited communication as a needed improvement, one might assume that several of the various response categories are simply variations of the requests for better communications between institutions.

Those students, however, that specifically noted communications improvement as important for transferring students, pointed out that needed information was often difficult to gain. Not only were there apparent contradictions in transfer information, but:

1. "The community college told me classes would transfer up here but when I talked to Ferris they would not take them so I had to retake classes so they would transfer."
2. "I don't think it is right at all to have to take additional classes to make up for the classes that we took at our community college. For example, I fulfilled all my humanities requirement and now that I've transferred to Ferris I have to

take any kind of class to replace this. I think it's B.S. All the school wants is money. Why take classes that won't help you in the future."

3. "Should encourage students to attend a four-year school."
4. "More transfer counseling counselors should be made aware of programs at Ferris."

With the exception of those students who indicated that transfer services were adequate, the request for better communications was the most frequent response by several participants.

Closely associated with general communications improvement was the perceived need for improved counseling. Students who made such comments noted a lack of specific information such as curriculum, credit transfer, and general transfer opportunity Such students often pointed out that community colleges counseling services tend to focus on the non-transfer community college student. Discussions with students through interviews revealed that some students felt that:

1. "Counseling didn't know what classes to take to transfer."
2. "They had no idea what programs you had at Ferris."
3. "More encouragement to continue on for a 4 year degree. More qualified advisors/counselors. I checked my own curriculum updates."
4. "Be more positive about transferring."
5. "Counselor should have to know more about 4 year schools. I spent a whole year in a program that I ended up disliking because I didn't have available sources."

On a simple level, some students simply suggested more counseling, pointing out that it was often difficult to schedule counseling sessions, particularly multiple counseling services.

1. "To meet with students more often."
2. "More counselors available. I waited 3-4 weeks to see one."

3. "Make it easier to meet with counselors."
4. "Have more counselors available so that students aren't waiting a long time to talk to someone about important decisions or questions he or she may have."

Another six students suggested the need for improved advising. As one student indicated:

> There are a lot of General Education students at a community college. These college counselors need to help these undecided students find a curriculum that best fits them. They should discuss the opportunities with the students.

Students also suggested that both scheduling books and catalogs be improved to indicate transfer information. Most commented that no differences between transfer and non-transfer courses were noted in either publication. Interestingly, telephone interviews also revealed that few students were aware of equivalency lists of the MACRAO agreement (the agreement by Michigan universities to honor prescribed associate degrees from community colleges). Thus, even though transfer information, particularly credit transfer, is available, many students do not seem aware of this information:

1. "By the counselors being more aware of transfer classes. I talked with one counselor who said she didn't know anything about transferable classes."
2. "Make it known that certain transfer programs exist. I spent two years at Oakland Community College and I transferred in at Ferris as a freshman."
3. "MACRAO standards and necessary counseling (none required or needed as a requirement)."

Several students indicated that they felt the transfer process needed promotion. To make transfer better, the services need to be better advertised.

Similarly, some students indicated that for the process to work well, it had to be made more appealing. Last, the four-year institutions should reach out more—more visits from four-year institutions would assist the potential transfer students. Another set of responses relating to suggestions for improvement revealed problems of attitudes.

The other major open-ended question was basically the same as that asked for suggestions relating to transfer services at the community college: "Please indicate some ways in which you think Ferris State University could improved educational and counseling services for transferring students."

Not surprisingly, responses to this question had a tendency to fall into quite similar categories as those suggestions for the community college.

a. provide more counseling (10)
b. improve counseling (5)
c. advertise transfer services (9)
d. provide more university visits (7)
e. improve attitudes toward transfer (12)
f. improve communications internally and with two-year institutions (24)
g. make transfer more appealing (7)
h. better scheduling books and catalogs (13)
i. never talked to anyone or used any services (3)
j. services were good (42)

Once again, the most common answer to the open-ended question was that "services were good." When the interviewer pressed further, it was not unusual for the student to mention specific faculty members counselors and staff members who had been particularly helpful.

In the same way students had suggested counseling improvements at the community college, they again suggested both more counseling (10) and improved counseling (15) at the university. In informal discussions, some of these students suggested mandatory meetings for all transfer students.

1. "Mandatory meeting with counselor in person about majors."
2. "I think a student must see their counselor twice a year to see what they need to accomplish so they can graduate."

3. "You should have academic counselors instead of professors as academic counselors. I just don't feel it is a professor's job to be a counselor."
4. "Have more special counselors who give you the truth about what you need. Teachers usually look at a list and guess what classes would be 'good for you' but don't help you get a degree."
5. "Have more counselors on hand at orientation to help answer standard questions."

Improved advising, particularly, early curriculum-specific advising, was also suggested.

Better communications also were cited; once again, the interchange between institutions were seen as needing improvement. Also, after admittance to the university, information was difficult to obtain. While initial information was available, student-specific information regarding credit transfer and different curriculum choices, such as curriculum track, was not readily available.

1. "Specific list of transfer courses and the number of credits that must be taken at Ferris to graduate."
2. "Get more involved with transfer students. Let them know what classes they should have before taking a more advanced class with no experience before hand."
3. "Set up appointments to plan a general 2 year degree (Not written in stone but an outline)."
4. "More descriptive on content of classes."

Related improvements in scheduling books and university category were advised. Informal discussions with students indicated that transfer students had used both schedule books and catalogs in lieu of equivalency sheets. In other words, some students made personal, informal decisions using materials which were not necessarily designed for such use.

1. "In schedule book make it clear which classes will transfer to Ferris. If I didn't have a counselor there I wouldn't have gotten to Ferris."
2. "Update listing of programs."
3. "More unified schedule, tell exact classes needed for specific major."
4. "Most important thing would be to make transfer credit more visible in course catalogs."
5. "Advertise more of the specialized areas and their classes."
6. "Coordinate with community colleges better/update classes that are transferable."

Students once again made it clear that the transfer act itself needs more advertisement (9 responses). Further, in the same way that community colleges should encourage university recruiting visits, the university should reach out more to the community college. Last, attitudes need to change about transfer: because the transfer's information and advising needs are different, the system is not as responsive as it should be (12 responses).

1. "Have more cheerful and helpful people. Students are misinformed too much."
2. "They don't seem to be interested in your future "get you in and get you out."
3. "They don't do anything - so anything would be an improvement."
4. "Well, sometimes when I talked with counselors they seem rushed. Take your time with the student and make sure they fully understand preparation for graduation instead of telling you 'take this and take that--thank you, Goodbye'."

The telephone interviews allowed clarification of some points which were not inherent within the survey instrument. Rather than forming a category of responses, certain trends became clear as students spoke about the transfer process.

One distinct finding is that transfer is a process, a series of steps beginning with initial decision-making and culminating after final credit transfer and adaption to the

university. Since the act of transfer is made up of different steps, different information becomes important as one goes through the process, and therefore needs are different, depending on the stage one finds oneself.

For this reason, the changing needs required of the transfer process, the transfer student often finds that an ongoing interchange with both the sending and receiving institutions is required. For this reason alone, the transfer student faces situations which stress the communication abilities of both the sending and receiving institutions. Just as the student makes the decision to transfer, other immediate concerns come to the fore: How will community college credits transfer?, What courses should be taken until transfer is carried out?, How can one gain specific curriculum information?

In gaining this information, timelines often become a problem: If one does not know what credits transfer, one struggles with registration at the community college. If specific technical skills are required, how does one ascertain competence? The information needed is sometimes individualized and discrete, once again often requiring prolonged and complex communications.

The purpose of Chapter IV was to analyze the differences between technical and general track students in demographic characteristics, interaction with the community colleges, interactions with the university, and predisposition to transfer. Also analyzed were the suggestions for improvement by both technical and general transfer students.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

The primary purpose of this study was to examine the characteristics of technical and general transfer students from community colleges. The specific differences between these technical and general transfer students were analyzed through the comparison of curriculum groups. These curriculum groups, selected to represent technical or general curricula, were compared in their demographic data, their predisposition to transfer, their interaction with the community college, their interaction with the university, and their suggestions for improvements in the transfer process at both the community college and the university.

If four-year institutions are to improve the transfer function, they must come to understand the individuals they serve. Most of the services, most of the planning, most institutional staffing clearly centers upon, and best serves "native" students. To focus the various institutional activities in ways to serve transfer requires more research into different groups of students. While national longitudinal data and large research projects provide a broad scope of insights and perspectives, additional work must be done to extract more specific, more usable information at the university level.

Summary

Purpose

The purpose of this study was to examine certain transfer curriculum groups at Ferris State University. The study was carried out to learn more about transfer students, their characteristics and their transfer needs. This information will serve the institution in

focusing special services, determining institutional priorities, and directing future transfer research.

Specifically, the study sought to determine if distinct curriculum groups were different in their demographic characteristics, their interaction with the community colleges, their interaction with the university, and their original predisposition to transfer. Finally, the study examined what suggestions the groups had for improving transfer services at both the community and at Ferris State University.

Method

Three-hundred and seventy students were surveyed in this study. These students were transfer students from community colleges who entered Ferris State University fall quarter, 1991-92. These students were not students who were attending classes at a branch campus or an extension center. Thirty-eight of these students were students who had withdrawn by spring term of 1992.

The study utilized a mailed survey, as well as telephone surveys. The instrument used was an adaptation of a survey developed at the Center for Community Colleges by Cohen, Lombardi, and Brawer. This instrument, originally developed for community college students, was adapted to measure both the community college and the university experience. The study included quantitative, qualitative, and descriptive analysis.

Literature

Even though over thirty years have passed, one research article by Burton Clark (1960) is repeatedly quoted. His article "The Cooling Out Effect of Community Colleges" posits that community colleges entice students to try higher education, but then subtly teach them that they are not college material. A recent article in the Journal of Higher Education (1991) by W. Norton Grub, "Community College Transfer Rates" echoes Clark's evaluation:

> ...the sharp declines in the proportion of B.A. recipients starting in community colleges among students from vocational tracks and those with lower aspirations suggest that community colleges are increasingly terminal institutions for those students who enter with limited aspirations (p.211).

Grub, who believes declining transfer rates cannot be laid at the door of "vocationalizing higher education" by community colleges, nevertheless came to the above conclusion after comparing two longitudinal studies, The National Longitudinal Study of the Class of 72, or NLS 72; and the High School Class of 1980, or the High School and Beyond Study. Arthur Cohen, and others, suggest that the "culture" of community colleges may create an atmosphere which "mitigates the effect that school can have on them" (Facilitating, p.19). Even though Richardson and Bender (1985) feel that "little enthusiasm exists for solving transfer problems," many national councils and organizations, as well as state departments of education, feel it must be a national agenda.

This study addresses the issue of transfer, not only from the community college perspective, but from the four-year institution's vantage point. When technical-occupational students enter the university, are they the students who were predisposed to transfer? Did they interact with their community college in different ways than their general track peers? Do they "use" or interact with four-year institutions differently?

Hypothesis 1: Demographic Data

Research Hypothesis 1 involved the comparison of the five curriculum groups with respect to demographic variables. The age variable was measured by MANOVA and ANOVA, since age was a continuous variable. The other variables were measured by Chi-square analysis, since each of the variables were categorical. With all measurements, the .05 alpha level was used as the level of significance.

Two of the demographic variables did show statistically significant results. Gender differences between the groups were significant at the .001 alpha level as measured by Chi-square analysis. The entire surveyed population was 60.9 percent of male and 39.1

percent female. The Technical groups was 69.4 percent male and 30.6 percent female. Business Technical, in contrast, was 34.2 percent male and 65.8 percent female.

Family income was also statistically significant at the .037 significance level as measured by Chi-square analysis. Fully 45.9 percent of the Arts and Sciences General group had family income below $20,999, while the Educational Technical group had only 2.06 percent. Business General had 58 percent of its respondents with family incomes of $40,000 or more.

The variables of age (mean 22.94), ethnicity, and hours of employment showed no significant differences. Only 5.8 percent of the respondents were minority students.

In the post-hoc analysis, only the variable of family income was statistically significant (Chi-square: .047).

Demographic Data

The demographic variables give some picture of the responding students:

Age:	Average age, 22.94	
Ethnicity:	5.8 percent of the respondents were minority	
Gender:	60.9 percent of the respondents male, 39 percent female	
Hrs. Employed:	None:	62.7%
	1-10:	11.3%
	11-20:	16.3%
	21 + :	9.7%
		100%

Family income:	up to $20,999:	33.8%	(95 responses)
	$21,000 to 39.999:	21.7%	(61 responses)
	$40,000 plus:	44.5%	(125 responses)
		100%	(281 responses)

Hypothesis 2: Interaction with Community Colleges

Research Hypothesis 2 involved the comparison between the five curriculum groups in their interaction with the community colleges. One set of questions dealt with a series of questions asking the student to indicate if he/she had participated in activities, some of these academic services, at the community college. These variables were categorical and measured with Chi-square analysis. The .05 alpha level was used as the level of significance.

A second set of questions focused on transfer services to the student. These questions required the student to choose among five Likert-type answers, ranging from "Strongly Disagree" to "Strongly Agree." These answers were treated as continuous data and analyzed by MANOVA and ANOVA. The .05 alpha level was as the level of significance.

Significance was found in only one variable in the measurement of interaction with community colleges. The attendance at tutorial services, measured by Chi-square analysis, was significant at a .038 level. In this analysis, the Technical Group and the Business General group show higher tutorial use. The post-hoc comparison of aggregated groups showed no statistically significant differences between the aggregated groups.

Hypothesis 3: Interaction with the University

Research Question 3 involved the interaction of students with the university. One set of questions dealt with the importance of individuals and/or offices in providing information regarding transfer opportunities. These questions were answered "Important" or "Not Important." A second set of questions was a list of activities, many of which were services, in which students were asked if they had participated. These questions had "Yes" or "No" responses. The last set of questions focused on other campus activities such as taking notes and attending campus lectures. These questions were answered "Frequently, Occasionally, and Rarely." Since all three sets of questions were categorical, they were analyzed by the Chi-square method. An alpha level of .05 was used as significance level.

Hypothesis 3 was measured through the analysis of three major sets of questions. The first group of questions, which asked the importance of individuals and offices, one variable showed the groups different statistically (.035): Teachers at the University were seen as important by 29.6 percent of the Technical students--9.6 percentage points higher than any other group.

The second group of questions, where students were to identify student services in which they participated, had three variables which were statistically significant. "Made an appointment to talk with one of your instructors" was chosen as a "frequent" event by 37.6 percent of the Technical group and only 21 percent of the Business General. "Asked a faculty member for advice regarding your future plans" was another question statistically significant. Once again, the Technical group had "frequent" as the highest response (35.9) with all other groups with less than 16 percent.

"Attended a lecture on campus" was an answer which also showed statistical differences between the groups. The Arts and Sciences General group had 41.7 percent of its answers in the "frequent" category. The Business General group had the least, 14.5 percent.

In the post-hoc analysis, the aggregated groups were shown to be statistically different in their responses to four questions. As shown below, the responses to two questions were found to be statistically significant even though the responses had not been found significant when the five curriculum groups' responses were analyzed:

(1) **Hypothesis 3.3**: There are no differences between the curriculum groups in their evaluation of the importance of friends providing transfer information (Chi-square, .027).

(2) **Hypothesis 3.6**: There are no differences between the curriculum groups in their participation in career counseling. (Chi-square, .042).

As shown below, the responses to two hypotheses had shown statistical significance when the five curriculum groups were compared:

(1) **Hypothesis 3.11**: There are no differences between the curriculum groups in their making appointments with instructors (Chi-square, .034).

(2) **Hypothesis 3.12**: There are no differences between the curriculum groups in their use of faculty advice (Chi-square, .005).

Hypothesis 4: Predisposition to Transfer

Hypothesis 4 involved the five curriculum groups' predisposition to transfer characteristics, which were examined by using some of the same measures were developed for use at community colleges. The six different sets of questions measure reasons for attending college, methods of gaining information, sources of information, and personal efforts to transfer. Also the students were asked if they knew the elective and major credits that were accepted by the university when the students were accepted. Finally, students were asked how important certain reasons were for attending Ferris State University. All of these questions involved categorical data and were analyzed by Chi-square. An alpha level of .05 was used for significance level.

The last set of questions measuring predisposition to transfer asked a series of questions about the students' attitudes toward transfer when they were attending community college. These questions used Likert-type responses which were analyzed by MANOVA and ANOVA. An alpha level of .05 was used for significance level. Those means of specific variables which were statistically significant were analyzed by Scheffe's procedure to determine if specific means were significantly at variance with other means.

Hypothesis 4 had seven separate sections of questions. There were ten variables showing statistically significant differences between the five groups.

The first section, which had one question, asked the student the primary reason the student attended community college. The Arts and Sciences General group had 73.7 percent of its responses in the "to prepare for transfer" column; the Technical group had 46.5 percent. Conversely, the Technical group had 34.2 percent of its responses in the "To gain skills category." The Arts and Sciences group had 7.9 percent. This variable,

measured by Chi-square, was significant at the .0001 level, falling clearly into the .05 alpha level of significance.

In the second section of questions, students were asked how they knew which courses would transfer. The response, "I checked with Ferris State University" was statistically significant (.027) at a .05 alpha level. While the response was not statistically significant, another response in this section was "I did not know which of my courses would be accepted at Ferris State University." There were 68.6 percent of the entire respondent population which chose this answer.

The third set of questions with statistically significant findings was a section asking how important reasons were for attending Ferris State University. Two questions were statistically significant. The first (Questions 9.4) was "This college offers the kind of program that is of greatest interest to me." The Technical group had 98.2 percent of its responses in this category; The Business General Group had 85.5 percent. The .006 significance fell into the .05 alpha level. The second significant question in the same section was "I wanted to be with friends." The Business General group had 29 percent of its respondents choose this answer. No other curriculum group had as much as 18 percent.

The last set of questions under predisposition to transfer asked students their attitudes about transfer while at the community college. The entire group of responses was analyzed by Multivariate Analysis of Variance (MANOVA) and were statistically different at the .05 alpha level (.000).

Following the MANOVA analysis, each set of means for each variable was analyzed by Analysis of Variance (ANOVA) to measure the differences within the means for that specific variable. After these analyses, the Scheffe procedure was applied to each set of means which had statistically significant variance as measured by the ANOVA. The Scheffe' procedure allows one to determine which pairs of means are statistically significant. No pair of means needs necessarily to be significant.

Following is a brief listing of the significant variable and a brief explanation of which pairs of curriculum groups means are significantly different and in what way.

(1) Transferring to a four-year college was not that important (8.6). Significance level .000

The Scheffe' procedure showed that the Technical group and the Arts and Sciences General group were the pair of means significantly different. The Arts and Sciences General group had a higher percentage of respondents to disagree with this statement compared to the Technical Group.

(2) When I first started community college, transferring to a four-year college was too far in the future to worry about (8.7). Significance level: .038

The Scheffe' procedure showed no two means which were significant at the .05 alpha level.

(3) If I hadn't transferred to a four-year college, I would have been disappointed (8.8) Significance level .000

The Scheffe' procedure showed the Technical Group and the Arts and Sciences General Group as statistically different at the .05 alpha level. The Arts and Sciences General group had a higher percentage of respondents to agree with this statement than the Technical Group.

(4) My friends and I talked about transferring to a four-year college. Significance level .002

The Scheffe' procedure showed the Technical Group and the Business General group as significantly different at the .05 alpha level. The Business General group had a higher percentage of respondents to agree with this statement than the Technical Group.

(5) Every semester or quarter when I registered for courses, I first looked at the college catalog to determine which courses I needed to qualify for transfer. Significance level: 007

The Scheffe' procedure showed the Arts and Sciences General group and the Business General group as significantly different at the .05 alpha level. The Arts and Sciences General group had a higher percentage of respondents who agreed with this statement than the Business General group.

(6) When I first started attending community college, getting a job after graduating from the community college was more important than transferring to a four-year college. Significance level: 001

The Scheffe' procedure showed the Technical group and the Arts and Sciences General group were significantly different at the .05 alpha level. The Technical Group had a higher percentage of respondents who agreed with this statement than the Arts and Sciences General group.

In the post-hoc analysis of Hypothesis 4, Hypothesis 4.15 showed statistically significant results at the .05 alpha level which had shown no significance in the five-group comparison:

H_o 4.15: There are no differences between the curriculum groups in their evaluation of the importance of teachers and counselors (Chi-square, .038). The aggregated "Technical" groups evaluated teachers and counselors at a higher percentage (47.2%) than the aggregated "General" group (35.5%).

Two other hypotheses which were statistically different at the .05 alpha level in the five-group comparison were also statistically significant in the post-hoc analysis:

H_o 4.18: There are no differences between the curriculum groups in making the decision to attend the university because the program of the greatest interest is offered (Chi-square, .002). The aggregated "Technical" groups evaluated program interest as important at a higher percentage (96.4%) than the aggregated "General" groups (88.2%).

H_o 4.21: There are no differences between the curriculum groups in deciding to attend the university to be with friends (Chi-square, .030). The aggregated "General" groups were more likely (19.1%) to attend the university to be with friends, as compared to the aggregated "Technical" groups (10.7%).

The remaining analyses of Hypothesis 4 were conducted through Multiple Analysis of Variance (MANOVA) and Analysis of Variance (ANOVA). THe MANOVA confirmed statistically significant differences between the two curriculum groups' responses on all eight attitudinal questions relating to predisposition to transfer. The results were statistically significant at the .05 alpha level (MANOVA, .000).

Four of the individual questions showed statistical significance:

H_o 4.25: There are no differences between the curriculum groups in believing transferring to a four-year college was important (ANOVA, .000).

H_o 4.27: There are no differences between the curriculum groups in being disappointed if they had not transferred to a four-year college (ANOVA, .000).

H_o 4.28: There are no differences between the curriculum groups in talking to friends about transferring to a four-year college (ANOVA, .001).

H_o 4.31: There are no differences between the curriculum groups in their evaluating getting a job as more important than transferring to a four-year college when in community college (ANOVA, .001).

Research Questions 5 and 6

Rather than quantitative, statistical analysis, the last two major research areas were qualitative in nature. Two questions were asked all students:

(1) Please indicate some ways in which you think your community college could improve educational and counseling services to assist transferring students.

(2) Please indicate some ways in which you think Ferris State University could improve educational and counseling services for transferring students.

These questions were evaluated through content analysis. The progress was conducted by the sorting of common answers, the assigning of topic categories, and the compiling of frequencies for each category.

The results of the open-ended questions showed similar suggestions from technical track and general track students. While the most common response was that the transfer process was positive, a number of students suggested more and better counseling and better communications between the sending and receiving institution. Finally, students felt that the transfer process at both community colleges and the university should be promoted and valued.

Conclusions

Major Conclusions

The purpose of this study was to examine the characteristics of certain curriculum groups of community college transfer at Ferris State University. A central focus of the study was whether or not certain transfer curriculum groups are different. The data collected included demographic data, the students' interaction with their community colleges, the students' interaction with Ferris State University, and the students' predisposition to transfer while at the community college, as well as suggestions for improving the transfer process, both from the community college and university perspective.

After the preceding analyses, certain conclusions may be made drawn regarding the findings of this study. Perhaps the most cogent findings are those having to do with predisposition to transfer. This study was based on the hypothesis that an open-door, polytechnical university would likely attract students, in some curricula, whose original predisposition to transfer was negative; in other words, the university would, enter transfer students who showed characteristics that would indicate that they were not originally predisposed to transfer.

One curriculum group, the Technical group, made up of transfer students from the Colleges of Technology and Allied Health, clearly showed some transfer characteristics different from the Arts and Sciences General curriculum group. In many cases the differences related to the group's original negative predisposition to transfer—a seeming paradox in light of the fact that they had, indeed, transferred.

The first five items (and most significant terms) on Bensimon and Riley's Predisposition to Transfer Index (p.19) are as follows:

1. Disagreeing that transfer is not important.
2. Disagreeing that transfer is too far off to worry about.
3. Disagreeing that getting a job is more important than transfer.
4. Agreeing that not transferring would be disappointing.

5. Having transfer preparation as the primary reason for college attendance.

On these important factors, which have been tested for reliability, the Technical group clearly shows that, in many cases, they were not originally predisposed to transfer. In contrast, the Arts and Sciences General group showed a high original predisposition to transfer.

The items listed earlier are attitudinal (confirmed by Bensimon and Riley), but the remaining Predisposition to Transfer Index are categorized by (1) attitudes, expectations and behaviors and (2) behavior/knowledge:

Attitudes/Expectations/Behaviors

1. Talking about transfer with friends.
2. Seeking information about transfer

Behavior/Knowledge

1. Requesting catalogs and applications (contacting the university).
2. Visiting the college.
3. Knowing course transfer eligibility (Bensimon and Riley, p.20).

Another item listed by Bensimon and Riley is, "having applied to at least one other college." Since the surveyed students had obviously applied, this item is deleted here. Also, because of this the item's correlation in reliability it "should be discarded" (Bensimon and Riley, p. 24).

The "Talking about transfer to friends" was a response which showed that the Technical group was different from the Business General group. Neither of the survey questions having to do with seeking information about transfer, however, show significant differences.

Similarly, neither "requesting catalogs and application forms" nor "visiting the universities" elicited differences in the groups. None of the questions involving knowledge of transfer credit resulted in significance between the groups. Question 2 asks students how they knew which credits were for transfer: Fully 68.6 percent of all

respondents answered they did not know. Question 5.1 and 5.2 asked if students knew which electives (5.1) and which major requirements (5.2) would transfer. Fewer than one-half knew which electives transferred (49.8 percent) and a little more than one-half (52.1 percent) knew which major requirements transferred. On four items of the Predisposition to Transfer Index, therefore, all group responses were similar. On six items, the results showed significant differences.

While differences exist between the groups in their predisposition to transfer, the differences did not appear to be significant in the curriculum groups' interaction with the community colleges. At least in terms of the survey's variables, which focused on services and the transfer process, the various curriculum groups were not statistically different, with the exception of the "attendance at tutorial services." In this case the differences in predisposition to transfer, then, seem not to have a strong relationship with the use of supportive services or transfer services at the community college.

Similarly, while there were differences in the curriculum groups in their interaction with the university, it appears that for the most part that the groups' differences are only differences, not weaknesses. The Technical Group clearly utilized teachers at the university more and differently. The Technical group saw instructors as more important than other university transfer resources, made appointments with them and sought their advice. While they did not attend campus lectures as much, this was the only variable that one might take as an indicator that a negative predisposition to transfer has any negative effect for interaction with the university. In this particular case it may be argued that it is the variables in which the curriculum groups do not show differences that are of importance.

Using the library, taking detailed notes, taking assigned reading notes and requesting additional references were activities in which not only the Technical group, but the Business Technical group and the Education Technical group did not have significant difference responses. In fact, the technical groups at times had the highest frequency of responses in which they reported carrying out what may be considered "traditional"

college activities. In brief, the technical curriculum groups, on most variables, particularly those involving learning activities, responded very much like other college transfer students.

Recommendations

1. Given the fact that differences in the five curriculum groups were not great in their interaction with the institution, one might ask the success of each group's interaction: What would attrition studies show about curriculum groups? How do certain attitudes affect long-term attrition? No attrition data exist: A data base, such as now exists for freshman students, should be established for transfer students.
2. Similarly, those transfer students who enter under the auspices of the Gerholz Institute of Lifelong Learning (GILL), the extension arm of the university, should be kept as a data grouping separate from other on-campus transfers. Not only do these students hamper data gathering, they often are atypical: they are dually-enrolled; they seek only a few classes; they falsely raise the aggregate attrition rate. While they are a valuable student cohort (and quite interesting), they are numerous enough to "skew" aggregate data.
3. Consider a "transfer center" calling number to assist the ongoing information needs of transfer students.
4. Use the auspices of the Office of Minority Affairs and the Minority Retention Program to build bridges to the minority transfer students to gather the data for institutional decision-making. The process of this research brings to the fore the difficulties of accurate institutional research involving minorities. While some of these data (data from this study) were made part of recent institutional and grant reports, more complete studies are necessary.

5. Increase the use of the Transfer Club as a means of continuing orientation and entry-point information source. Specific generic problems can be identified and then addressed in subsequent meetings. This could include the providing of career planning mentioned by some transfer students.
6. Make course equivalency sheets available on an ongoing basis, particularly during the fall and advertise this service. Telephone surveys and open-ended questions made this need clear. As a result of these findings, it is apparent that many students need course and credit transfer information before registering for more Ferris State University courses.
7. Conduct equivalency meetings for transfers on a college-level basis, particularly early in the term.
8. Consider the expanded use of faculty members as recruiters, particularly in the technical areas. This research indicates that this is an efficient, effective way to recruit and it has been used well by several areas. Some grant proposals are now in process to assist in this area. If the proposals are funded, and if grant activities are effective, recruitment activities should become regular institutional offerings.

Recommendation for Further Research

At Ferris State University one need for research that the preceding findings suggest involves the further disaggregation of transfer student data. For example, the focus of this study was upon "curriculum groups." These groups represented a committee's efforts to provide comparison groups to examine the premise that there were differences between the Technical and General Track students. Research should be conducted using different hypotheses and different variables between and among individual curricula, rather than grouped curricula.

Similarly, a study should be conducted which uses the number of earned credit hours as a determination for the comparison of groups. For example, what differences

does one find between groups of students who transfer with an associate's degree and those who do not? There are such national data, but there is a need for institution-specific data.

Similarly, what differences are there between those students who transfer from a liberal arts degree into a Technical curriculum and those who transfer with a Technical degree to a Technical curriculum?

Although this study was a means of examining transfer needs and services, additional studies should be made of "entry point" needs. The telephone interviews revealed that some students were continuing to struggle with information and service needs well into spring term.

The Business General Group seems to use friends as information sources, as well as reasons for transfer. How does the process work? How may an institution make use of this phenomenon in assisting student transfer?

The lack of survey responses from the Arts and Sciences Technical group hindered any analysis. Research should be done, perhaps through the program coordinators, to gain full transfer information from these students. These curricula—Journalism, Industrial Chemistry Technology, and Ornamental Horticulture—are all recognized through the Carl Perkins Act as Technical. Journalism offers an Associate in Applied Arts, and the other two curricula Associate in Applied Science degrees. Are these individuals significantly different than their Arts and Sciences General counterparts?

Transfer students often enter Arts and Sciences with less than an Associate's Degree. The assumption has often been that these individuals, particularly in the pre-professional programs, enter the College of Arts and Sciences to wait until technical programs are open, or to gain the required basic skills to enter technical curriculums. The rather "traditional" responses by Arts and Sciences General students suggest that further research should be conducted to assess needs, particularly career planning needs. Current career planning classes have gone so far as to initiate "technical practicums" as part of the

class. Further research is needed to determine if special career planning is needed for the general, undecided students. (Please see also the Reflections section of this study.)

Clearly, the Technical group had a higher number of males than any other group. While it was not within the purview of this study to deal with gender differences, research should be done to compare the transfer needs of Ferris State University based on gender differences.

Students who are entered through the Gerholz Institute of Lifelong Learning (GILL) are a group not included in this study, but which should be examined separately. What are the characteristics and needs of a group of students who ostensibly transfer, but who do not leave the community college? Early pilot testing of the survey revealed interesting sidelights, such as dually-enrolled students (community college and Ferris State University) and students still in the process of choosing a university.

National Research

To what extent is the national university system a self-fulfilling prophecy? What percentage of students have 2+2 or technical baccalaureate paths open to them? While a great deal of longitudinal data exist which show percentages of certain career-track students progressing through this system, or more correctly, many times not progressing through the system, there seems to be little done in terms of determining whether the students had the choice of a technical degree or had to make a radical career choice change in order to find a way to finish a baccalaureate.

Also, what determines whether a student is technical or general seems an issue which will need further study if any meaningful conclusions may be made regarding national data. While a student may be listed under a particular curriculum two things seem clear: the student may take courses at variance with the stated curriculum; further, the student may not at all be comitted to the stated curriculum.

The open-ended survey questions and telephone discussions with students suggest that the transfer process is a series of problem-solving episodes. More research is needed to clarify this series. In the same way, the various needs of transfer students at significant points in the process need examination. Can one assume as Vaughn and Dassance do that transfers are freshman twice?

In summary, until more accurate national data are available, the short-term benefits of a series of institution-specific research projects seem positive. Moreover, the assumptions of some researchers that the university experiences of community college "technical transfers" will differ from their general transfer peers may need alteration with increased research.

Reflections

While many statements are made regarding vocational/technical transfer students, little research exists which convincingly shows disimilarities between these students and general transfer students. As a matter of fact, rather clear problems exist in assessing data, particularly aggregate data (Grub, Adelman). Not only are definitions relating to this large body of students vague, but decisions regarding these students are largely made through inference. This study was designed to investigate the possibility that differences do exist between community college transfers who enter certain technical/occupational curricula and those who enter more general curricula. To carry out this study, the different curricula were disaggregated.

Pascarella and Terenzini in their How College Affects Students, a study which was compiled from 20 years of research, speak to the weaknesses of aggregation of data:

> Aggregating at the level of the institution tends to mask possibly substantial variations between individual students' experiences within the same institution (Cronbach, 1976). Assuming, for example, that an aggregate or global measure of the college environment accurately portrays a homogeneous stimulus experienced by all students in the institution ignores substantial

> evidence of influential sub-environments in an institution, sub-environments that are more proximial to the student's daily experience (p.683).

Certainly, the results of this study give such a statement validity. In the very beginning of this research, it became clear that no institutional data were available which would allow accurate research. The fact that extension students were included in the aggregate data confused any conclusions drawn. Only the further separating of student groups, the removal of extension students from the total population, provided a meaningful sample population. Also, as the post-hoc analysis showed, even the aggregation of the technical groups and the general groups resulted in fewer differences than when the different curriculum groups were compared separately.

The results of this study which seem to show a difference in predisposition to transfer between technical transfer students and general transfer students, with the Technical students showing a more negative predisposition to transfer, seem to confirm the judgement of some researchers (Prager, Grub) that the technical degree is detrimental to the transfer process. At the same time, the negative predisposition to transfer seemed not to hinder meaningful interaction with the university institution. While Technical-transfer students showed different ways of interaction (a strong tendency to use professors as information sources), the technical students, in general, were similar to their general-track peers, rather than different, in their use of services and academic activities. As the following paragraphs indicate, these findings are important in light of current national and state research.

Even a cursory examination of the research relating to transfer leads one to a conclusion that the next few years will see a significant increase in research and policies relating to transfer and articulation. First, the Ford Foundation and now a variety of state agencies identify the need to enhance the transfer opportunities of community colleges because of the many "underclass" students who matriculate into community colleges. As Carolyn Prager suggests, the community college is a "major gateway: for minority

entrance to higher education, converting transfer from a purely educational process into a social imperative" (p.l).

Undoubtedly, many of those responsible for minority advancement will see transfer difficulties as proof of a biased society. Avila and others feel that not only is increasing transfer (particularly minorities) from community colleges a social imperative but that the dwindling transfer function is a result of illegal decision-making by state officials. The Avila petition is nothing less than a legal brief—the petitioners are the Mexican-American Legal Defense and Educational Fund, Public Advocates, Inc., and the Sacramento Urban League; the respondents are the Boards of Governors of California Community Colleges and the regents of the University of California. The petition states the failure of minority students to transfer stems from the 'respondents' failure to adopt and enforce policies in conformity with state law" (p.4). Many of the researchers cited earlier this study would disagree with Avila about the cause of low transfer rate, since they believe the low transfer rates of community college students stem from the demographic and attitudinal characteristics of the students themselves. Cohen, for example ("Facilitating") believes the entire variance in transfer rates may be explained through the examination of multiple variables.

At the same time, regardless of the explanations for lower transfer rates, virtually every author believes attempts must be made to enhance transfer. One statement by Avila, if correct, makes clear the importance of improving transfer function for minorities:

> It is axiomatic that the economic gulf between minorities and non-minorities is widening as technological advances make today's baccalaureate degree the equivalent of a high school degree twenty years ago (p.5).

Certainly many would agree with such a statement, including a source cited earlier, Carnevale and Gainer, who point out that nearly one-third of all jobs in Michigan in the next decade will require a four-year degree.

It is not only minority students, however, who would gain from better transfer rates. Clifford Adelman (1992), who challenged many of the findings of other researchers

cited in this study, has one major conclusion with which many of these researchers would agree: while earning any degree made a difference in economic terms and a higher percentage of A.A. degree recipients took professional jobs than four-year college students who did not earn a B.A., "overall, the only pattern of attendance that consistently overcame initial economic circumstances involved a 4-year institution, whether or not a degree was earned" (vi).

Earlier in this study was a discussion of Enhancing Transfer Effectiveness (Berman et al, 1990) which "typed" community college students as four types: I-the student who is expected to transfer and does. II-the student is expected to transfer and does not. III-the student is not expected to transfer, but does so. IV-the student is expected to transfer and does not do so (adapted from Berman, p.27).

The Type III student is of particular interest to Berman and his colleagues: their fieldwork and questionnaires revealed that such students were originally Type IV, students who had not intended to transfer. The perceived national and state need, as indicated above, to change more Type IV students into Type III students provides the impetus to much research and concern relating to the transfer process.

Often, the students who are Type III students are those who ordinarily would not have been at a university:

> Who are Type III students? They are often re-entering women, minority students from ethnic groups which traditionally have been underrepresented at four-year colleges, students from poor backgrounds whose parents had not completed any postsecondary education, and older people seeking career opportunities (Berman et al, p.28).

As these students became more confident "a connection takes place." This connection is "at times called a miracle" (p.28), which is gained through proficiency in an occupation. Berman and associates believe that "in the 1990's, the nation will increasingly look to the community colleges to create this 'miracle' for more and more non-traditional transfer students, thereby providing their bridge to a more prosperous future" (p.28).

As Prager indicates, however, as early as 1970, one researcher (Walch, 1970) saw "few education options for Vocational-Technical program completers" (p.80). Walsh is quoted as indicating that the "two-year occupational graduate may be ready to articulate but has no place to go" (Prager, p.80). The technical university provides a place to go for those students who experience the "miracle" described by Berman. Further, such a four-year institution can assist in building the "bridge" to the future.

To make the entire transfer process work, actually as Kintzner points out, "a series of processes," there must be changes in attitude:

> The total activity--the articulate relationship--is also an attitude. It is people driven. No matter how beautiful the paper agreement, success is strongly dependent on the understanding and support of the administration, faculty, and staff who deal directly with students at both the sending and receiving institutions (p.35).

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APPENDIX 1

Ferris State University

Student Development Services

Dear Transfer Student:

Attached you will find a questionnaire which is designed to assist Ferris State University to improve services to transfer students. This questionnaire asks you to provide information on your preparation for transfer, your suggestions for transfer services at both community colleges and Ferris State, and your student characteristics. Ferris has increased its number of transfer students each year. Your responses on the attached questionnaire are very important in assisting us in providing a supportive atmosphere for transfer.

The questionnaire at first glance may seem lengthy, but some long questions may require only a circled answer. It is estimated that, depending on your written reply,that you can finish the questionnaire in 15 minutes. If you require explanation of any question, you may call me at 592-3769 during the day, or 796-6695 in the evening. Also, you may talk to me at my office in the Starr Building, Room 123.

You may be assured that your answers will be treated in a confidential manner. I am interested in "group" answers rather than any one answer. You indicate your voluntary agreement to participate by completing and returning this questionnaire. Participation, however, is voluntary.

Once you fill out the questionnaire, you should return the questionnaire to:

Dan Burcham
Starr 123
Ferris State University
Big Rapids, MI. 49307

If you are on campus, you may simply return the questionnaire by campus mail. An addressed envelope is part of this packet. If you are an off-campus student, a stamped, addressed envelope is included. A postcard which is to be returned separately has been included. This is to insure confidentiality. Please sign your name and return this card. If you are an off-campus student, your card is stamped.

Thank you for your cooperation and kindness in filling out the questionnaire. Best wishes for your success at Ferris.

Sincerely,

Dan Burcham

Dan Burcham
Director,
Student Development Services

APPENDIX 2

Ferris State University
Student Development Services

Dear Transfer Student:

Attached you will find a questionnaire which is designed to assist Ferris State University to improve services to transfer students. This questionnaire asks you to provide information on your preparation for transfer, your suggestions for transfer services at both community colleges and Ferris State, and your student characteristics. Ferris has increased its number of transfer students each year. Your responses on the attached questionnaire are very important in assisting us in providing a supportive atmosphere for transfer.

The questionnaire at first glance may seem lengthy but some long questions may require only a circled answer. It is estimated that, depending on your written reply, that you can finish the questionnaire in 15 minutes. If you require explanation of any question, you may call me at 592-3769 during the day, or 796-6695 in the evening.

You may be assured that your answers will be treated in a confidential manner. I am interested in "group" answers rather than any one answer. You indicate your voluntary agreement to participate by completing and returning this questionnaire. Participation, however, is voluntary.

A stamped, addressed envelope is included to send back your finished questionnaire. A postcard which is to be returned separately has been included also. Please sign your name and return this card. By sending your questionnaire and postcard separately, you communicate the fact you have completed the survey but maintained your anonymity.

My records indicate that you are no longer at Ferris Would you briefly indicate why you are no longer at Ferris and what you are now doing?

_____

_____

_____

Thank you for your cooperation and kindness in filling out the questionnaire.

Sincerely,

Dan Burcham
Director,
Student Development Services

Starr Building, Room 123 • 901 S. State Street • Big Rapids, Michigan 49307-2295 • (616) 592-2216

APPENDIX 3

Student Transfer Survey

This questionnaire asks you to provide some very important information to assist Ferris in providing services for transfer students. The content deals with both your community college and Ferris State University. In general you will need to circle correct responses. At the end of the questionnaire you are given an opportunity to offer your personal suggestions for improving transfer experiences at community colleges and Ferris State University.

Your responses are confidential and will not reveal your identity in any way. This survey will not become part of your college record. We appreciate your participation in this effort. Thank you for responding to the following questions.

1. **What was the primary reason that you attended a community college? (Circle only one answer)**

   1 To prepare for transfer to a four-year college or university

   2 To satisfy a personal interest

   3 To gain skills necessary to enter a specific occupation

   4 To gain skills necessary to advance in a current occupation

2. **How did you know which of the courses you took at your community college were for transfer to a four-year university? (Circle as many as apply)**

   1 The catalog and/or course schedule designated the course as transfer eligible

   2 My counselors told me

   3 I checked with Ferris State University

   4 A friend told me

   5 I did not know which of my courses would be accepted at Ferris State University

3. **When you planned your transfer, did you:**

		Yes	No
1	Contact the university and request their catalogs and application forms?	1	2
2	Ask your counselor for information on what the universities required from transfer applicants?	1	2
3	Visit the universities?	1	2
4	Complete and submit applications?	1	2

4. **When you planned your transfer how often did you:**

1 = Frequently (F)
2 = Occasionally (O)
3 = Rarely (R)

		F	O	R
1	Discuss transfer opportunities to four-year universities with your friends?	1	2	3
2	Seek information on transfer opportunities from counseling office?	1	2	3

5. **When you were accepted as a transfer student:**

		Yes	No
1	Did you know the number of credits that the university would accept toward elective requirements?	1	2
2	Did you know the number of credits that the university would accept toward your major requirements?	1	2

6. **Indicate how important each of the following individuals and/or offices has been in providing information regarding transfer opportunities to a four-year college or university.**

		Very Important	Somewhat Important	Not Important
1	Counseling staff at the university	1	2	3
2	Teachers at this university	1	2	3
3	Friends who have transferred	1	2	3
4	Admissions office at university	1	2	3
5	Other (specify)_____			

7. **Did you attend the following activities at community colleges?**

		Yes	No, Why Not?		
			Didn't Need It	No Time For It	Not Aware
1	Academic counseling	1	2	3	4
2	Career counseling	1	2	3	4
3	Study group	1	2	3	4
4	Study skills workshop	1	2	3	4
5	Tutorial services	1	2	3	4
6	Orientation session for transfers (at Ferris)	1	2	3	4
7	Meetings with recruiters from four-year colleges	1	2	3	4
8	Workshops on how to complete applications to four-year colleges	1	2	3	4

8. **How do you feel about the following? Please note that these questions are about your community college. (Please mark one response for each item.)**

1 Strongly Disagree (SD)
2 Disagree (D)
3 Neutral (N)
4 Agree (A)
5 Strongly Agree (SA)

		SD	D	N	A	SA
1	My community college provided excellent information on transfer opportunities.	1	2	3	4	5
2	Students who want to transfer get assistance from counselors with applications for admissions and financial aid.	1	2	3	4	5
3	Special services are provided for students who want to transfer to four-year colleges.	1	2	3	4	5
4	It was difficult to tell from the college catalog which courses I needed to take to qualify for transfer to a four-year college.	1	2	3	4	5
5	My teachers encouraged me to think seriously about transferring to a four-year college.	1	2	3	4	5
6	Transferring to a four-year college was not that important.	1	2	3	4	5
7	When I first started community college, transferring to a four-year college was too far in the future to worry about.	1	2	3	4	5
8	If I hadn't transferred to a four-year college, I would have been disappointed.	1	2	3	4	5
9	My friends and I talked about transferring to a four-year college.	1	2	3	4	5
10	I would have liked to have had some information about transfer opportunities, but didn't know who to see for it.	1	2	3	4	5
11	Every semester or quarter when I registered for courses, I first looked at the college catalog to determine which courses I needed to qualify for transfer.	1	2	3	4	5
12	When I first started attending community college, getting a job after graduating from the community college was more important than transferring to a four-year college.	1	2	3	4	5

9. **How important were the reasons listed in your decision to attend Ferris State University? (Mark one answer for each possible reason.)**

		Very Important	Somewhat Important	Not Important
1	My teacher/counselor suggested it.	1	2	3
2	I wanted to live at home.	1	2	3
3	I could not afford another college.	1	2	3
4	This college offers the kind of program that is of greatest interest to me.	1	2	3
5	I attend this college because I can hold a job at the same time.	1	2	3
6	I could not find a job so I decided to enroll in college.	1	2	3
7	I wanted to be with my friends.	1	2	3
8	No one gave me information about other colleges.	1	2	3
9	I did not qualify for admission to other 4-year colleges.	1	2	3

10. **In which of the following activities have you participated since you first enrolled at Ferris State University? If you have not participated, why not? (Please mark each item in the appropriate column.)**

		Yes	No, Why Not?		
			Didn't Need It	No Time	Not Aware
1	Academic counseling	1	2	3	4
2	Career counseling	1	2	3	4
3	Study group	1	2	3	4
4	Study skills workshop	1	2	3	4
5	Tutoring services	1	2	3	4
6	Orientation session for freshmen (at Ferris)	1	2	3	4
7	Meetings with recruiters from four-year colleges	1	2	3	4
8	Workshops on how to complete applications to four-year colleges	1	2	3	4

11. Please indicate how often you have engaged in the following activities at Ferris? (Provide one response for each item.)

1 = Frequently (F)
2 = Occasionally (O)
3 = Rarely (R)

		F	O	R
1	Used the library to study	1	2	3
2	Made an appointment to talk with one of your instructors	1	2	3
3	Asked a faculty member for advice regarding your future plans	1	2	3
4	Had an informal conversation with one of your instructors over coffee or a snack	1	2	3
5	Taken detailed notes in class	1	2	3
6	Taken notes from assigned readings	1	2	3
7	Asked your instructor for additional references on a topic of interest to you	1	2	3
8	Attended a lecture on campus	1	2	3
9	Discussed transfer opportunities to Ferris or other four-year schools (before leaving community college)	1	2	3
10	Read the school paper	1	2	3
11	Looked at bulletin boards for announcements of special activities	1	2	3

12. How old are you? _____ years

13. Are you:
(Circle one answer.)

1	American Indian/Alaskan	6	Cuban
2	Asian/Pacific Islander	7	Puerto Rican
3	Filipino	8	Other/Hispanic
4	Black/Afro-American	9	White/Caucasian
5	Mexican American /Chicano	10	Other

14. Are you:

1 Male 2 Female

15. On the average, how many hours per week are you currently employed for pay (Circle one answer.)

1	None	3	11-20 hours	5	31-40 hours
2	1-10 hours	4	21-30 hours	6	Over 40 hours

16. What was your curriculum area before transfer? _____

17. What is your present curriculum? _____

18. Approximately, what was your parents' income last year? (If you are independent, please indicate your income.)

1	Less than $5,999	5	$21,000 - 25,999
2	$6,000 - 10,999	6	$26,000 - 29,999
3	$11,000 - 15,999	7	$30,000 - 39,999
4	$16,000 - 20,999	8	$40,000 plus

19. Please indicate some ways in which you think your community college could improve educational and counseling services to assist transferring students.

_____

_____

_____

20. Please indicate some ways in which you think Ferris State University could improve educational and counseling services for transferring students.

_____

_____

_____

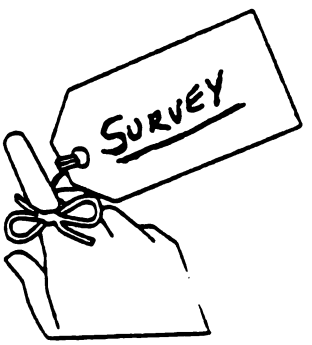
_____

Thank you for your participation in this project.

Dan Burcham
Starr 123
Ferris State University
Big Rapids, MI 49307

Adapted from Cohen, Lombardi and Brawer
Center for the Study of Community Colleges

APPENDIX 4



JUST A REMINDER!!

Recently you were sent a "Transfer Student Survey Questionnaire." It is important that we receive your ideas and opinions.

Would you please fill out your questionnaire and send it back? Thank you for your time and assistance. If you need another questionnaire, simply stop in Starr 123 for another.

Sincerely,
Dan Burcham
Dan Burcham
STR 123

P.S. You may receive a phone call to ask for your ideas.