ASSESSMENTS OF A GROUP OF AGRICULTURAL TRANSFERS FROM CONNORS STATE COLLEGE TO OKLAHOMA STATE UNIVERSITY

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CHAPTER I

INTRODUCTION

Students who wish to study agriculture in Oklahoma have many opportunities. There are at least ten two-year institutions across the state which offer a variety of agricultural programs and one four-year university which offers freshmen and sophomore level agricultural courses. As well, there are four universities in Oklahoma which grant baccalaureate degrees in agriculture. Oklahoma State University (OSU), the state's Land Grant Institution, has by far the largest agricultural enrollment and extent of course offerings among the state's colleges and universities. Administratively, these are housed within the College of Agricultural Sciences and Natural Resources.

The student body in agriculture at OSU comes from a variety of sources. This is illustrated in Table I which contains a breakdown of undergraduate admissions into the College of Agricultural Sciences and Natural Resources at OSU (Oklahoma State University Student Profile, Fall 1991, 1992, 1993, 1994, and 1995). From this, it should be noted that transfer students are a substantial portion of the enrollment. Inspection of the data in Table I reveals that transfer students accounted for over 46% of

the admissions into the College of Agricultural Sciences and Natural Resources during the fall 1991, 1992, 1993, 1994, and 1995 semesters.

TABLE I

ADMISSIONS INTO THE OKLAHOMA STATE UNIVERSITY COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES FOR THE FALL SEMESTERS OF 1991, 1992, 1993, 1994, 1995.

Semester	Transfer	%	New Freshmen	%	Readmit	%	Total
1991	176	48.09	145	39.62	45	12.29	366
1992	194	44.50	191	43.80	51	11.70	436
1993	229	48.21	209	44.00	37	7.79	475
1994	225	44.73	242	48.11	36	7.16	503
1995	236	45.91	244	47.47	34	6.62	514
Total	1,060	46.21	1,031	44.94	203	8.49	2,294

In three out of these five years (1991, 1992, and 1993) more transfer students were admitted than new freshmen. It should also be noted that the transfer admission figures reported in Table I include students who transferred from all institutions. Nevertheless, Grote (1994) reported 610 of the 989 (61.68%) transfer students who entered the College of Agricultural Sciences and Natural Resources at Oklahoma State University from the academic years of 1987 through 1992 transferred directly from two-year colleges. An additional 169 students in this study had matriculated through two-year colleges in addition to a four-year college other than OSU prior to transfer. The addition of these students increased the number of transfer

students with experience at two-year colleges to 779 (78.77%). Assuming that the composition of the transfer student population has remained relatively constant, junior/community colleges are an important source of undergraduates for the OSU College of Agricultural Sciences and Natural Resources.

Connors State College (CSC) is a junior college located in Muskogee County in eastern Oklahoma. CSC is accredited by North Central Association of Colleges and Secondary Schools and is under the direction of the Board of Regents for the Oklahoma Agricultural and Mechanical Colleges. The college includes three campuses; the main campus is located in Warner and two branch campuses in Muskogee. CSC had a total enrollment of 2,500 for the fall 1996 semester (P. Wells, Personal Communication, December 7, 1996). Enrollment is about evenly divided between the Warner campus and the Muskogee campuses. Very distinct differences exist among the campuses. The branch campuses in Muskogee are comparable to urban community colleges that utilize a high proportion of adjunct faculty and no facilities for student housing. On the other hand, the Warner campus can be compared to a more traditional college campus which includes student housing and a greater proportion of full time faculty offices on campus. Additionally, the varsity athletic teams and various student clubs and organizations are based at the Warner campus. According to Edward Hardeman, CSC Vice-President for Student Services, approximately 300 students can be housed in the college's two single student resident halls and there are 27 married student

housing units on campus. The resident halls share a common dinning facility in the student union (personal communication June 24, 1997).

The CSC Agriculture Department is housed at the Warner campus. According to the Office of the Registrar at CSC, enrollment in the CSC Agriculture Department for the Fall 1996 semester was 147 students(P. Wells, personal communication December 7, 1996). The Agriculture Department offers programs that lead to Associate of Science degrees in Agriculture and Equine Technology, Associate of Applied Science degrees in Equine Technology and a Certificate of College Achievement in Equine Technology. The Associate of Science in Agriculture program is designed primarily for those students who intend to transfer to a four-year institution and pursue a baccalaureate degree in agriculture. The Equine Technology degree plans allow students the opportunity to pursue a college bound or career oriented plan of study (Connors State College Catalog 1995-1997).

Over the years, the transfer process has been investigated from numerous angles. Changes in student grade point averages from two year colleges to four-year colleges, attrition rate, attainment of Associate of Arts/Associate of Science degree, and the proportion of transfer students placed on academic probation at the four year institution among many other aspects have been analyzed by numerous researchers. The focus of much of this research has been to develop a set of transfer student success predictors. The literature dealing with transfer student success is somewhat contradictory. Nevertheless, most researchers tend to agree that many junior/community college transfer students experience difficulties in the

process of transferring from two-year to four-year colleges. The indicator of transfer student success or failure most commonly cited in the literature seems to be grade point average. Much of the literature has reported significant declines in GPA after transfer, especially within the first two semesters at the four-year institution. The magnitude of these declines tends to vary from study to study but a drop in grade point average the first or second semester at the university tends to be the norm.

Statement of Problem

Much of the research that has focused on students who transfer from two-year colleges to four-year institutions indicate that these students experience a variety of problems. Transfer students from two-year colleges, both currently and traditionally, account for a significant proportion of the undergraduate enrollment in the Oklahoma State University College of Agricultural Sciences and Natural Resources. Over the years, Connors State College has been a relatively consistent supplier of agricultural transfer students to OSU. Evidence of "transfer shock" or the drop in grade point average suffered by transfer students their first or second semester after transfer, and a high incidence of transfer student attrition has been documented at OSU (Grote, 1994). It is very important to both CSC and OSU that students are able to successfully complete their studies in a timely fashion. An examination of the transfer process should enhance the communications between the institutions. Hopefully, OSU will benefit by an

increased likelihood of persistence of these students to graduation. On the other hand, the faculty at CSC should have better insight in preparing students for transfer and easing the problems associated with transfer.

Purpose of the Study

The purpose of this study was to examine selected aspects of the transfer process of agricultural students who transferred from Connors State College to Oklahoma State University during the period Fall, 1991 through Spring, 1996.

Objectives of the Study

The objectives of the study were to:

1. Identify selected demographic characteristics of Connors State College agricultural students who transferred to Oklahoma State University.
2. Determine students' academic success as measured by GPA, enrollment status, and persistence to graduation.
3. Compare student perceptions of selected academic and social factors of Connors State College and Oklahoma State University.
4. Assess student perceptions of the effectiveness of Connors State College agricultural and general education courses in the transfer process.

5. Determine students' satisfaction with the transfer process.

Scope of the Study

The scope of this study included Connors State College agricultural students who transferred to Oklahoma State University from the Fall 1991 semester through the Spring 1996 semester

Assumptions and Limitations of the Study

The following assumptions were made regarding the study:

1) The respondents fully understood the questions that were asked.
2) The respondents provided honest expressions of their attitudes and perceptions.
3) The instrument elicited accurate responses.

Because data collection focused on Connors State College agricultural students who transferred to Oklahoma State University, the generalizability of the results of this study is confined to the population.

Definition of Terms

For the purpose of this study some terms had certain meanings. They were as follows:

Transfer student: For the purposes of this study, a transfer student was defined as a student who had completed at least 12 semester hours at Connors State College and subsequently completed a minimum of 12 semester hours at Oklahoma State University.

Success: A student was deemed successful if he or she had earned a BS degree, entered the Graduate College or College of Veterinary Medicine, or was enrolled the for the fall 1996 semester.

Grade points: These were derived by multiplying the number of hours for a course by a value given to each letter grade. Usually, an A = 4 points, B = 3 points, C = 2 points, D = 1 point and an F or non credit class = 0 points.

GPA: Grade point average, which was determined by dividing the grade points by credit hours from the student's grade report.

Retention: Transfer students were considered retained if they had not graduated or entered graduate/veterinary school and were enrolled for the fall 1996 semester.

Transfer shock: A decline in a transfer students' grade point average at Oklahoma State University compared to their grade point average at Connors State College during the first or second semester after transfer.

Persistence: Transfer students were considered persistent if they had graduated, entered the College of Veterinary Medicine, or were still enrolled in Oklahoma State University at the end of the study.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The purpose of this chapter was to provide a background of the transfer process from two-year to four-year institutions and to review the literature regarding transfer students and the factors that affect the transition.

An early focus of the literature review was background information on previous research efforts relating to the transfer process. Diaz (1992) in a detailed synthesis wrote "The earliest identifiable study was performed in 1927 by Eells at Stanford University. Studies continued sporadically through several decades and peaked during the late 1970's." (p. 280) Although an attempt was made to focus on books, journal articles, research papers, and documents of the 1980's and 1990's, a great deal of earlier work was reviewed and cited.

Research based on the analysis of U.S. Department of Education's longitudinal databases indicate that the transfer rates for entering community college students to four-year institutions range from 20% to 29% (Grubb,

1991). Grubb's (1991) analysis of the national longitudinal studies conducted by the U.S. Department of Education concluded that certain characteristics indicated a higher likelihood of transferring to a four-year college. The profile of the two-year college student most likely to transfer includes: a non-minority male, from a relatively high socioeconomic background, who took an academic program in high school, and aspires to higher degrees.

The research on the transfer process has yielded conflicting results and various methods of assessing and predicting transfer student success. However, in an attempt to provide an orderly presentation of the literature, the review has been divided into the following major categories:

1. Demographics/ Environmental Characteristics
2. Grade Point Average
3. Number of Hours Transferred
4. AS/AA Degree Attainment
5. Persistence
6. Summary

Demographics/Environmental Characteristics

Community college campuses tend to be very diverse institutions and typically enroll more academically and economically disadvantaged students. Because of the vast difference in student backgrounds, it would be logical to expect that certain demographic or environmental characteristics could be identified and used to help predict academic success among two-year college

transfer students. The consensus of a majority of the research reviewed seems to indicate that students least likely to transfer to a four-year institution are minority students, students of low socioeconomic status, older students, and females (Grubb, 1991; Holahan, Green, and Kelley, 1983).

Keeley and House (1993) reported that among new sophomore and junior students who transferred into Northern Illinois University, women brought better transfer GPAs to the university and typically outperformed men at each level. Minorities were also found to transfer in lower GPAs and suffered a greater loss in GPA the first semester after transfer than non-minorities. As well, Keeley and House (1993) reported that juniors who lived in Northern Illinois University residence halls and off-campus, but in the city, posted lower GPAs than commuters who lived outside the city. However, among sophomore transfers, those living in the residence halls earned higher GPAs after the fourth semester than those from the other two groups.

Phlegar, Andrew, and McLaughlin (1981) analyzed the academic performance of 361 community college students after their transfer to a comprehensive university. The dependent variable was senior college GPA and the 29 independent variables were related to community college performance, personal, environmental and demographic characteristics. Their findings indicated that community college GPA was the single best predictor of university GPA. Personal characteristics such as age, sex, and marital status were of less importance. Hughes and Graham (1992) examined the relationship of nearly 40 variables in an effort to determine if any could help distinguish between those students who were successful and

those who were not. Their analysis failed to identify any personal or environmental factors that would identify successful academic performance during the first semester after transfer. In fact, the only variable that was significantly associated with satisfactory performance at the university was the number of classes typically missed during a semester at the community college. Those who missed more than five class meetings per semester were more likely to perform at an unsatisfactory level at the university.

Johnson, Taylor, and Owens (1993) gathered data from 340 students enrolled in Mississippi community college agriculture programs for the purpose of developing a profile of community college agriculture students enrolled in vocational-technical and college transfer programs in that state. The authors reported that over 84% of the students were male, 91% were white, 7.2% black and 1.5% American Indian.

Grade Point Average

Most of the research to date has utilized grade point average as the measuring stick to determine transfer student success or failure at the four-year institution. Wright et, al. (1990) concluded that the success of transfer students from two-year schools was best predicted by their GPA at the time of transfer. Phlegar, et al. (1981) reported that "community college GPA is the best single predictor of senior institution GPA" (p. 102). In a paper presented at the Annual Meeting of the Southern Association for Institutional

Research, Prather and Hand (1986) noted that GPA was the best indicator of persistence.

In the course of the review, it was found that the data reported on the impact of transfer on grade point average was conflicting. Diaz (1992) analyzed 62 studies that assessed the performance of junior/community college transfer students. Forty-nine of the studies reported various magnitudes of transfer shock at least during the first semester after transferring. Thirty-three of these 49 studies indicated that transfer students recovered either part or all of their GPA by graduation. Thirteen studies indicated that transfer students performed equal to, or outperformed, their native classmates.

Knoell (1965) reported the results of a national study that included nearly 8,500 transfer students from more than 300 two-year colleges who transferred to 41 colleges and universities in ten states. She reported that transfer student's GPA dropped about 0.3 points the first semester but that they recovered most of this loss by the time of graduation. These findings agreed somewhat with the findings of Knoell and Medsker (1965) who also reported a 0.3 drop in GPA and a complete recovery at 7 of 12 institutions. Hills (1965), who coined the term "transfer shock", reported a 0.3 drop in GPA among 1,328 transfer students in Florida and found that recovery was not always complete. Grover (1960) looked at 100 students who transferred to the University of Wyoming from two-year colleges in the state and indicated a 0.41 decline in GPA but a recovery to within 0.05 of the initial transfer GPA at graduation. Several studies conducted in Illinois reported

declines in GPA ranging from 0.16 to 0.51. Anderson (1972) reported that approximately one-half of the GPA loss was recovered by the second semester, Anderson and Riehl (1974) reported that transfer GPA was exceeded by the time students graduated, Anderson and DeGray (1976) and Anderson (1977) indicated that GPA was nearly recovered by graduation, while Moughamian (1978) found that transfer students rebounded from transfer shock and recovered their GPA in one year. Furthermore, Grote (1994) in a study of transfer students majoring in agriculture at Oklahoma State University found that students who transferred directly from two-year institutions to the university suffered a cumulative GPA decrease of 0.28. These same students possessed an average transfer GPA of 2.83 and earned a university GPA of only 2.10.

The Oklahoma State Regents for Higher Education (1994) published a report tracking transfer students from all two-year colleges in the state. Their findings indicated that transfer students completed lower division coursework with a higher GPA (2.93) (average GPA at time of transfer or the completion of sixty hours) as opposed to native students in regional four-year institutions (2.82) or the comprehensive universities (2.76) but had the lowest upper division GPA as compared to native students at the regional and comprehensive institutions. Upper division GPAs reported were 3.02, 3.13, and 3.04 respectively. The largest disparity in upper division GPA occurred at the comprehensive universities where native students outperformed transfer students by 0.16 GPA (3.04 vs. 2.88). Regardless, there were very slight differences among graduation GPA between transfer students and native

students at the comprehensive and regional universities. Transfer students posted a final GPA of 3.0 and 3.09 at the comprehensive and regional universities respectively while native students earned final GPAs of 3.02 at the comprehensive universities and 3.06 at the regional universities.

On the other hand, Martorana and Williams (1954) reported no decrease in GPA among transfer students in a national study. These results are consistent with those reported by Allen (1930), Hall (1967), and Cooper (1968). Nickens(1972) also found those transfer students either equaled or exceeded their transfer GPA and coined the term "transfer ecstasy." Mann (1969), Frankel (1970), and Gold (1972) reported increases in transfer students' GPAs at four year institutions. Mann stated that any transfer shock was the result of grading practices and Gold found that no student with a transfer GPA of 2.8 or above experienced transfer shock. It should be noted that most of the citations which report which dispute declines in GPA after transfer are somewhat dated and in disagreement with more recent literature.

Although considerable variation concerning the impact on transfer GPA and subsequent performance at the four-year institutions exists, this measure may still have value in predicting success since several studies have reported that transfer students with lower than average GPAs at the community college level were generally unsuccessful at the four-year institution (Britton, 1969; Dennison and Jones, 1970; Gold, 1972).

Astin (1984) maintained that community college student lack of success after transfer to four-year institutions was inevitable because the

students were handicapped by starting in institutions which do not provide opportunities for student involvement, lack facilities for student housing, and have large populations of relatively unprepared students, part-time students, and adjunct faculty members.

Number of Hours Transferred

Substantial evidence exists in the literature to indicate a link between the number of hours earned before transfer and academic success at the four-year institution. House (1989) analyzed 14,689 student records and found that students who transferred to the four year college with enough credits to be classified as juniors had higher graduation rates, lower dismissal rates and less decline in GPA the first semester after transferring than students who transferred earlier. This work is in agreement with Farley (1968), Richardson and Doucette (1980), and the Illinois Community College Board (1986) who stated that students who complete two years at community college do better than students with one semester at the community college level. In addition, Head (1990) and Radcliff (1984) reported community college students who transferred 50 or more credit hours to four-year institutions were more successful than those who transferred with fewer credits. Clagett (1987) found that students who transferred over 60 credits to the University of Maryland-College Park were more likely to carry a 3.0 GPA than those who transferred fewer hours (37% vs. 23% respectively). Grote (1994) reported that students transferring into

Oklahoma State University's College of Agriculture and Natural Resources as juniors and seniors suffered much less decline in GPA than those who transferred in as freshmen and sophomores. In fact, students who transferred in as seniors experienced a slight increase in GPA.

Phelan and Kirkland (1990) reported that the number of semester hours earned at the community college had no relationship to student outcomes after transfer.

Associate of Arts/Associate of Science Degree Attainment

Since the number of credit hours transferred to the four-year institution seemed to have an impact on student success, it would seem logical to assume that students who obtain an Associate of Arts (AA) or Associate of Science (AS) degree may perform differently after transfer than those who did not.

Keeley and House (1993) reported that for 81.3 % of the Illinois community college students who transferred to Northern Illinois University had earned an Associate Degree. These students suffered less transfer shock, and had significantly higher GPAs by the fourth semester (3.042 vs. 2.885). Grote (1994) reported that less than 10% (91) of the transfer students in his study had obtained AA/AS degrees. Of these 91 students, 46 either graduated or were enrolled at the end of the study and had earned a 2.66 GPA at the university. The remaining 45 transfer students who had obtained AA/AS degrees earned a 2.08 GPA at the university prior to

dropping out. The remaining non-degree transfer students persisted in a lower percentage than the degree students (42% graduated or enrolled at the end of the study). However, these students earned a higher university GPA than did those who earned an AS/AA degree (2.70 vs. 2.66).

Graham and Hughes (1994) utilized a regression analysis of several variables to determine their predictive power in assessing the success of transfer students. Their findings indicated that the attainment of an AA degree, coupled with the students expected GPA at the four-year institution and their transfer GPA, were valuable in predicting the university GPA in two out of the three years of the study. Bragg (1982) also indicated that AA/AS degree recipients performed better as a group than non-degree transfer students.

Grub (1991) in a national longitudinal study concluded that the advantage of the associate's degree may have diminished. He found that 61% of the transfer students in the 1972 cohort who earned baccalaureate degrees had also earned associate degrees. While only 12% of those transfer students in the 1980 cohort who earned bachelor's degrees had also earned associate of science or associate of arts degrees.

Persistence

Retention in higher education has received a great deal of attention over the past few years. A number of studies have indicated that students who begin their academic careers in community colleges are less likely to

earn a baccalaureate degree (to persist) than students who begin their careers at four-year institutions. Dougherty (1992) synthesized data from a number of longitudinal studies that compared degree achievement of transfer students with that of four-year native students and estimated community college students earn 11% to 19% fewer baccalaureate degrees than did those students who entered four-year colleges. Likewise, Alba and Lavin (1981) found community college entrants to the City University of New York were more likely to obtain a baccalaureate degree after five years of college.

Bers (1986) found that students who were enrolled on a full time basis, registered during regular registration for the fall term, and intended to earn a degree, earned relatively higher grades and were more likely to remain in the community college. The researcher also concluded "that most variables associated with course performance and persistence in a public community college may be difficult for an institution to influence" (p. 54) and "that more intensive academic advisement could facilitate higher course completion and persistence rates" (p. 55). Higgerson (1985) reported that the three main reasons for withdrawing from college are dissatisfaction with academic programs, unclear educational objectives, and unclear educational goals. Johnson (1987) noted "... actual persistence of transfer students is strongly associated with perceptions of the value of their education to future employment; their integration, performance, and satisfaction with the academic program; and their intent to continue their attendance in college" (p. 328). This study suggested that male transfer students associated academic satisfaction with the perceived practical value of their academic

program. Female transfer students associated academic satisfaction with the perception of interest and involvement in the academic program. Furthermore, the study found that the academic performance of students who transferred as sophomores was associated with persistence. Conversely, the persistence of students who transferred as juniors were associated with external factors and academic satisfaction.

Gebel (1995) reported that while 58.5% of minority students and 64.7% of non-minority students who entered directly into a university had graduated after 5 years, only 17.3% of minority and 21.8% of non-minority community college transfer students had earned baccalaureate degrees within 5 years. Although this gap was narrowed after nine years, minority community college students had earned 17.2% fewer baccalaureate degrees than university entrants and non-minority transfer students had earned 16.2% fewer baccalaureate degrees than their university counterparts.

Graham (1987) attempted to assess transfer student success by examining attrition rates. In this study, attrition rates for native and transfer students were contrasted. Community college students were less likely to persist for the second or third semester as compared to native students. There were no differences among persistence rates when transfer and native students were compared at the fourth semester. The author concluded that some of the two-year college transfer students may have found themselves in a very different environment where they were less likely to persist and those transfer students who remained had probably adjusted more rapidly to the social and academic environments of the receiving institution. The

author also postulated that the GPA recovery reported in the literature may be the result of the poorer performing students dropping out.

Grote (1994) also reported a high dropout rate among transfer students who majored in agriculture at a Land Grant University Over a five year period, only 44.29% of the transfer students had graduated, entered the College of Veterinary Medicine or were still enrolled at the end of the study. Kohen, et al. (1978) reported that students who have attended two-year institutions are more likely to drop out at every stage of undergraduate education than native students or students who transfer in from other four-year institutions.

Newlan and Gaither (1980) concluded that students who declare a major upon entering college were more likely to persist during the first two years than those who were undecided. This finding was in agreement with the work of Pantages and Creedon (1978). Newlan and Gaither (1980) also found that "students entering with a major in a professionally oriented field (Business, Engineering and Computer Science, Communications and Professional Studies) or a scientifically oriented area (Science and Mathematics), had a higher probability of persistence than a student entering with a declared major in the Arts or Humanities, or who was undecided about a major.

Summary

Community colleges play a vital role in American Higher education. In the fall of 1989, there were 12.7 million students enrolled in undergraduate programs in the United States. Forty-three percent of these students were enrolled in two-year colleges. (National Center for Education Statistics, 1993). Transfer students and their success at the four-year institution have important implications for both transferring and receiving institutions. The research cited in this review has indicated a great deal of variation in student performance. This was probably to be expected since most of the recent studies are on an institutional basis as opposed to national studies. In other words, it seems reasonable to assume that the performance of transfer students at the four-year institution varies considerably from institution to institution and is at best a complex issue.

The literature does seem to indicate that junior/community college students are less likely to obtain a baccalaureate degree than their native counter parts and can expect to see some decrease in GPA during the first or second terms at four-year institutions. GPA tends to increase during the subsequent semesters as students adjust to the new environment. Most of the evidence seems to support the theory that as the number of credits increases, junior/community college transfer students tend to be more successful when they transfer. Likewise, students who earn associate degrees tend to be more successful than those who do not.

Transfer students seem to be less likely to return to the university for their second or third semester as compared to their native contemporaries. However, there seems to be little difference in persistence rates after the third semester. Never-the-less, factors such as major, intent to graduate, and social integration appear to effect the persistence of transfer students at the university.

CHAPTER III

METHODOLOGY

Institutional Review Board (IRB) Approval

Federal Regulations and Oklahoma State University policy require review and approval of all research studies that involve human subjects before investigators can begin their research. The Oklahoma State University Office of University Research Services and the IRB conduct this review to protect the rights and welfare of human subjects involved in biomedical and behavioral research. In compliance with the aforementioned policy, this study received the proper surveillance and was granted permission to continue, and was assigned approval number AG-97-001. A copy of the IRB approval form is presented at the end of this document.

Population of the Study

The population of the study consisted of 98 students who transferred from Connors State College to the Oklahoma State University College of Agricultural Sciences and Natural Resources during the period from Fall

Semester, 1991 through the Spring Semester, 1996. This five year period was selected for study in an effort to obtain the most current data and to provide adequate numbers for analysis purposes.

The 1995-1996 Oklahoma State University Catalog includes the following statement concerning Oklahoma resident transfer admission:

> For the purpose of determining admission, a transfer student is one who has earned a minimum of seven or more semester hours of college credit. Students with less than seven semester hours of college credit must satisfy the criteria for first time entering freshmen. Students may transfer to Oklahoma State University from within the state system according to the following criteria:
>
> 1. Students who would have satisfied the admission requirements for the fall or spring semester as first time freshmen, but chose to enroll at another institution within the state are eligible to enroll as transfer students. Students with seven to 23 hours of credit must have a cumulative GPA of at least a 1.7 (on a 4.00 scale); students with 24 or more earned credits must satisfy the retention standards listed below.
> 2. Students who would not have satisfied the admission requirements for the fall or spring semester as first time freshmen are eligible to enroll as transfer students after earning at least 24 semester credit hours according to the retention standards listed below.

Retention Standards: The standards pertaining to the retention of students pursuing study in undergraduate programs at OSU are:

12 through 60 semester hours 1.70

61 or more semester hours 2.00 (p. 9)

In addition to using the foregoing in determining the study population, it was also decided to require that in order to be included as a part of the study, a student must have earned at least 12 credit hours from CSC, completed at least 12 credit hours at OSU. This criterion was used because it was deemed that 12 hours (equivalent to one semester at full-time status) was the minimum required for each institution to play a significant role in the students' undergraduate experience. In an effort to further define the population, students who transferred in excess of 100 hours were not included in the study.

Conduct of the Study

In order to obtain sufficient information to address the stated objectives, an attempt was made to gather data from multiple sources, including archival records as well as a mailed survey.

Archival Data

Initial inquiries revealed that much of the needed student information was confidential and permission would be required to access these records. The researcher, with the help of his committee chair, contacted the Associate Dean of the Division of Agricultural Sciences and Natural Resources at Oklahoma State University and solicited his assistance in obtaining the needed permission. The Associate Dean contacted the Office of Planning, Budget, and Institutional Research and was informed that this office could provide most of the requested information upon approval by the Institutional Review Board. Once IRB approval was secured, a letter formally requesting access to the information was drafted. The letter and a copy of the IRB application and approval sheet were sent to the Office of Planning, Budget, and Institutional Research. After a meeting with the Assistant Director of Institutional Research, information was solicited concerning Connors State College students who transferred into the OSU College of Agricultural Sciences and Natural Resources for the 1991 fall semester through the spring semester of 1996. The information requested included: student names, identification number, gender, ethnic background, semester entered into OSU, academic major and option, transfer GPA, OSU GPA by semester, OSU cumulative GPA, total cumulative GPA, OSU degree(s) conferred, semester of graduation, and permanent mailing address. The initial response yielded 92 potential candidates for inclusion in the study. These records were provided to the researcher in a Microsoft Excel spreadsheet. This initial list was then

compared to a list of students provided by the Office of Assessment at Connors State College. It was found that several students who appeared on the CSC list were missing from the original OSU list. Further efforts with Institutional Research resulted in 18 additional students. The list was then evaluated in terms of previously described criteria for inclusion of students into the population. Thirteen names were eliminated because they did meet these criteria. Six students were deleted because they had not completed 12 hours at OSU. Four students were eliminated because they had not completed at least 12 hours at CSC. One student had completed in excess of 100 hours before transferring to OSU and was not included in the population. One student on the list had never attended CSC and was eliminated. Finally, the list was further reduced as one student appeared twice on the list because of a name change.

In order to verify data, the researcher accessed records via the OSU Instructional Management System, a computer data system. As a result, several inconsistencies were noticed between some of the grade point averages reported on this system and the information previously gathered. Because of this, the CSC transfer hours and grade points earned were entered into a Microsoft Excel spreadsheet and a CSC transfer GPA (CGPA) was calculated by the researcher. The CSC transfer GPA was calculated by dividing the total number of grade points by the total number of credit hours earned. The same procedure was used to calculate each student's total transfer GPA (TGPA), an OSU cumulative GPA (OSUC), and a total cumulative undergraduate GPA (UCUM). Students included in the population completed

from one to eight semesters at OSU, and therefore, OSU GPA for the first, second, third, fourth, fifth, sixth, seventh, and eighth (OSU1, OSU2, OSU3, OSU4, OSU5, OSU6, OSU7, and OSU8, respectively) were calculated using the previously described procedure. Since summer courses accounted for a very small portion of the students' academic course work at OSU, only fall and spring semester OSU GPAs were tracked individually. For example, OSU1 represented the students' GPA for the first fall or spring semester completed at OSU; OSU2 represented the second fall or spring semester completed at OSU and so on. Any summer course work was captured when OSUC was calculated. OSUC represented the students' OSU cumulative GPA and all undergraduate course work completed by the students at OSU through the end of the 1996 summer term was included in this calculation. Likewise, UCUM included all undergraduate work, regardless of institution.

This information was also needed to calculate the average GPAs for the population. For example, the mean CGPA for the population was calculated by summing all the grade points earned at CSC by the students in the population and dividing by the total number of credit hours earned at CSC. The mean TGPA, mean GPAs for each OSU semester, the mean OSUC, and the mean UCUM were calculated with the same procedure. Standard deviations for mean GPAs were calculated using the "=STDEV" function in the Microsoft Excel spreadsheet program. For reporting purposes, the standard deviations were rounded to two decimal places.

Although CGPA and TGPA are quite similar, each are reported separately to help further describe the students' undergraduate experience.

CGPA includes all course work completed at Connors State College including any coursework completed there after initial transfer to OSU. TGPA is the actual transfer GPA and includes all coursework completed prior to transfer to OSU. The latter data were reported because 26 of the 98 students included in the study had completed coursework at institutions other than CSC. Fourteen of the cases were the result of concurrent enrollment in another institution while still in high school or summer courses at institutions closer to the students' hometown. In the remaining 12 cases, the students had completed at least one semester at another institution either before or after CSC enrollment. In any case, each student was included in the population only after having met the requirements mentioned earlier.

Survey Data

Instrument Development

The initial archival data were determined to be insufficient to fully meet the purpose and objectives of the study. Several additional methods of data collection were considered, including: personal interviews, telephone surveys, and self-administered questionnaires. After evaluating each method on the basis of costs and time requirements, the self-administered questionnaire was deemed the most appropriate. The design of the data collection instrument was based upon a literature review, the researcher's personal experience, input from the researcher's graduate committee, and pilot testing. A copy of the questionnaire is presented in Appendix B.

The first step in designing the instrument was to conduct a review of related literature in an attempt to find and evaluate similar instruments. Upon completion of the review, the researcher complied and revised questions aimed at addressing the objectives. The instrument included forced response and open-ended questions. The forced response questions included select the most appropriate, "yes" or "no," and "Likert-type" scale responses.

The first question was open-ended and asked the respondents to indicate the number of students in their high school graduating class. Question two asked the participants to indicate whether or not they had enrolled at OSU during the established "Transfer Days." Questions three, four, five, six, and seven were intended to gather data to help describe respondents in terms of where they lived, the number of hours worked, amount of time spent studying, the number of classes "cut" during the course of a semester, and the number of institutional sponsored organizations involved with at CSC and OSU. Questions 11 and 14 also utilized a forced response format and were intended to determine the respondents' enrollment status and the extent of changes concerning academic major.

Questions eight, nine, 10, 12, 13, 15, and 16 utilized 6 point "Likert type" scaled responses. The six point scales were of equal intervals with two opposite ends on a continuum. The opposite ends included: "Poor" and "Excellent"; "Never" and "Frequently"; "Strongly Agree" and Strongly Disagree"; and "Not Satisfied" and "Highly Satisfied". Question eight asked the participants to rate their math skills, reading skills, writing skills, and

study habits prior to entry into CSC and OSU. Question nine asked the respondents to indicate the extent to which they engaged in institutional sponsored activities, non-sponsored social activities, studying, and work. Question 10 was included to help collect students' perceptions of the value of selected undergraduate agricultural courses offered at CSC in preparing them for subsequent agricultural courses at OSU. Respondents were asked to check "NA" if they did not take the course at CSC. Questions 12 and 13 were identical except that question 12 dealt with expectations and findings at CSC and question 13 dealt with expectations and findings at OSU. In an effort to make the questions as self-explanatory as possible, the first, eighth and tenth questions were asked in a negative manner. The responses were inverted for reporting purposes in order to maintain consistency.

Questions 11 and 14 were intended to help determine if and under what circumstances students left the College of Agricultural Sciences and Natural Resources at OSU. Question 14 asked respondents to indicate their intentions concerning academic major upon entering and leaving CSC and OSU. Question 15 attempted to collect participants' satisfaction with general education courses at CSC while question 16 attempted to assess respondents' overall satisfaction with CSC and OSU's role in the transfer process. Both questions 15 and 16 used a six point "Likert type" scale where 1 equaled "Not Satisfied" and 6 equaled "Highly Satisfied."

Items 17 and 18 were open ended. Item 17 asked for recommendations for the improvement of the transfer process. Item 18

solicited respondents' suggestions to improve transfer student academic success. The final section included space for comments.

The survey was revised and refined several times based on input from the researcher's graduate committee and fellow graduate students. Further refinement was accomplished through the use of a pilot test. The pilot test group consisted of students who transferred to OSU from Oklahoma two-year colleges other than CSC, but otherwise fit the population criteria outlined. The inputs derived from the pilot test group were used to clarify various items and were found to quite useful in the overall refinement of the instrument. The questionnaires were then coded to allow for follow-up.

Data Collection

The next step was to develop a letter of introduction to be included with the questionnaire. The letter was intended to explain the purpose of the study, the population under investigation, and the procedure for returning the questionnaire. Furthermore, the letter served to insure potential participants that responses would be kept confidential and reported only in aggregate.

The letter (Appendix A), questionnaire, and a self-addressed stamped envelope were mailed to 58 potential respondents. Of these 58 individuals, 32 were OSU graduates, 23 were not graduates and not thought to be enrolled at OSU during the Fall 1996 semester. It was learned after the initial mailing that three of the potential respondents were enrolled at OSU during the fall 1996 semester and special attempts were made to collect data

on-campus. After several attempts, two of these potential participants were contacted personally by the researcher. Data were eventually collected from one of these individuals. All attempts to locate the third individual were unsuccessful. A questionnaire was mailed to the this individual's last permanent address on record but no response was received.

Approximately three weeks after the initial mailing, an attempt was made to contact all non-respondents by telephone, an effort continued over the next several weeks. Several of the initial non-respondents indicated that they had not received the first mailing. The questionnaire was administered via facsimile when possible to facilitate data collection, with four questionnaires returned via this means.

The researcher was unable to locate current telephone numbers for 10 potential respondents. As a last resort, a second letter (Appendix A) was mailed to the last known permanent address of nine of these potential respondents. The second letter was not mailed to the tenth because the first mailing to the last known address was returned as undeliverable. An additional questionnaire was returned as non-deliverable from the second mailing. Overall, of the 56 questionnaires mailed or administered via facsimile, 45 were returned.

Thirty-nine of the remaining 40 members of the population were identified as students at OSU. Of these students, 32 were enrolled in undergraduate programs at OSU, 5 were enrolled in graduate programs or were pursuing an additional baccalaureate degree, and 2 had been admitted to the College of Veterinary Medicine. The remaining individual was not

enrolled at OSU but was employed in the area. An attempt was made to contact each of these individuals in person or by telephone. Once contacted, arrangements were made for each participant to complete a questionnaire. Data were collected from all forty.

The response rates were reported in Table II. A total of 85 questionnaires were returned for an initial response rate of 86.73 percent. After adjusting the total for two questionnaires that were returned as undeliverable, the adjusted response rate was 88.54 percent. All 85 questionnaires returned were considered usable. However, not all participants responded to each item on the questionnaire. Therefore, the number of responses for each item to be reported in Chapter IV does not always total 85.

TABLE II

RESPONSE RATE TO THE INSTRUMENT

	Number Attempted	Number Returned	Percent Returned
On-Campus (OSU)	40	40	100.00
Mail, Facsimile	56	45	80.36
Returned/Non-Deliverable	2		
Adjusted Total Response	96	85	88.54

Data Analysis

Quantitative and qualitative data were collected from the student records and the questionnaires. Descriptive statistical tools were primarily used for this study to summarize the data in numerical form. These descriptive statistics included means, standard deviations, frequency distributions, percentages, and graphical presentation of the data. Findings were reported in aggregate and no attempts were made to identify respondents.

Archival data were examined and summarized several different ways. Mean CSC GPA (CGPA), Transfer GPA (TGPA), GPA for each semester at OSU (OSU1, OSU2, OSU3, OSU4, OSU5, OSU6, OSU7, OSU8), OSU cumulative GPA (OSUC), and total undergraduate GPA (UCUM) were computed for the entire population, by year of entry into OSU, transfer classification, gender, and persistence to graduation.

Data gathered via the questionnaire were entered into a Microsoft Excel spreadsheet. For the forced response type questions in the study, frequency distributions of each response were totaled. Percentages of respondents selecting a particular item were then calculated by dividing the number of responses for each item by the total number of responses. Means and standard deviations were calculated for the various items of the questionnaire which utilized six point Likert-type scale. Means were calculated by multiplying the values of the response choice by the number of respondents which selected each specific choice. The products of these

calculations were then summed and divided by the number of respondents. The resulting figures were then analyzed in terms of where they fell within the continuum of response choices. Standard deviations were calculated using the =STDEV function in the Microsoft Excel spreadsheet program.

CHAPTER IV

PRESENTATION AND ANALYSIS OF FINDINGS

Purpose of the Study

The purpose of this study was to examine selected aspects of the transfer process of agricultural students who transferred from Connors State College to Oklahoma State University during the period Fall, 1991 through Spring, 1996.

Objectives of the Study

1. Identify selected demographic characteristics of Connors State College agricultural students who transferred to Oklahoma State University.
2. Determine students' academic success as measured by GPA, enrollment status, and persistence to graduation.
3. Compare student perceptions of selected academic and social factors of Connors State College and Oklahoma State University.
4. Assess student perceptions of the effectiveness of Connors State College agricultural and general education courses in the transfer process.
5. Determine students' satisfaction with the transfer process.

Findings of the Study

The findings of the study are reported under two broad headings; findings from the analysis of the archival data and the findings from the analysis the data gathered from the questionnaire.

Archival Data

There were 98 CSC agricultural students who transferred to OSU from the Fall semester of 1991 to the Spring semester of 1996, and satisfied the requirements outlined earlier. Selected demographic characteristics of these students are presented in Table III. As reported in that table, the number of students that transferred to OSU in the period studied was relatively stable among the five transfer groups except for the 1994-1995 group. With 35 transfer students, the latter group included over twice as many transfers as any other group and accounted for 35.71 percent of the population. Of the entire transfer population for this study, over two-thirds (68.37 percent) were male and over three-fourths (76.53 percent) listed their ethnic background as Caucasian. The average age of the transfer students at time of transfer was 20.86 years, with a standard deviation of 2.45.

TABLE III

SELECTED DEMOGRAPHIC CHARACTERISTICS OF CSC AGRICULTURAL STUDENTS WHO TRANSFERRED TO OSU FROM THE FALL 1991 SEMESTER TO THE SPRING 1996 SEMESTER

	DISTRIBUTION	
CHARACTERISTICS	N	Percent (%)
No. of Transfers Students		
1991-1992	15	15.31
1992-1993	17	17.35
1993-1994	16	16.33
1994-1995	35	35.71
1995-1996	15	15.31
Total	98	100.01
Gender		
Female	31	31.63
Male	67	68.37
Total	98	100.00
Ethnic Background		
Caucasian	75	76.53
Native American	21	21.43
African American	2	2.04
Total	98	100.00

Table IV was constructed in an attempt to help describe the students' transfer patterns and to provide an overview of their persistence patterns at OSU. Eighty-two of the 98 students transferred sufficient hours (in excess of 60 hours) to be classified as juniors. Another 14 (14.29 percent) were classified as sophomores at the time of transfer. The remaining 2 (2.04 percent) were classified as freshmen. Over 62 percent had earned an Associate of Science degree.

In terms of persistence to graduation, 39 students (39.80 percent) of the students had earned a baccalaureate degree by the end of the summer 1996 semester. Over 35 percent of the transfers were currently enrolled for the Fall 1996, term and were considered to be persisting. Twenty-four of the transfers were not enrolled for the Fall 1996 semester and were therefore considered to have dropped out.

TABLE IV

CSC AGRICULTURAL TRANSFER STUDENTS BY ACADEMIC CLASSIFICATION, ASSOCIATE DEGREE ATTAINMENT, AND PERSISTENCE PATTERNS AT OSU.

	DISTRIBUTION	
COMPARISON FACTOR	N	Percent
Classification		
Freshmen	2	2.04
Sophomore	14	14.29
Junior	82	83.67
Total	98	100.01
Earned Associate Degree	61	62.24
Persistence		
Graduated with BS	39	39.80
Currently Enrolled	35	35.71
Dropped-Out	24	24.49
Total	98	100.00

The transfer students' initial academic majors and options are reported in Table V. Nearly 86 percent of the transfers were concentrated into three majors; Agricultural Economics (18.37 percent), Agricultural Education

(26.53 percent), and Animal Science (40.82 percent). The most popular Agricultural Economics option was Marketing and Business. Nine of the 18 Agricultural Economics majors selected this option. All 26 of the Agricultural Education majors selected the teaching option. These students accounted for 26.35 percent of the total. Of the 40 (40.82 percent) transfers who chose Animal Science as their initial major, 17 selected the Business option, 12 selected the Pre-Vet option, and 7 opted for the Animal Science-Agricultural Education double major. It should be noted that the Biosystems and Agricultural Engineering Department at OSU is also a part of the College of Engineering. The two Agricultural Engineering majors (2.04 percent) were included because they were advised by the agricultural faculty at CSC and the curriculum included several agricultural courses.

As summarized in Table VI, the students completed an average of 59.20 credit hours at CSC before transferring to OSU and transferred an average total of 63.44 credit hours to OSU. By the end of the study (Summer 1996), the students had completed an average of 52.18 credit hours at OSU and had earned over 115 credit hours in total. The rather high standard deviation for number of credit hours transferred from CSC and in total to OSU is an indication of the flexibility afforded students in the transfer process. Attainment of the Associate degree is not necessary for transfer and students may transfer to OSU at essentially any time.

TABLE V

CSC AGRICULTURAL STUDENTS' INITIAL MAJOR AT OSU

MAJOR Option	DISTRIBUTION N	Percent (%)
AGRICULTURAL ECONOMICS		
General	1	1.02
Farm & Ranch Management	2	2.04
Marketing & Business	9	10.89
Pre-Law	1	1.02
Rural Development	1	1.02
Accounting Double	2	2.04
Agricultural Education Double	2	2.04
SUBTOTAL	18	18.37
AGRICULTURAL EDUCATION	26	26.53
AGRIBUSINESS	2	2.04
AGRICULTURAL COMMUNICATIONS	6	6.12
AGRONOMY		
Crop Science	1	1.02
Soil Science	2	2.04
SUBTOTAL	3	3.06
ANIMAL SCIENCE		
Production	2	2.04
Business	17	17.37
Food Industry	1	1.02
Pre-Vet	12	12.24
Agricultural Education Double	7	7.14
Livestock Merchandising	1	1.02
SUBTOTAL	40	40.82
FORESTRY	1	1.02
AGRICULTURAL ENGINEERING	2	2.04
TOTAL	98	100.00

TABLE VI

MEANS AND STANDARD DEVIATIONS FOR CSC AGRICULTURAL STUDENT TRANSFER AND OSU CREDITS FROM FALL 1991 TO SUMMER 1996

TYPE OF CREDITS	Mean	SD
CSC Transfer Credits	59.20	14.83
Total Transfer Credits	63.44	14.36
OSU Credits Earned	52.18	22.56
Total Credits Earned	115.82	26.46

Overall student transfer GPA and grade performance at OSU are reported in Table VII. As described in Chapter III, a series of acronyms was developed for use in reporting these data. By way of review, the GPA comparison periods and respective acronyms are as follows:

CGPA	CSC Transfer GPA
TGPA	Transfer GPA (includes all course work transferred into OSU)
OSU1	First Semester GPA at OSU
OSU2	Second Semester GPA at OSU
OSU3	Third Semester GPA at OSU
OSU4	Fourth Semester GPA at OSU
OSU5	Fifth Semester GPA at OSU
OSU6	Sixth Semester GPA at OSU
OSU7	Seventh Semester GPA at OSU
OSU8	Eighth Semester GPA at OSU
OSUC	Cumulative OSU GPA
UCUM	Cumulative Undergraduate GPA

The 98 students included in this study transferred a CGPA of 2.97. The GPA after the first semester at OSU (OSU1) was 2.53. Ninety-three students completed a second semester at OSU and earned an OSU2 of 2.53. GPA tended to increase for the 68 students who completed OSU3 and the 58 students who completed OSU4 (2.67 and 2.80 respectively). After the fourth semester, the GPA for all the students completing additional semesters declined for each successive semester (OSU5, 2.42; OSU6, 2.19, OSU7, 2.02; OSU8, 1.25). It should be noted that the GPAs earned for OSU7 and OSU8 were the result of the efforts of very few students (N = 3 and N = 2 respectively).

Student performance is also reported by year of transfer in Table VII. The 1991-92 group (N=15) transferred a CGPA of 2.73 and earned an OSU1 of 2.72. However, the group's GPA fell to 2.38 for OSU2 which represented a 0.35 decline from CGPA. GPA rose to 2.66 during OSU3 (N=13) and 2.80 during OSU4 (N=13). The 1991-92 cohort earned GPAs of 2.75 for OSU5 (N=8) and 2.70 for OSU6 (N=6). Once again, the 1.68 and 1.25 GPAs earned during OSU7 and OSU8 were the result of very few students (N=2 respectively).

Seventeen students were included in the 1992-93 cohort. These students earned a CGPA of 2.93. This group was unusual from the standpoint that the group's highest GPAs occurred during OSU1 and OSU2 (2.82 and 2.83 respectively) and seemed only marginally affected by transfer shock. The cohort's GPA declined each successive semester (OSU3, 2.70; OSU4, 2.62; OSU5, 2.18; OSU6, 1.70) until OSU7 (N=1).

TABLE VII

CSC AGRICULTURE STUDENTS' TRANSFER GPA, SUBSEQUENT OSU GPAS AND CUMULATIVE UNDERGRADUATE GPA BY YEAR OF TRANSFER

		GPA BY ENROLLMENT PERIOD											
YEAR		CGPA	TGPA	OSU1	OSU2	OSU3	OSU4	OSU5	OSU6	OSU7	OSU8	OSUC	UCUM
	N	15	15	15	15	13	13	8	6	2	2	15	15
1991-92	Mean	2.73	2.71	2.72	2.38	2.66	2.80	2.75	2.70	1.68	1.25	2.56	2.64
	SD	0.67	0.61	0.88	0.90	0.77	1.07	1.14	0.67	0.72	0.33	0.78	0.60
	N	17	17	17	17	13	13	8	6	1		17	17
1992-93	Mean	2.93	2.93	2.82	2.83	2.70	2.62	2.18	1.70	2.76		2.61	2.77
	SD	0.55	0.55	0.78	1.02	1.01	0.92	0.99	0.90			0.86	0.62
	N	16	16	16	15	13	10	5	1			16	16
1993-94	Mean	3.21	3.18	2.53	2.59	2.58	2.66	2.40	1.75			2.57	2.89
	SD	0.52	0.51	0.87	0.87	1.00	0.55	0.92				0.74	0.57
	N	35	35	35	32	26	20					35	35
1994-95	Mean	3.10	3.05	2.47	2.52	2.70	3.01					2.66	2.87
	SD	0.59	0.60	1.00	0.91	0.73	0.92					0.90	0.62
	N	15	15	15	14							15	15
1995-96	Mean	2.71	2.70	2.10	2.23							2.20	2.56
	SD	0.53	0.52	0.84	0.79							0.66	0.51
	N	98	98	98	93	68	58	22	13	3	2	98	98
Aggregate	Mean	2.97	2.94	2.53	2.53	2.67	2.80	2.42	2.19	2.02	1.25	2.58	2.77
	SD	0.59	0.58	0.91	0.90	0.85	0.90	0.99	0.91	0.80	0.33	0.82	0.60

The 1993-94 cohort group began with 16 students who transferred the highest CGPA of any group (3.21). However, this group also seemed to suffer the most transfer shock. The OSU1 of 2.53 resulted in a decline in GPA of -0.68. GPA seemed to stabilize somewhat after the first OSU semester but only a weak recovery was observed (OSU2, 2.59; OSU3, 2.58; OSU4, 2.66; OSU5, 2.40; OSU6, 1.75).

The 1994-95 cohort was the largest with 35 students transferring to OSU. The 1994-95 group's OSU1 of 2.47 was 0.63 lower than the CGPA transferred. The cohort seemed to recover after the first semester. By OSU4, 1994-95 cohort was the only group to earn an OSU semester GPA of above 3.00. GPAs for OSU2, OSU3, and OSU4 were 2.52 (N=32), 2.70 (N=26), and 3.01 (N=20).

The 1995-96 transfer cohort included 15 students. The group transferred a 2.71 CGPA to OSU, earned a 2.10 OSU1, and posted an OSU2 of 2.23 (N=14).

Table VIII is an illustration of the differences in GPA earned at CSC compared to OSUC and UCUM. On an aggregate basis, the transfer students earned a 2.97 GPA from CSC and posted an OSUC of 2.58 and a UCUM of 2.77. This represented declines of -0.39 and -0.20 GPA respectively. The 1991-92 cohort experienced the least difference between CGPA and OSUC and CGPA and UCUM (-0.17 and -0.09 respectively) while the 1993 -94 group suffered the largest differences between CGPA and both OSUC and UCUM (-0.64 and -0.32 respectively). The differences between CGPA and OSUC and

UCUM for the remaining groups was as follows: 1992-93, -0.32 and -0.16; 1994-95, -0.44 and -0.23, 1995-96, -0.51 and -0.15.

TABLE VIII

CHANGE IN GPA EARNED AT CSC COMPARED TO GPA EARNED AT OSU AND CUMULATIVE UNDERGRADUATE GPA BY YEAR OF TRANSFER

TRANSFER YEAR (N)	CGPA	OSUC	Change	UCUM	Change
1991-92 (15)	2.73	2.56	-0.17	2.64	-0.09
1992-93 (17	2.93	2.61	-0.32	2.77	-0.16
1993-94 (16)	3.21	2.57	-0.64	2.89	-0.32
1994-95 (35)	3.10	2.66	-0.44	2.87	-0.23
1995-96 (15)	2.71	2.20	-0.51	2.56	-0.15
Aggregate (98)	2.97	2.58	-0.39	2.77	-0.20

Table IX was constructed to allow the comparison of grade performance of Freshmen, Sophomore and Junior transfers. Only two students transferred less than 24 hours into OSU and were thus classified as freshmen. Fourteen students transferred between 24 and 60 hours and were classified as sophomores while 82 students transferred 60 or more hours and were classified as juniors.

The freshmen transfers earned a 2.78 CGPA and seemed to be greatly affected by transfer shock. Performance for this group was considerably lower at each OSU interval. OSU1, OSU2, OSU3, and OSU4 for the freshmen transfers were 1.61, 1.73. 1.64, and 2.40 respectively.

TABLE IX

COMPARISON OF CSC AGRICULTURE STUDENTS' TRANSFER GPA, SUBSEQUENT OSU GPAS AND CUMULATIVE UNDERGRADUATE GPA BY CLASSIFICATION AT TRANSFER

CLASSIFICATION		GPA BY ENROLLMENT PERIOD											
		CGPA	TGPA	OSU1	OSU2	OSU3	OSU4	OSU5	OSU6	OSU7	OSU8	OSUC	UCUM
	N	2	2	2	2	2	1					2	2
Freshman	Mean	2.78	2.86	1.61	1.73	1.64	2.40					1.86	2.03
	SD	1.31	1.30	0.44	1.14	0.49						0.52	0.16
	N	14	14	14	12	8	5	2	2	2	1	14	14
Sophomore	Mean	2.74	2.70	2.29	2.28	2.25	2.67	1.90	2.35	2.48	1.47	2.31	2.50
	SD	0.62	0.64	0.84	1.03	1.49	1.01	0.67	0.46	0.39		0.97	0.68
	N	82	82	82	79	58	52	19	10	1	1	82	82
Junior	Mean	2.99	2.96	2.59	2.58	2.75	2.83	2.49	2.15	1.20	1.00	2.64	2.82
	SD	0.57	0.56	0.92	0.87	0.68	0.89	1.03	1.03			0.77	0.56
	N	98	98	98	93	68	58	22	13	3	2	98	98
Aggregate	Mean	2.97	2.94	2.53	2.53	2.67	2.80	2.42	2.19	2.02	1.25	2.58	2.77
	SD	0.59	0.58	0.91	0.90	0.85	0.90	0.99	0.91	0.80	0.33	0.82	0.60

The sophomores transferred a CGPA of 2.74 and only earned a 2.29 OSU1. OSU2 and OSU3 were relatively stable at 2.28 and 2.29 respectively. OSU GPA peaked during the fifth semester at 2.67 (N=5) and seemed to fluctuate afterwards. It should be noted that no more than two students in this classification completed five or more semesters.

The juniors' performance was very similar to the overall performance of the study population. This segment transferred the highest CGPA (2.99) and earned OSU1 (N=82), OSU2 (N=79), OSU3 (N=58), OSU4 (N=52), OSU5 (N=19), OSU6 (N=10), OSU7 (N=1), and OSU8(N=1) of 2.59, 2.58, 2.75, 2.83, 2.49, 2.15, 1.20, and 1.00 respectively.

Table X contains a comparison the GPA earned at CSC (CGPA) to GPA posted at OSU (OSUC) and cumulative undergraduate GPA (UCUM). Freshmen transfers experienced the largest decline in GPA when CGPA was compared to OSUC and UCOM (-0.92 and -0.75 respectively). Transfers classified as juniors suffered the least declines in GPA (CGPA vs. OSUC = -0.35 and CGPA vs. UCOM = -0.17). The sophomore transfers were intermediate with declines of -0.43 and -0.24.

TABLE X

CHANGE IN GPA EARNED AT CSC COMPARED TO GPA EARNED AT OSU AND CUMULATIVE UNDERGRADUATE GPA BY TRANSFER CLASSIFICATION AT TRANSFER

CLASSIFICATION (N)	CGPA	OSUC	Change	UCUM	Change
Freshmen (2)	2.78	1.86	-0.92	2.03	-0.75
Sophomore (14)	2.74	2.31	-0.43	2.50	-0.24
Junior (82)	2.99	2.64	-0.35	2.82	-0.17
Aggregate (98)	2.97	2.58	-0.39	2.77	-0.20

Table XI illustrates the grade performance of the transfer students by degree status. By the end of the study, 39 students had earned baccalaureate degrees. The graduates posted a 3.08 OSU1 that represented only a 0.12 decline from CGPA (3.20). GPA tended to decline during OSU2 and OSU3 (2.92 and 2.89 respectively) but then rebounded during OSU4 (3.03). The graduates earned GPAs of 2.79, 2.48 and 2.76 for OSU5 (N=16), OSU6 (N=8) and OSU7 (N=1) respectively. Furthermore, the difference between CGPA and OSUC was -0.27 and UCUM suffered only -0.14 as a result of the course work at OSU.

Thirty-five of the students were enrolled for the Fall 1996 semester at OSU. The pattern of GPAs was similar to that of the graduates. These students suffered a decline of 0.56 from CGPA to OSU1. Nevertheless, the students tended to recover much of the loss in the three subsequent semesters (OSU2, 2.41; OSU3 was 2.63; OSU4, 2.81). The GPA

TABLE XI

COMPARISON OF CSC AGRICULTURE STUDENTS' TRANSFER GPA, SUBSEQUENT OSU GPAS AND CUMULATIVE UNDERGRADUATE GPA BY ENROLLMENT STATUS

ENROLLMENT STATUS		GPA BY ENROLLMENT PERIOD											
		CGPA	TGPA	OSU1	OSU2	OSU3	OSU4	OSU5	OSU6	OSU7	OSU8	OSUC	UCUM
Graduated (BS)	N	39	39	39	39	37	35	16	8	1		39	39
	Mean	3.20	3.18	3.08	2.92	2.89	3.03	2.79	2.48	2.76		2.93	3.06
	SD	0.56	0.55	0.65	0.79	0.67	0.70	0.81	0.92			0.59	0.50
Enrolled	N	35	35	35	34	21	16	1	1			35	35
	Mean	2.92	2.89	2.36	2.41	2.63	2.81	2.25	2.18			2.50	2.72
	SD	0.54	0.53	0.80	0.78	0.73	0.57					0.64	0.51
Non Persistent	N	24	24	24	20	10	7	5	4	2	2	24	24
	Mean	2.61	2.58	1.75	1.84	1.75	1.70	1.49	1.62	1.68	1.25	1.73	2.26
	SD	0.52	0.52	0.77	0.91	1.18	0.89	0.63	0.72	0.72	0.33	0.75	0.53
Aggregate	N	98	98	98	93	68	58	22	13	3	2	98	98
	Mean	2.97	2.94	2.53	2.53	2.67	2.80	2.42	2.19	2.02	1.25	2.58	2.77
	SD	0.59	0.58	0.91	0.90	0.85	0.90	0.99	0.91	0.80	0.33	0.82	0.60

[1] Students enrolled at Oklahoma State University as of the beginning of the 1996 Fall semester.

reflected in OSU5 and OSU6 were the result of only one student. These students who were currently enrolled at the end of the study experienced rather large declines in GPA from CSC to OSU (CGPA vs. OSUC = 0-.42).

By the end of the study, 24 students were not enrolled for the Fall 1996 semester or had not graduated. These students were considered to be non-persistent. The non-persistent students transferred a CGPA of 2.61 and never posted a GPA above 1.84 for any semester at OSU.

Table XII was constructed to summarize the GPA earned at CSC in relation to the GPA earned at OSU and cumulative undergraduate GPA by enrollment status. Graduates experienced less change between CGPA and OSUC and UCUM (0-.27 and -0.14, respectively) than those who were currently enrolled (-0.42 and -0.20, respectively) or those who had dropped out (-0.88 and -0.35, respectively). It should be noted that the non-persistent status includes students who voluntarily terminated their enrollment and those who were placed on academic suspension and had not been readmitted.

Table XIII contains data relative to grade performance at OSU by students who earned Associate degrees compared to those who did not. The 61 students who transferred to OSU after earning an Associate degree posted a CGPA of 3.10. Those who transferred without the Associate degree earned

TABLE XII

CHANGE IN GPA EARNED AT CSC COMPARED TO GPA EARNED AT OSU AND CUMULATIVE UNDERGRADUATE GPA BY DEGREE STATUS

STATUS (N)	CGPA	OSUC	Change	UCUM	Change
Graduated (39)	3.20	2.93	-0.27	3.06	-0.14
Enrolled (35)	2.92	2.50	-0.42	2.72	-0.20
Dropped Out (24)	2.61	1.73	-0.88	2.26	-0.20
Aggregate (98)	2.97	2.58	-0.39	2.77	-0.20

a CGPA of 2.70. The students with Associate degrees posted higher GPAs each semester at OSU. The Associate Degree recipients earned a 2.70 OSU1 and then followed with OSU2, 2.63; OSU3, 2.76; OSU4, 2.83; OSU5 2.63; and OSU6, 2.33. On the other hand, the non-recipients earned only a 2.22 GPA their first semester at OSU. OSU GPA for these students increased each semester up to the fourth semester (OSU2, 2.35; OSU3, 2.42; OSU4, 2.70) and then declined substantially after that (OSU5, 1.53; OSU6, 1.92; OSU7, 2.02; and OSU 8, 1.25). Once again, there was a small number of these students who did not earn Associate degrees that remained past the fourth semester at OSU.

TABLE XIII

COMPARISON OF CSC AGRICULTURE STUDENTS' TRANSFER GPA, SUBSEQUENT OSU GPAS AND CUMULATIVE UNDERGRADUATE GPA BY ATTAINMENT OF ASSOCIATE DEGREE

ASSOCIATE DEGREE		ENROLLMENT PERIOD											
		CGPA	TGPA	OSU1	OSU2	OSU3	OSU4	OSU5	OSU6	OSU7	OSU8	OSUC	UCUM
	N	61	61	61	59	49	45	18	9			61	61
Associate	Mean	3.10	3.08	2.70	2.63	2.76	2.83	2.63	2.33			2.70	2.91
Degree	SD	0.54	0.53	0.79	0.82	0.64	0.76	0.90	1.03			0.66	0.51
	N	37	37	37	34	19	13	4	4	3	2	37	37
No Degree	Mean	2.70	2.66	2.22	2.35	2.42	2.70	1.53	1.92	2.02	1.25	2.31	2.51
	SD	0.62	0.61	0.99	1.01	1.19	1.21	0.71	0.65	0.80	0.33	0.94	0.64
	N	98	98	98	93	68	58	22	13	3	2	98	98
Aggregate	Mean	2.97	2.94	2.53	2.53	2.67	2.80	2.42	2.19	2.02	1.25	2.58	2.77
	SD	0.59	0.58	0.91	0.90	0.85	0.90	0.99	0.91	0.80	0.33	0.82	0.60

Table XIV is a compilation of the differences in GPA between that earned at CSC and the GPA earned at OSU as well as cumulative undergraduate GPA. Those who earned the Associate degree not only transferred a considerably higher GPA from CSC than those who did not earn the degree (3.10 vs. 2.70), but they also maintained a higher GPA throughout their experience at OSU. Those who earned an Associate degree posted a OSUC of 2.70 versus 2.31 for those without the degree.

TABLE XIV

CHANGE IN GPA EARNED AT CSC COMPARED TO GPA EARNED AT OSU AND CUMULATIVE UNDERGRADUATE GPA BY ASSOCIATE DEGREE STATUS

ASSOCIATE DEGREE (N)	CGPA	OSUC	Change	UCUM	Change
Earned Associate (61)	3.10	2.70	-0.40	2.91	-0.19
No Associate (37)	2.70	2.31	-0.39	2.51	-0.19
Aggregate (98)	2.97	2.58	-0.39	2.77	-0.20

As well, the degree recipients posted considerably higher UCUM than the non-recipients (2.91 vs. 2.51 respectively). Despite these rather large differences in GPA, the amount of decline in GPA between CGPA and OSUC and CGPA and UCOM was strikingly similar.

Table XV was included to allow for a comparison of OSU GPA performance based on gender. The 31 female students tended to transfer

TABLE XV

COMPARISON OF CSC AGRICULTURE STUDENTS' TRANSFER GPA, SUBSEQUENT OSU GPAS AND CUMULATIVE UNDERGRADUATE GPA BY GENDER

		ENROLLMENT PERIOD											
GENDER		CGPA	TGPA	OSU1	OSU2	OSU3	OSU4	OSU5	OSU6	OSU7	OSU8	OSUC	UCUM
	N	31	31	31	30	18	14	7	6	3	2	31	31
Female	Mean	3.09	3.08	2.37	2.32	2.29	2.41	1.98	1.76	2.02	1.25	2.26	2.73
	SD	0.55	0.56	0.82	0.83	0.89	0.70	0.76	0.63	0.79	0.33	0.73	0.62
	N	67	67	67	63	51	44	14	7			67	67
Male	Mean	2.90	2.86	2.59	2.62	2.79	2.96	2.68	2.59			2.72	2.81
	SD	0.61	0.59	0.95	0.93	0.85	0.89	0.98	1.04			0.85	0.59
	N	98	98	98	93	68	58	22	13	3	2	98	98
Aggregate	Mean	2.97	2.94	2.53	2.53	2.67	2.80	2.42	2.19	2.02	1.25	2.58	2.77
	SD	0.59	0.58	0.91	0.90	0.85	0.90	0.99	0.91	0.80	0.33	0.82	0.60

higher CGPA into OSU than the 67 male transfer students (3.09 vs. 2.90). However, transfer shock was more apparent in females than in males. As evidence of this, female transfer students earned a mean OSU1 GPA of 2.37 while the males posted a 2.59 GPA. This trend continued as the male transfers earned higher GPAs at OSU for each semester where comparisons were possible (OSU2, 2.62 vs. 2.32; OSU3, 2.79 vs. 2.29; OSU4, 2.96 vs. 2.41; OSU5, 2.67 vs. 1.98; OSU6 2.59 vs. 1.76).

Table XVI contains a summary of GPA performance at CSC compared to performance at OSU and cumulative undergraduate GPA. Females experienced greater declines in OSUC and UCOM (-0.83 and -0.36 respectively) than did the males whose OSUC was only -0.18 less than CGPA and the difference between the male's CGPA and UCUM was only -0.09.

TABLE XVI

CHANGE IN GPA EARNED AT CSC COMPARED TO GPA EARNED AT OSU AND CUMULATIVE UNDERGRADUATE GPA BY GENDER

Gender (N)	CGPA	OSUC	Change	UCUM	Change
Female (31)	3.09	2.26	-0.83	2.73	-0.36
Male (67)	2.90	2.72	-0.18	2.81	-0.09
Aggregate (98)	2.97	2.58	-0.39	2.77	-0.20

Survey Data

Data reported in this section were those obtained from the questionnaire. Table XVII was developed to provide a summary of where the respondents lived while at CSC and OSU. While attending CSC, over 58 percent of the respondents lived in the resident halls while almost 25 percent lived with their parents. The remainder responded that they lived off-campus, 4.71 percent; in married student housing, 3.53 percent; 7.06 percent indicated that they resided in more than one of these categories; and 1.17 percent marked other on the questionnaire. However, there were no students who reported living with their parents at OSU and only 1 student lived solely in a residence hall. Over 87 percent of the respondents lived off campus at OSU while those living in married student housing and those who indicated multiple housing arrangements accounted for less than 5 percent of the total.

The amount of time respondents reported working while attending the respective institutions is reported in Table XVIII. More students reported not working at OSU than at CSC (15.48 percent vs. 8.24 percent respectively). The most frequent response for CSC was the 0-10 hours category that was selected by over 35 percent of the respondents. Nearly 33 percent of the respondents indicated that they worked 11-20 hours per week while enrolled at CSC and nearly 12 percent worked 21-30 hours per week. At OSU, 60 of the 84 respondents reported that they worked between 11 and 40 hours per week (11-20 hours, 26.19 percent; 21-30 hours; 31-40 hours, 17.86 percent).

TABLE XVII

TYPE OF HOUSING AT CSC AND OSU

	CSC Distribution		OSU Distribution	
HOUSING	N	Percent	N	Percent
Parents	21	24.71	0	0.00
Off Campus	4	4.71	74	87.06
Resident Halls	50	58.82	1	1.17
Fraternity/Sorority	0	0.00	0	0.00
Married Student Housing	3	3.53	4	4.71
Multiple	6	7.06	4	4.71
Other	1	1.17	2	2.35
TOTAL	85	100	85	100

TABLE XVIII

TIME SPENT WORKING AT CSC AND OSU

	CSC Distribution		OSU Distribution	
WORK HOURS	N	Percent	N	Percent
0	7	8.24	13	15.48
0 - 10	30	35.29	7	8.33
11 - 20	28	32.94	22	26.19
21 - 30	11	12.94	23	27.38
31 - 40	3	3.53	15	17.86
More than 40	6	7.06	4	4.76
TOTAL	85	100	84	100

Participants' responses to the amount of time spent studying outside of class at CSC and OSU are compiled in Table XIX. Over 94 percent of the respondents reported spending 8 hours per week or less studying at CSC (<2 hours, 9.41 percent, 2-4 hours, 38.82; 4-6 hours, 30.59 percent, 6-8 hours, 15.29 percent). By comparison, over 68 percent of the respondents reported spending this amount of time per week studying at OSU. Interestingly, 5.88 percent reported studying 8 hours or more per week while at CSC as compared to 31.76 percent indicating they spent this amount of time at OSU. Modal study time at CSC was found to be 2-4 hours and 6-8 hours at OSU and these were indicated for 38.82 percent and 31.76 percent of students respectively.

TABLE XIX

TIME SPENT STUDYING AT CSC AND OSU.

	CSC Distribution		OSU Distribution	
STUDY HOURS	N	%	N	%
<2	8	9.41	2	2.35
2-4	33	38.82	8	9.41
4-6	26	30.59	21	24.71
6-8	13	15.29	27	31.76
8-10	3	3.53	16	18.82
More than 10	2	2.35	11	12.94
TOTAL	85	100	85	100

Table XX is a presentation of the respondents' self reported number of classes "cut" per semester at CSC and OSU. In assessing the most typical situations, equal proportions (18, 21.18 percent) of the respondents indicated they had missed 2 and 5 or more classes at CSC per semester, while at OSU, 25 respondents, 29.41 percent, "cut" 2 classes per semester. While at CSC, 48.23 percent of the group reported purposely missing class 3 or more times and at OSU, this was true for 41.18 percent.

Table XXI is an overall assessment of student involvement in organizations at both CSC and OSU. More respondents reported not being involved with student organizations while at OSU than while at CSC (14 vs. 8 respectively). The number involved with only one organization was nearly equal between the two institutions with 22 at CSC and 21 at OSU. A higher proportion reported belonging to 2 organizations at OSU than at CSC (36.47 percent vs. 29.41 percent respectively). More respondents were involved with 3 or 4 organizations at CSC than OSU (16.47 percent vs. 10.59 percent, and 14.12 percent vs. 5.88 percent). For both groups, the modal response was two organizations. While at CSC, over one-third of the respondents (35.30 percent) belonged to three or more organizations. At OSU, this pattern of participation was found to be the case for 22.35 percent of the respondents.

TABLE XX

NUMBER OF CLASSES "CUT" PER SEMESTER
AT CSC AND OSU

	CSC Distribution		OSU Distribution	
CLASSES "CUT"	N	Percent	N	Percent
0	11	12.94	7	8.23
1	15	17.65	18	21.18
2	18	21.18	25	29.41
3	16	18.82	9	10.59
4	7	8.23	11	12.94
5 or more	18	21.18	15	17.65
TOTAL	85	100	85	100

TABLE XXI

STUDENT ORGANIZATION MEMBERSHIPS
AT CSC AND OSU

	CSC Distribution		OSU Distribution	
ORGANIZATIONS	N	Percent	N	Percent
0	8	9.41	14	16.47
1	22	25.88	21	24.71
2	25	29.41	31	36.47
3	14	16.47	9	10.59
4	12	14.12	5	5.88
5 or more	4	4.71	5	5.88
TOTAL	85	100	85	100

Data in Table XXII reflect the respondents' estimates of the relative amounts of time spent at various activities while enrolled at each institution. Participation levels were assessed by use of a six point "Likert-type" scale of 1 = never to 6 = frequently. Types of activities were institution-sponsored activities (athletic events, intramural sports, club activities, etc.), non-sponsored activities (private parties, night clubs, movies, bowling, etc.) study activities, and work. For their time at CSC, mean levels of participation reported by the respondents were: 4.74, 4.70, 2.99, and 4.69 respectively. The mean responses for the group while at OSU were as follows: institution-sponsored activities, 3.66; non-sponsored activities, 4.63, study activities, 3.80; and work, 4.81. As can be seen, respondents tended to participate more in sponsored activities at CSC while study activities appeared to take greater precedence at OSU.

TABLE XXII

RESPONDENTS' PERCEPTIONS OF FREQUENCY OF ENGAGEMENT IN SELECTED ACTIVITIES AT CSC AND OSU

		CSC			OSU	
ACTIVITY	N	Mean[1]	SD	N	Mean[1]	SD
Institution Sponsored	85	4.74	1.66	84	3.66	1.46
Non-Sponsored	83	4.70	1.65	84	4.63	1.53
Study Activities	83	2.99	1.16	83	3.80	1.34
Work	80	4.69	1.54	79	4.81	1.71

[1] Scale: 1 = Never, 6 = Frequently

Table XXIII was constructed to present respondents' perceptions of their own mathematical, reading, writing abilities, and study habits prior to entry into CSC and OSU. On a scale of one to six, with one being poor and six being excellent, respondents tended to report an increase in skills after leaving CSC. The mean response for math prior to entering CSC was 3.84. Upon entering OSU, the mean response was 4.18. The respondents rated their reading skills 4.40 before entering CSC and 4.62 upon leaving CSC. The means for writing abilities before CSC and OSU were 4.05 and 4.45 respectively. The largest increase in perceived levels of academic skills was in the area of study habits. For this area, the mean self-rating prior to entry into CSC was 2.64 and this increased to 3.63 at the time of entry into OSU.

TABLE XXIII

RESPONDENTS' RATING OF SELECTED ACADEMIC SKILLS PRIOR TO ENTRY INTO CSC AND OSU

	CSC			OSU		
SKILL	N	Mean[1]	SD	N	Mean[1]	SD
Math	85	3.84	1.32	84	4.18	1.14
Reading	85	4.40	1.07	83	4.62	.092
Writing	85	4.05	1.05	85	4.45	1.00
Study Habits	84	2.64	1.26	80	3.63	1.26

[1] Scale: 1 = Poor, 6 = Excellent

The respondents' ratings of how well the various CSC agricultural courses prepared them for subsequent courses at OSU are reported in Table XXIV. A six point scale was used by the respondents to rate the courses. A rating of one was equated to a poor, a rating of six indicated the respondent felt the course had excellent preparatory value for subsequent courses at OSU. The mean responses for all of the courses tended to the excellent end of the scale. The highest rated course was "Introduction to Animal Science" (N=68) which had a mean response of 5.60. The second highest rated course was the Feeds and Feeding course at 5.22. The lowest rated course was "Introduction to Plant Sciences" with a mean response of 3.92. The courses with intermediate ratings were: Agricultural Orientation, 4.86; Introduction to Agricultural Engineering, 4.67; Introduction to Agricultural Economics, 4.61; Agricultural Ecology, 4.61; Microcomputer Techniques in Agriculture, 4.15; and Introduction to Soil; Science, 4.00.

Table XXV was structured to illustrate expectations/findings regarding selected academic factors associated with CSC. Except for perceptions regarding the plan of study, respondents expected to encounter more difficulties or problems before they arrived at CSC than what they found after becoming established there. The mean responses for all comparisons were well into the agree side of the scale. For the plan of study, the expectations and findings were the same. The largest expectation/finding difference was discovered for difficulty in scheduling classes. This expectation mean response was 2.62, while that for what they found was 1.89.

TABLE XXIV

RESPONDENTS' RATING OF AGRICULTURAL COURSES OFFERED AT CSC AS PREPARATION FOR COURSES AT OSU.

COURSE	N	Mean[1]	SD
Introduction to Animal Science	68	5.60	0.90
Introduction to Agricultural Economics	67	4.61	1.27
Introduction to Soil Science	41	4.00	1.16
Introduction to Plant Sciences	36	3.92	1.21
Introduction to Agricultural Engineering	27	4.67	1.28
Microcomputer Techniques in Agriculture	47	4.15	1.37
Feeds and Feeding	41	5.22	1.31
Agricultural Orientation	73	4.86	1.38
Agricultural Ecology	18	4.61	1.20

[1] Scale: 1 = Poor, 6 = Excellent

TABLE XXV

RESPONDENTS' EXPECTATIONS PRIOR TO ENTRY AND SUBSEQUENT FINDINGS REGARDING SELECTED ACADEMIC FACTORS AT CSC.

	EXPECTED			FOUND		
FACTORS	N	Mean[1]	SD	N	Mean[1]	SD
No difficulty scheduling classes	85	2.62	1.38	84	1.89	1.14
CSC GPA at least equal to HS GPA	85	2.82	1.45	84	2.39	1.39
Accessibility of academic advisors	82	2.12	1.07	82	1.46	0.86
Accessibility of faculty	84	2.32	1.16	83	1.70	0.93
Small class size	83	2.30	1.38	83	1.67	0.90
Plan of study help achieve career goals	85	1.89	1.09	83	1.89	1.08

[1] Scale: 1 = Strongly Agree, 6 = Strongly Disagree

Table XXVI was constructed to present the students' expectations and findings of selected academic factors at OSU. For the most part, what the students expected before attending OSU and what they found were remarkably similar. In fact, for perceptions regarding class scheduling, GPA, accessibility of academic advisors and faculty, there was less than 0.10 difference in mean response between what they expected and what they found. On the other hand, the respondents didn't seem to find that the class sizes were as large as expected but they did not indicate that their plan of study was helpful in achieving their career goals as they expected.

TABLE XXVI

RESPONDENTS' EXPECTATIONS PRIOR TO ENTRY AND SUBSEQUENT FINDINGS REGARDING SELECTED ACADEMIC FACTORS AT OSU.

EXPECTATIONS/FINDINGS	Before N	Before Mean[1]	Before SD	After N	After Mean[1]	After SD
Ease of scheduling classes	85	4.29	1.34	85	4.31	1.60
OSU GPA at least equal to CSC GPA	85	3.31	1.51	85	3.26	1.65
Accessibility of academic advisors	84	2.89	1.35	85	2.98	1.47
Accessibility of faculty	84	3.13	1.32	84	3.11	1.44
Small class size	84	5.07	1.23	83	4.55	1.30
Plan of study help achieve career goals	85	2.00	1.12	85	2.26	1.36

[1] Scale: 1 = Strongly Agree, 6 = Strongly Disagree

Table XXVII was constructed to report selected student social factors expectations and findings at CSC. In nearly each case, the subjects reported that their experiences exceeded their expectations. The mean response for perceptions concerning faculty concern, making friends, participating in student organizations, and finding their way around campus were all well into the agreement end of the scale. Although the students reported that they encountered fewer financial problems than they expected, the means for this item hovered around the middle part of the scale. The one exception where the findings did not exceed expectations occurred when students reported they had more difficulty balancing social and study activities than they expected (3.11 vs. 3.44).

TABLE XXVII

RESPONDENTS' EXPECTATIONS PRIOR TO ENTRY AND SUBSEQUENT FINDINGS REGARDING SELECTED SOCIAL FACTORS AT CSC

	Before			After		
EXPECTATIONS/FINDINGS	N	Mean[1]	SD	N	Mean[1]	SD
Faculty concern for student success	85	2.59	1.46	84	1.83	1.32
Make new friends	84	2.15	1.28	84	1.57	1.12
Active in student organizations	85	2.64	1.34	84	2.20	1.41
No difficulty balancing social & study activities	85	3.11	1.52	84	3.44	1.81
No difficulty finding way around campus	84	2.26	1.50	84	1.44	1.10
Encounter financial difficulty	82	3.34	1.09	83	3.53	1.08

[1] Scale: 1 = Strongly Agree, 6 = Strongly Disagree

Respondent levels of agreement with questionnaire items that dealt with social expectations and findings relating to social factors at OSU are reported in Table XXVIII. The item concerning making friends drew the most agreeable response in terms of both expectations before entering OSU and findings after having attended OSU (2.05 and 1.82 respectively) and the respondents indicated that there findings exceeded their expectations in this regard. Likewise, the students reported that they experienced considerably less difficulty finding their way around the campus at OSU than they expected (4.54 vs. 3.47) and encountered slightly more financial problems than expected (3.12 vs. 3.00). The mean response for these last two items tended to lean toward the disagreement end of the scale. The students indicated that faculty concern was as expected before entering OSU (3.33 vs.

3.33). Furthermore, the mean responses indicated that the students were less active in student organizations and had slightly more difficulty balancing their social and study activities.

TABLE XXVIII

RESPONDENTS' EXPECTATIONS PRIOR TO ENTRY AND SUBSEQUENT FINDINGS REGARDING SELECTED SOCIAL FACTORS AT OSU

	Before			After		
EXPECTATIONS/FINDINGS	N	Mean[1]	SD	N	Mean[1]	SD
Faculty concern for student success	85	3.33	1.46	85	3.33	1.53
Make new friends	84	2.05	1.22	84	1.82	1.02
Active in student organizations	85	2.67	1.23	85	2.96	1.49
No difficulty balancing social & study activities	85	3.68	1.41	85	3.79	1.45
No difficulty finding way around campus	84	4.54	1.63	85	3.47	1.63
Encounter financial difficulty	84	3.12	1.75	84	3.00	1.55

[1] Scale: 1 = Strongly Agree 6 = Strongly Disagree

Table XXIX is a report of the respondents' level of satisfaction with the general education courses offered at CSC and the role of CSC and OSU in the transfer process. The mean responses indicated a general level of satisfaction for each of the items, with the highest level of satisfaction being found for CSC's role in the transfer process. While still on the positive side at 4.39 on a 6.0 scale, the lowest level of satisfaction was expressed regarding General Education courses at CSC.

TABLE XXIX

RESPONDENT LEVEL OF SATISFACTION WITH CSC GENERAL EDUCATION COURSES AND CSC AND OSU'S ROLE IN THE TRANSFER PROCESS

Comparison Factors	N	Mean Level of Satisfaction[1]	SD
CSC General Education Courses	83	4.39	1.16
CSC's role in transfer process	83	5.17	0.84
OSU's role in transfer process	83	4.63	1.08

[1] Scale: 1 = Not Satisfied, 6 = Highly Satisfied

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this chapter is to present a summary of the problem, purpose, objectives, methodology, and major findings of the study. As well, an attempt will be made to draw conclusions and make recommendations.

Summary

Statement of Problem

Transfer students from two-year colleges, both currently and traditionally, account for a significant proportion of the undergraduate enrollment in the Oklahoma State University College of Agriculture and Natural Resources. Evidence of transfer shock (the drop in grade point average suffered by transfer students their first or second semester after transfer) and a high incidence of transfer student attrition have been documented. A further understanding is needed by institutions at each level of the transfer process in order to better serve the students.

Purpose of the Study

The purpose of this study was to examine selected aspects of the transfer process of agricultural students who transferred from Connors State College to Oklahoma State University during the period Fall, 1991 through Spring, 1996.

Objectives of the Study

1. Identify selected demographic characteristics of Connors State College agricultural students who transferred to Oklahoma State University.
2. Determine students' academic success as measured by GPA, enrollment status, and persistence to graduation.
3. Compare student perceptions of selected academic and social factors of Connors State College and Oklahoma State University.
4. Assess student perceptions of the effectiveness of Connors State College agricultural and general education courses in the transfer process.
5. Determine students' satisfaction with the transfer process.

Design and Conduct of the Study

A descriptive research method was used for the collection and analysis of the data required for the study. Data were collected from archival records and through the use of a self-administered questionnaire.

The population of the study included all Connors State College agricultural students who transferred to Oklahoma State University between

the Fall 1991 and Spring 1996 semesters. To be included in the study, students must have completed at least 12 hours at Connors State College and Oklahoma State University. A total of 98 students were found to fit these parameters. After adjusting for members of the population that could not be located, 88.54% (85 out of 96) responded to the questionnaire.

To meet the objectives of the study, information was collected from multiple sources. The archival data were primarily gathered from the Oklahoma State University Office of Planning, Budget, and Institutional Research and student grade sheets. Additionally, a survey instrument was developed and pilot tested by students who had transferred from various other two-year colleges in Oklahoma. The questionnaire was administered either on campus or by mail to those individuals identified for the study.

The data were analyzed using descriptive statistics such as frequencies, percentages, means, and standard deviations.

Major Findings of the Study

Figure 1 was developed to summarize demographic characteristics gathered from the archival data. The size of the transferring classes during this time frame was relatively stable with the exception of the 1994-95 cohort group that was nearly twice as large as any other.

The study population was over two-thirds male and over three-fourths Caucasian. An overwhelming majority of the students transferred with sufficient hours to be classified as juniors (83.67 percent) and tended to have earned associate degrees (62.24 percent). By the end of the study

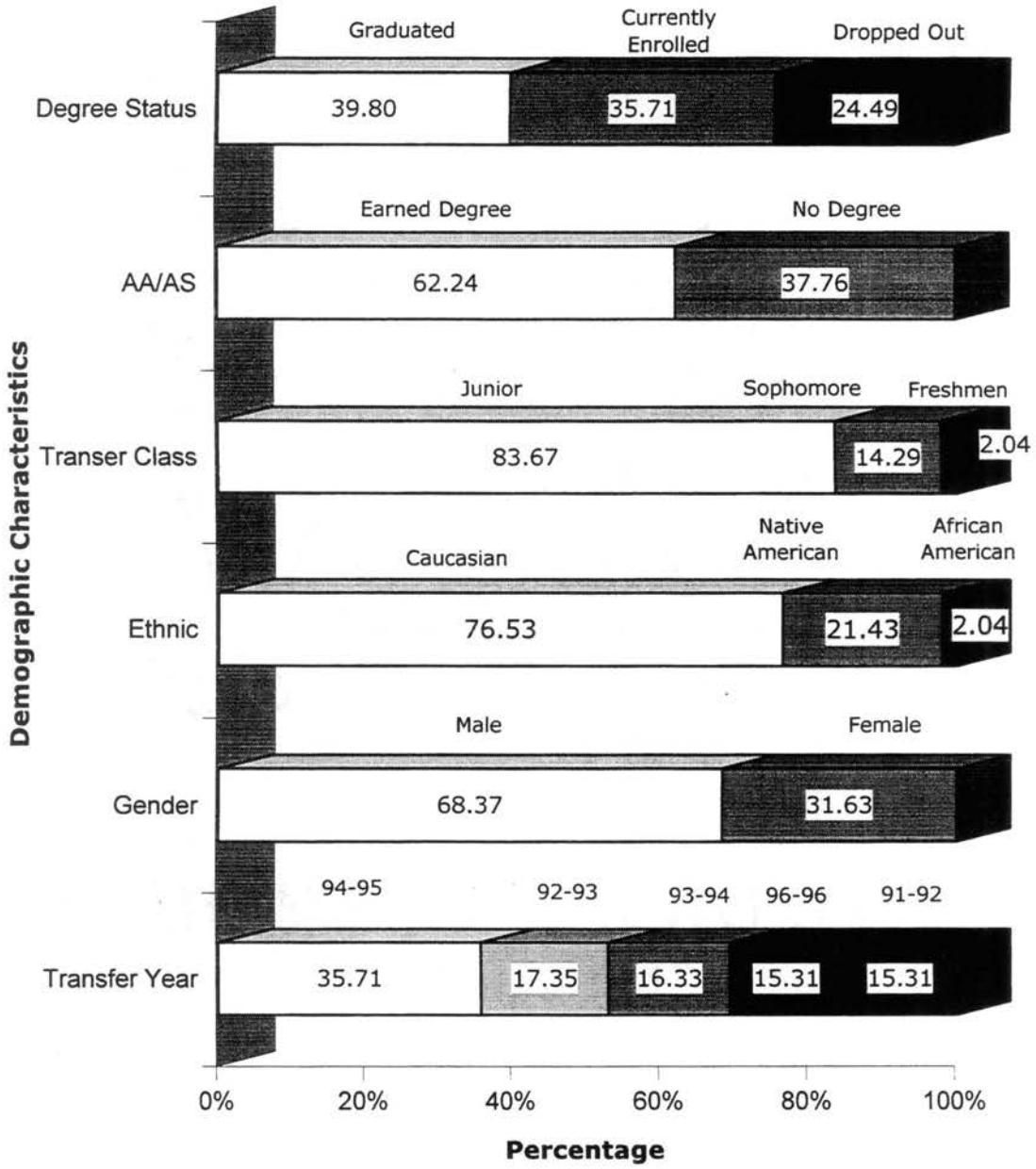

Figure 1. Demographic Characteristics of CSC Agriculture Students Who Transferred to OSU From Fall 1991 to Spring 1996

period, nearly 40 percent of the students had earned baccalaureate degrees, while over 35 percent of the students remained in pursuit of a baccalaureate degree. Only 24 percent of the students were not currently enrolled at OSU at the end of the period included in the study.

Figure 2 provides a means to track the Aggregate GPA for the study population from CGPA through the subsequent OSU semesters and includes OSUC and UCUM. The graphic shows that the transfer students suffered a decline in GPA the first semester at OSU of 0.44 GPA. GPA remained constant through the second semester and third semester. GPA then increased during the third semester and peaked during the fourth semester. In fact, the students had recovered to within 0.17 of CGPA by the fourth semester at OSU. However, GPA for those students who completed five or more semesters declined substantially each successive semester there after.

When transfer shock is evaluated on a cohort basis from data reported in Chapter IV, it was determined that the magnitude and duration varied from group to group. Even though the 1993-94 cohort transferred the highest CGPA, they seemed to be most affected by transfer shock. The cohort's OSU1 was 0.68 less than CGPA and by the fourth semester, the group had only recovered 0.13 of the GPA. By the end of the study, 1993-94 cohort group's OSUC was 0.64 GPA less than CGPA while UCUM had declined by 0.57. The difference between the 1994-95 cohort's CGPA and OSU1 was -0.63. By OSU4, the cohort had recovered all but 0.09 GPA and was the only group to post an OSU GPA of over 3.0. The difference between the 1994-95 cohort's CGPA and OSUC was -0.44 while the difference between CGPA and

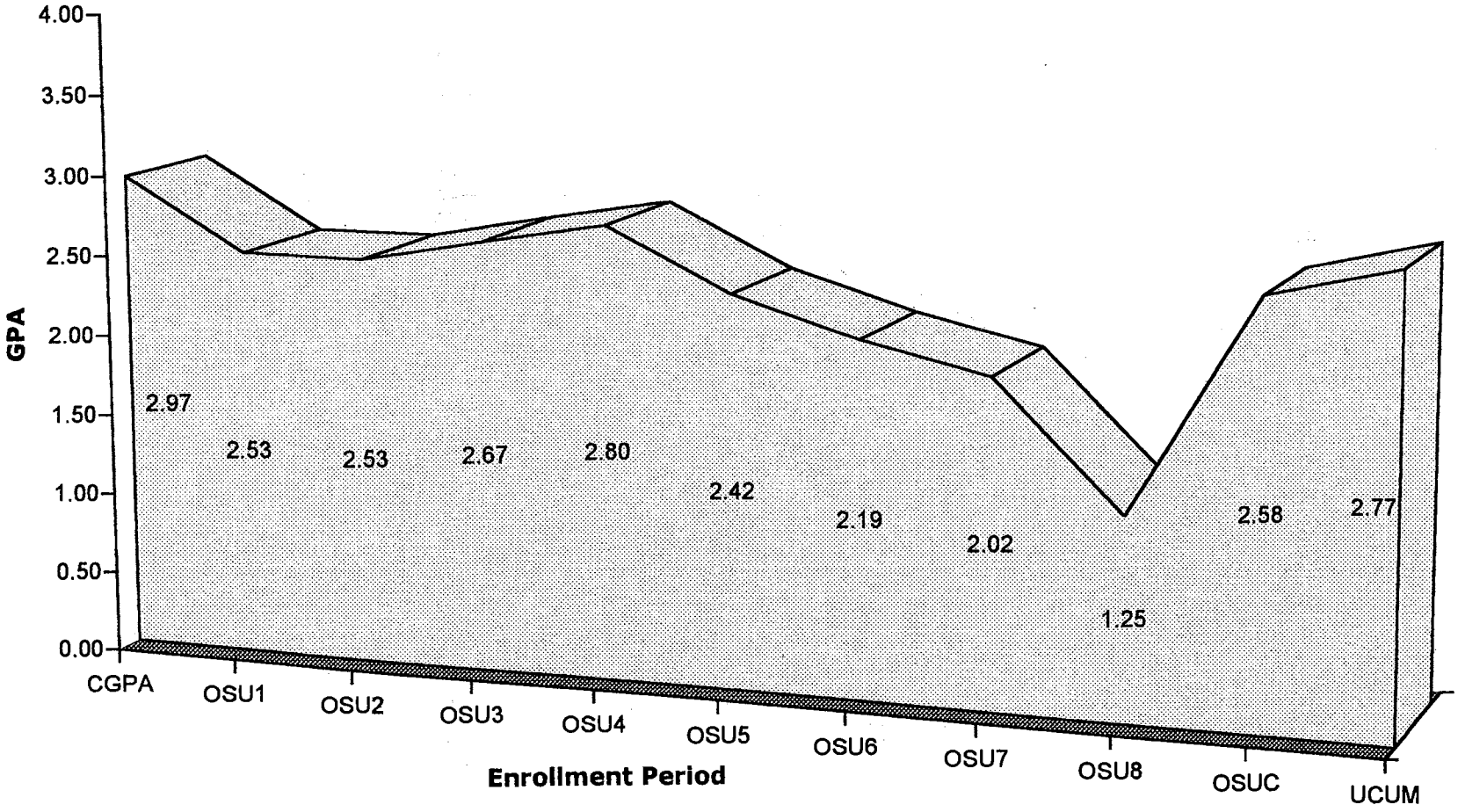

Figure 2. Aggregate CSC and Subsequent OSU GPAs for CSC Agricultural Transfer Students by Enrollment Period

UCUM was -0.23. Transfer shock did not appear to affect the 1991-92 cohort during the first semester after transfer but OSU2 declined 0.35 from CGPA. The cohort seemed to recover by the fourth semester and posted a higher OSU4 than CGPA. Once again, performance declined after the fourth semester at OSU. The 1991-92 cohort experienced the least change between CGPA and OSUC as well as the least decline in UCUM. The 1992-93 cohort's performance was interesting from the standpoint that the group's best performance occurred during OSU1 and OSU2. A decline in performance occurred nearly every semester after OSU2. Despite the late declines, the cohort's UCUM was only -0.16 different from CGPA. The 1995-96 cohort had completed only two semesters by the end of the study. Never-the-less, transfer shock was evidenced by the 0.61 GPA decline from CGPA to OSU1. The cohort did seem to recover slightly during OSU2.

Figure 3 is a summary of transfer student grade performance by academic classification at transfer. Those classified as juniors at time of transfer not only transferred higher GPAs to OSU than those students entering as freshmen or sophomores, but they also maintained substantially higher GPA through five semesters at OSU. Students in each of the classifications seemed to struggle the first semester, the junior transfers OSU1 was 0.40 less than CGPA, sophomore transfers lost 0.45 GPA from CGPA to OSU1, while the freshmen lost 1.17. By the fourth semester, those students that transferred as juniors had rebounded to within 0.16 of CGPA, and while there was 0.35 decline from CGPA to OSUC, the difference between CGPA and UCUM was less than 0.20. By comparison, the sophomore transfers' OSU4

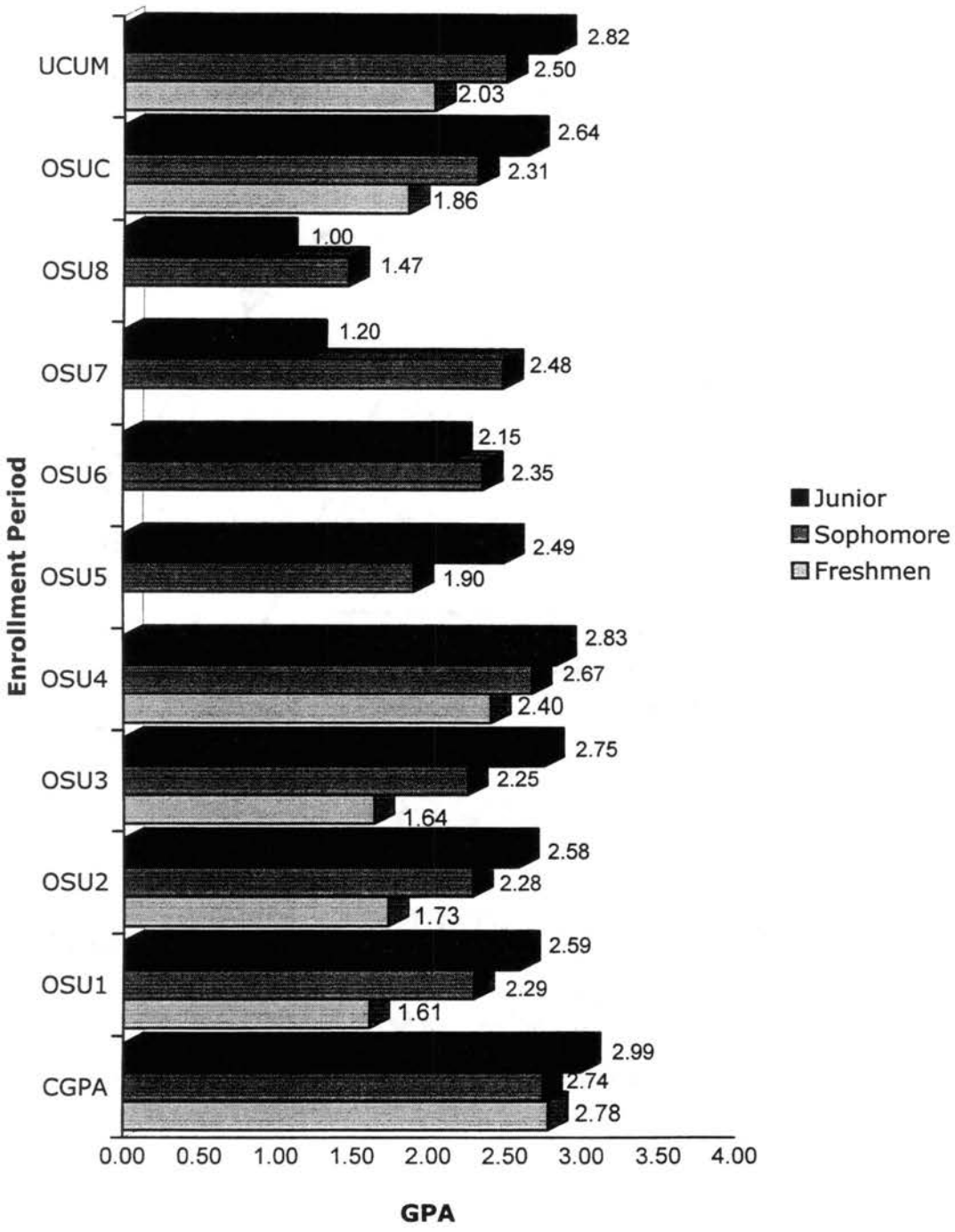

Figure 3. A Summary CSC and Subsequent OSU GPA for CSC Agricultural Students by Class at Transfer

was only 0.07 GPA less than CGPA, but OSUC and UCUM remained 0.43 and 0.24 below CGPA. Although data from the freshmen transfers were quite sparse, the academic performance from this group was well below that of the sophomores and juniors.

Figure 4 is a representation of transfer student GPA at CSC and OSU by enrollment status. The 24 students who were not currently enrolled at the end of the study transferred substantially lower CGPA into OSU than either those who were currently enrolled but had not graduated or those who had earned baccalaureate degrees (2.61 vs.2.92 and 3.20 respectively). This graphic reveals that those students who did not persist earned less than 2.00 GPA every semester at OSU. At the other end of the spectrum were the graduates. This group was slightly irregular as compared to the aggregate since the OSU semester in which they earned their highest GPA was the OSU1. GPA then dipped slightly during the second and third semesters (2.92 and 2.89 respectively) before rising above 3.00 once again after the fourth semester (OSU4). Despite an OSUC of 2.93, the degree earning students managed a 3.06 UCUM. GPA for the currently enrolled students followed the pattern more of the aggregate in that at least for the first four semester at OSU, GPA dipped the most following the first semester and then steadily increased to a respectable 2.81 during OSU4. By the end of the study, those students who were currently enrolled had earned a OSUC of 2.50 and a UCUM of 2.72.

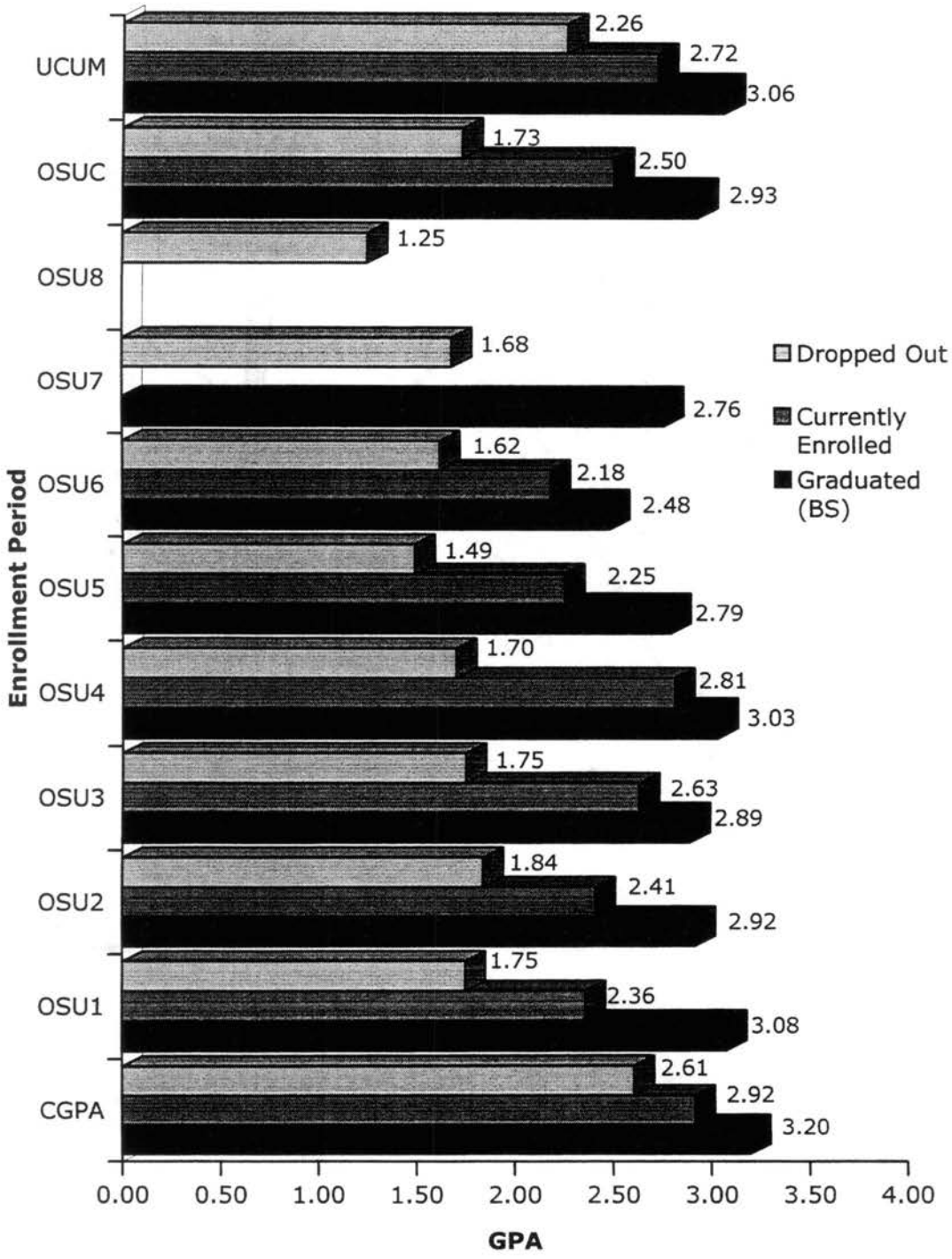

Figure 4. A Summary of CSC and Subsequent OSU GPAs for CSC Agricultural Students By Enrollment Status

Grade performance at CSC and OSU was compared between CSC Agricultural transfer students who earned the Associate degree and those who did not. Figure 5. Presents a summary of the findings of this comparison. The Associate degree recipients transferred a GPA that was 0.40 higher than those who did not earn an Associate degree (3.10 vs. 2.70 respectively). Likewise, the degree recipients posted higher GPAs at each interval at OSU. This difference was particularly noticeable during OSU1 and the semesters after OSU4. Interestingly, the non-degree students closed the gap during the first four semesters at OSU and had fully recovered their CGPA of 2.70 during OSU4. In terms of comparison of CGPA to OSUC and UCUM, the graduates posted declines of 0.40 and 0.19 respectively while those who had not graduated with an Associate degree suffered losses of 0.39 and 0.19 to OSUC and UCUM respectively.

Figure 6 is a summary of CSC and OSU GPAs as compared by gender. From this graphic, it can be determined that the females in this population transferred a CGPA of nearly 0.20 higher than the males. However, the female students on average posted consistently lower GPAs at OSU than the males. In fact, in each semester where a comparison was possible, the difference between the GPA earned by the males and the GPA earned by the females widened with each successive semester (OSU1, 0.22, OSU2, 0.29; OSU3, 0.50; OSU4, 0.55; OSU6, 0.70). It should be noted that no males were represented in OSU7 and OSU8.

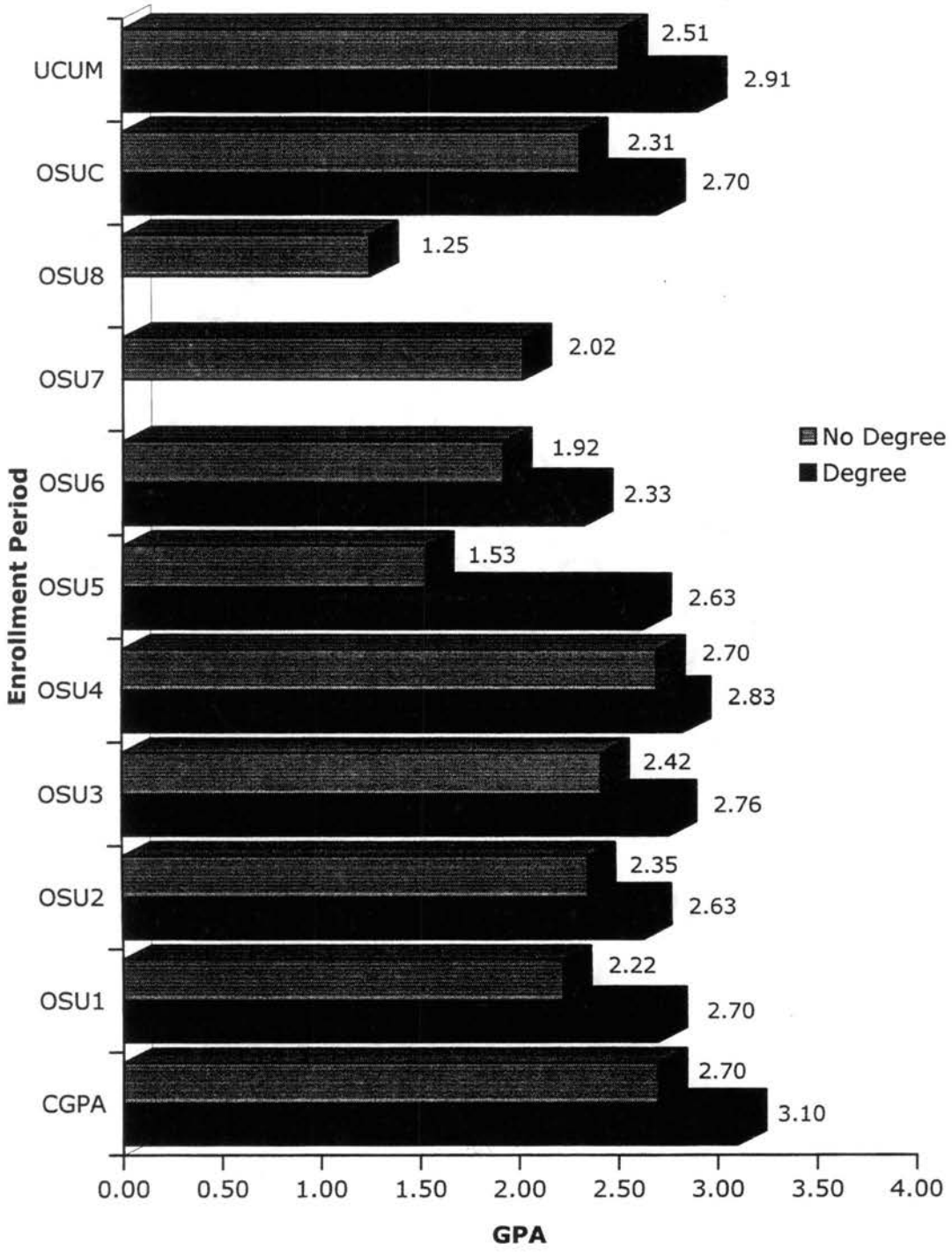

Figure 5. A Summary of CSC and Subsequent OSU GPAs for CSC Agricultural Students By Associate Degree Status

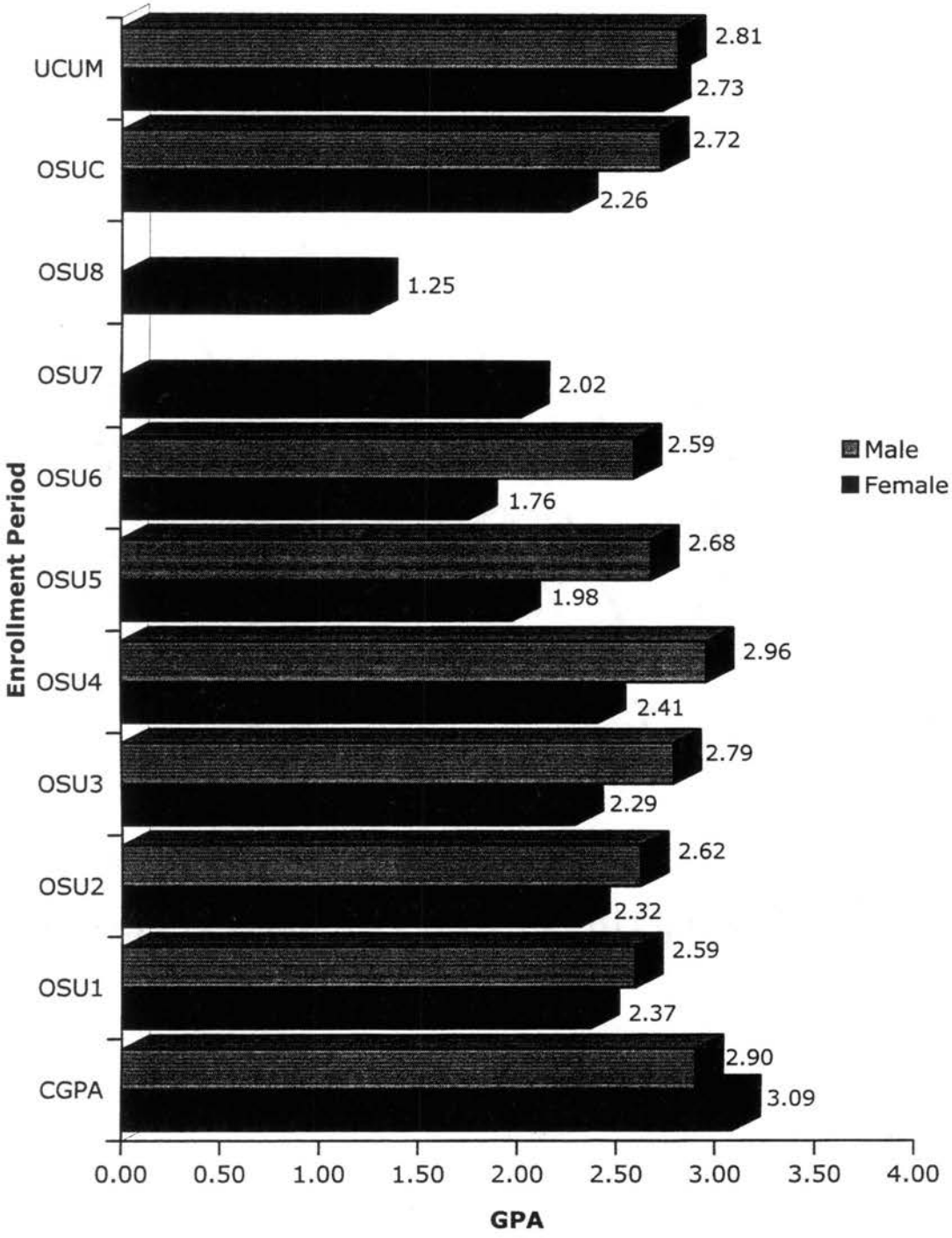

Figure 6. A Summary of CSC and Subsequent OSU GPAs for CSC Agricultural Students By Gender

A comparison of where the students reported they lived, how much time they worked per week, and the amount of time they devoted to study per week is presented in Figure 7. In terms of housing, the graphic reveals vast differences between where the students lived while attending CSC and OSU. At CSC, nearly 60 percent lived in the dormitories, another 24.71 percent reported living with their parents, while less than 5 percent reported living off campus. In stark contrast, over 87 percent of the respondents reported living off campus at OSU, none lived with their parents, and less than 5 percent resided in the dormitories.

The students also reported considerable differences in the amount of time they spent working at CSC and OSU. Only slightly more than eight percent indicated that they did not work at CSC, while over two-thirds indicated they worked 20 hours per week or less. As well, over seven percent implied that they put in 40 or more hours per week in addition to their studies. While at OSU, more respondents reported not working, over 75 percent claimed to have worked 11 hours or more per week but only about 5 percent reported working 40 or more hours per week.

Finally, in Figure 7, it is possible to view the amount of variation in time spent engaged in study activities at CSC and OSU. Nearly 80 percent of the students reported spending six hours or less each week engaged in study activities outside the classroom at CSC. Conversely, over 88 percent of the respondents claimed to have spent at least six hours per week studying at OSU.

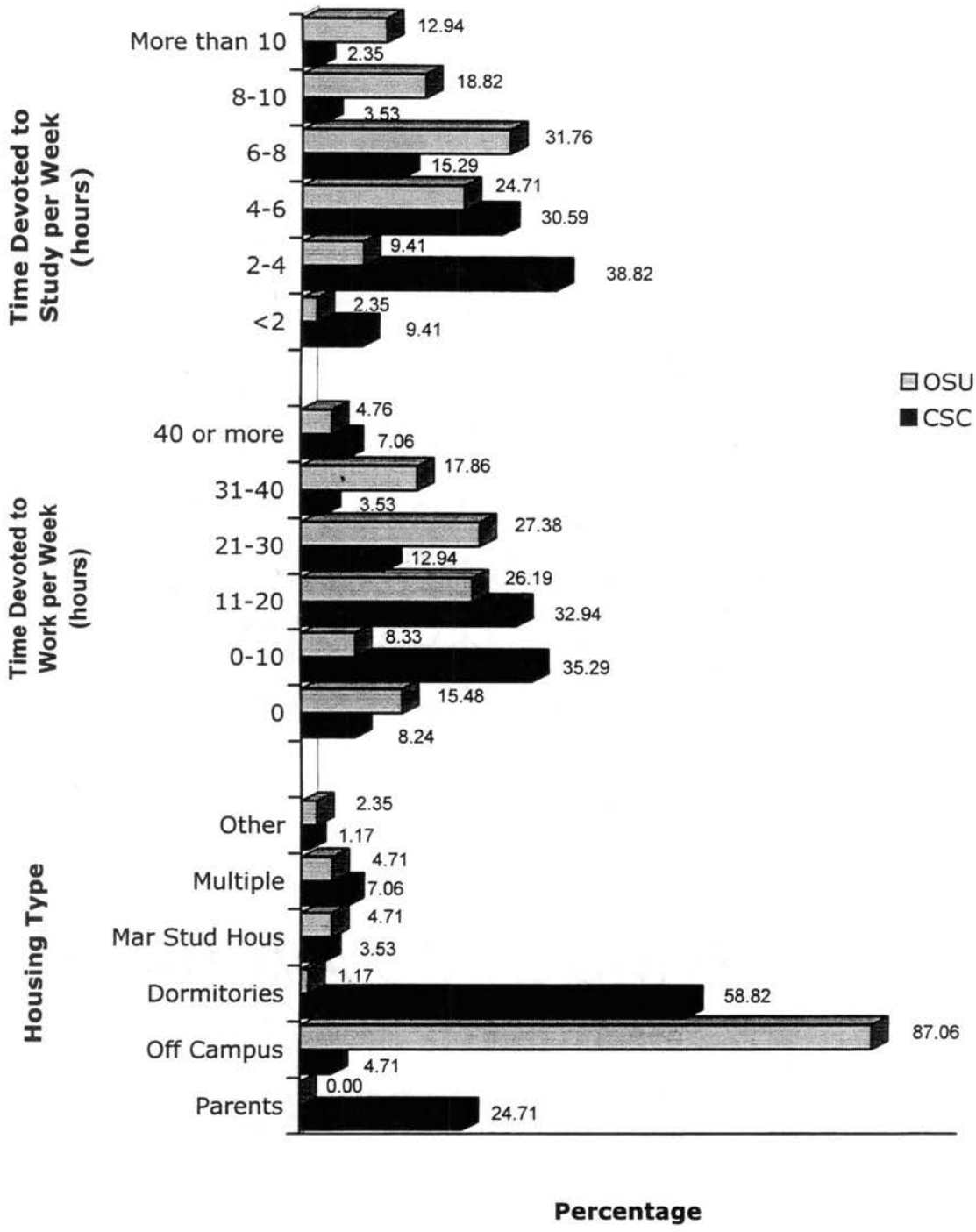

Figure 7. A Summary of Housing Type and Time Spent Working and Studying

The reported number of classes voluntarily missed per semester and the number of student organizations the respondents belonged to at CSC and OSU are presented in Figure 8. The data for the number of classes missed at each institution was somewhat mixed. A greater proportion of respondents reported missing zero, 3, and 5 or more days at CSC than at OSU (12.94 vs. 8.23 percent, 18.82 vs. 10.59 percent, 21.18 vs. 17.65 percent respectively). A greater proportion of respondents reported missing 1, 2, and 4 days at OSU than at CSC (21.18 vs. 17.65 percent, 29.41 vs. 21.18 percent, 12.94 vs. 8.23 percent respectively).

Figure 8 also allows for some interesting comparisons in the number of student organizations that respondents belonged to at CSC and OSU. For example, a greater percentage of the respondents indicated that they belonged to 1, 3, and 4 student organizations at CSC than at OSU (25.88 vs. 24.71 percent, 16.47 vs. 10.59 percent, 14.12 vs. 5.88 percent respectively). At OSU, a greater proportion of the students reported belonging to 0, 2, and 5 or more student organizations than at CSC (16.47 vs. 9.41 percent, 36.47 vs. 29.41 percent, 5.88 vs. 4.71 respectively).

The mean self-rating of selected academic skills prior to entry into CSC and OSU is provided in Figure 9. The respondents estimated that their ability in each area improved during their time at CSC. The most notable increase was found in the area of study habits where the respondents rated these habits near the poor end of the scale before entry into CSC but rated themselves nearly one point higher prior to entry to OSU (2.64 vs. 3.63).

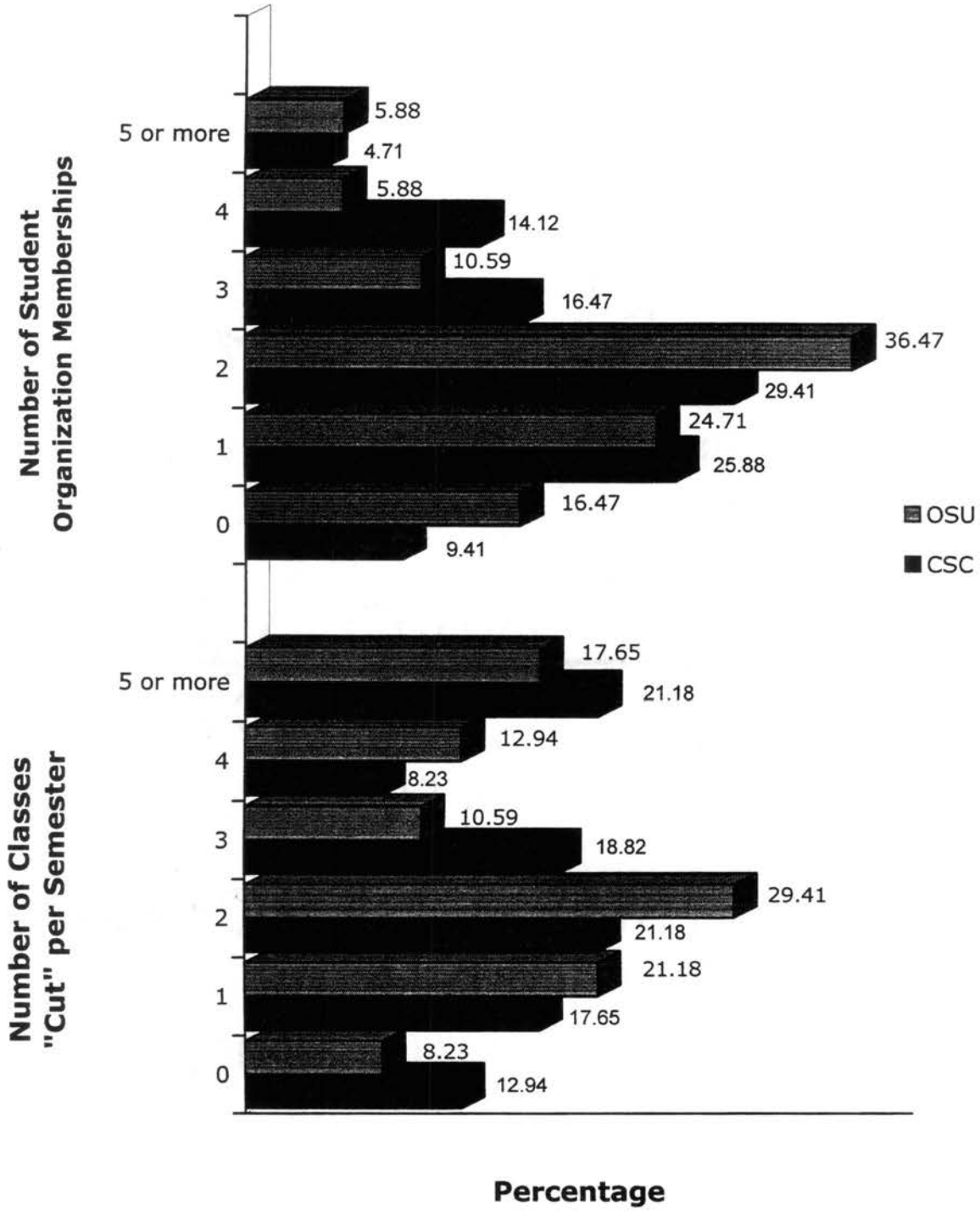

Figure 8. A Summary of the Number of Classes Missed per Semester and the Number of Student Organization Memberships

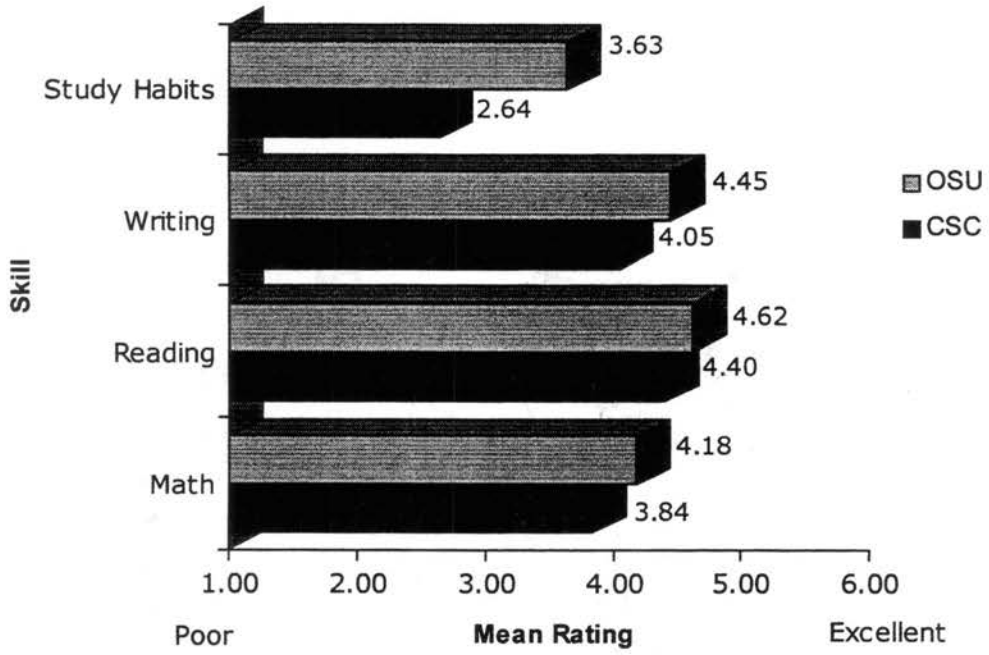

Figure 9. Mean Rating of Selected Student Academic Skills Prior to Entry into CSC and OSU.

Figure 10 is an illustration of the respondents' mean rating of agriculture courses at CSC and the extent to which they helped prepare them for subsequent courses at OSU. Although all the courses were rated well above the mid-point of the scale, the Introduction to Animal Science course and the Feeds and Feeding course received the highest mean ratings (5.60 and 5.22 respectively) on a scale of one to six. The Plant Science and Soil Science courses received the lowest ratings (3.92 and 4.00 respectively), while the Agricultural Orientation, Agricultural Engineering, Agricultural Ecology, Introduction to Agricultural Economics, and the Microcomputer

Techniques in Agriculture were intermediate in rating at 4.86, 4.67, 4.61, 4.61, 4.15 respectively.

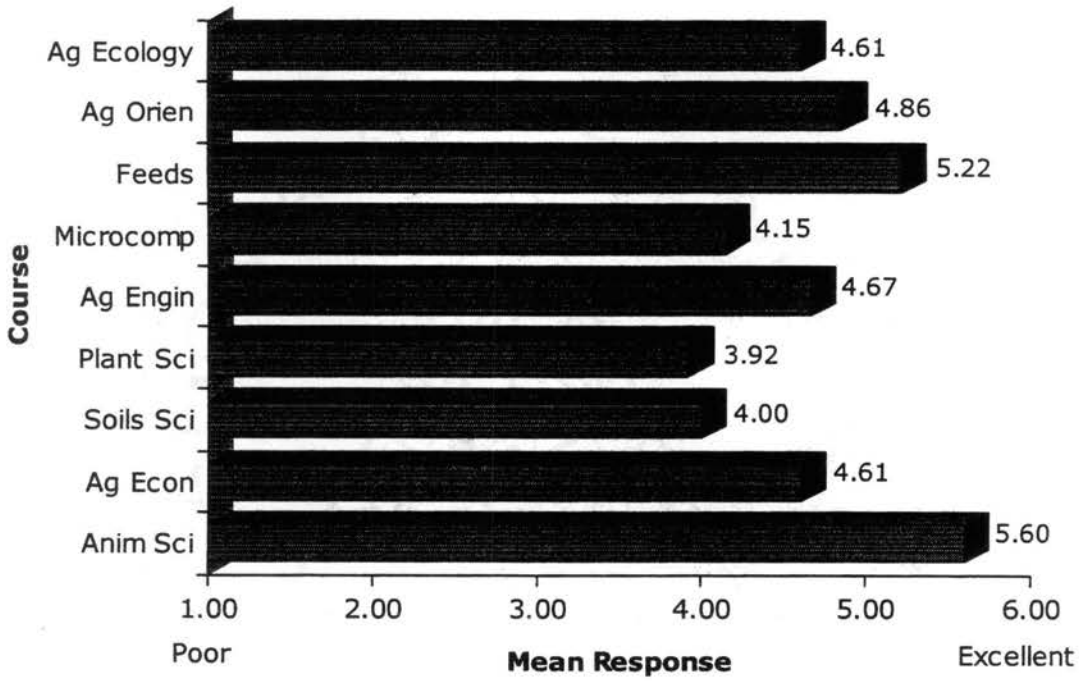

Figure 10. Mean Rating of CSC Agricultural Courses as Preparation for Subsequent Courses at OSU.

Figure 11 provides for a comparison of student expectations of selected academic and social factors prior to entry into CSC and OSU. According to their responses, the students believed that they would have more difficulty scheduling classes at times convenient for them at OSU than at CSC (4.29 vs. 2.62 respectively), were less confident in their ability to maintain their GPA at OSU than they were upon entering CSC (3.13 vs. 2.82 respectively), and expected their advisors and the faculty to be less accessible at OSU than at CSC. Furthermore, they expected larger class

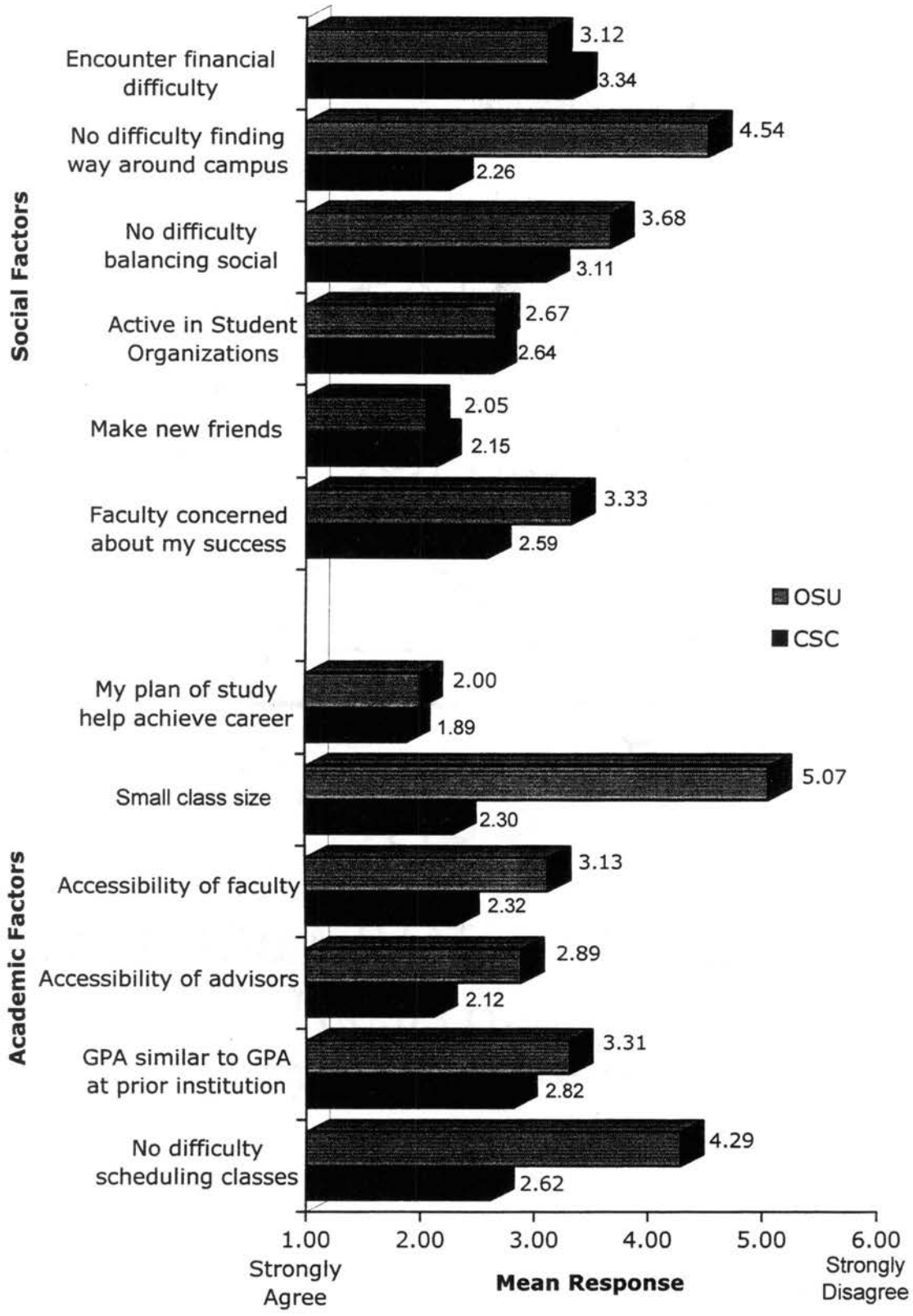

Figure 11. Comparison of Student Expectations Regarding Selected Social and Academic Factors Prior to Entry into CSC and OSU

sizes at OSU and had greater expectations that their plan of study would be more helpful at OSU in achieving their career goals.

In terms of social expectations, the respondents reported that they did not expect the faculty at OSU to be as concerned about their personal success and they envisioned having more difficulty balancing their social and study activities compared to such expectations prior to entry in CSC. The graphic also indicates that the respondents expected to have much more difficulty finding their way around campus at OSU than at CSC (4.54 vs. 2.26 respectively), but they anticipated more financial problems at CSC (3.34) than at OSU (3.12). There were very few differences in student expectations in terms of making new friends at either institution or anticipated activity in student organizations.

A comparison of students' findings concerning selected academic and social factors after entry into CSC and OSU are presented in Figure 12. Inspection of the academic factors reveal that the students particularly perceived more difficulties in scheduling convenient class times and with larger class sizes at OSU than at CSC. The mean response for both of these findings at OSU was well into the disagree end of the scale. At the same time, the respondents reported less difficulty maintaining a stable GPA and that advisors and faculty were more accessible at CSC than at OSU. However, the students reported that their plan of study at OSU was more helpful in achieving their career goals than the plan of study at CSC.

When the social findings presented in Figure 12 are analyzed, it was found that the respondents perceived the faculty at CSC to be considerably

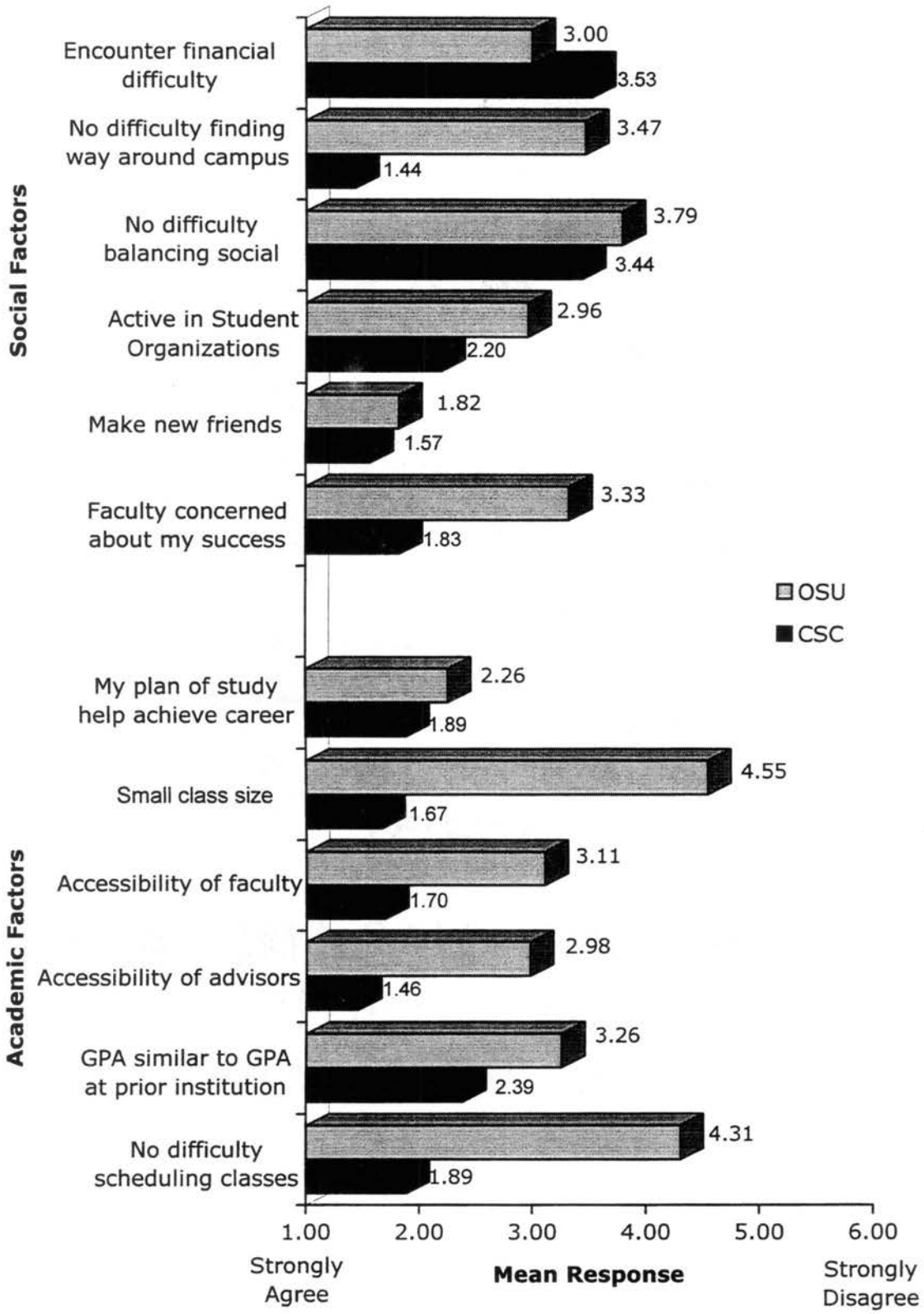

Figure 12. Comparison of Student Findings Regarding Selected Social and Academic Factors After Entry in CSC and OSU

more concerned with their personal success than the faculty at OSU (1.83 vs. 3.33 respectively) and found less difficulty in finding their way around campus at CSC as opposed to OSU. Furthermore, the respondents reported that they were more active in student organizations, made more new friends, had less difficulty balancing social and study activities, and encountered less finical stress at CSC than at OSU.

The students were also asked to rate the roles of CSC and OSU in the transfer process and the extent to which CSC general education courses prepared them for transfer to OSU. For the most part, respondents were satisfied with the general education classes at CSC (4.39 on a six point scale). Additionally, the students' rating of both institutions' role in the transfer process was well into the satisfied portion of the scale (CSC = 5.17 and OSU = 4.63).

Conclusions

Examination and analysis of the major findings resulted in the formulation of the following conclusions regarding the population studied:

(1) The typical Connors State College agricultural student included in the study was a Caucasian male who had earned an Associate Degree and transferred to Oklahoma State University as a junior. He was more heavily involved in campus life while at CSC than what was true after transferring to OSU, but spent more time working and studying at OSU.

(2) "Transfer shock" (decline in GPA) was a reality for the study population, particularly the first two semesters after transfer to OSU. However, students who persisted to the point of normal graduation tended to recover from this condition in subsequent enrollments.

(3) There was an adverse relationship between level of GPA attained and the number of semesters spent at Oklahoma State University beyond the point of normal graduation. Transfers who required additional semesters to complete graduation requirements were considerably less successful academically than the group completing requirements in a timely fashion.

(4) There was a positive relationship among earning the Associate Degree, earning the maximum number of hours which could be transferred to Oklahoma State University, and higher academic performance.

(5) A higher level of GPA at the time of transfer appeared to be a good predictor of the likelihood of completing an Oklahoma State University degree "on time" (persistence) and of earning higher GPA while at OSU. Conversely, a lower transfer GPA appeared to be associated with likelihood of drop-out and/or academic difficulty at OSU.

(6) The students studied were more positive regarding both academic and social aspects of their Connors State College experiences compared to those at Oklahoma State University.

(7) Connors State College course work was viewed positively with regard to the manner in which students were prepared for subsequent work at Oklahoma State University. This was especially true for offerings in the agricultural areas.

(8) Female transfer students were affected more by transfer shock than their male counterparts. The female transfers carried higher GPA while at Connors State College but experienced greater declines and less rebound than the males.

(9) From the perspective of both institutions, the transfer process is working and is viewed in a positive manner by the students involved.

Recommendations

The following recommendations were made as a result of the major findings of the study.

(1) It is recommended that agricultural faculty at Connors State College and Oklahoma State University maintain current levels of communications and continue their efforts in making the transfer process as seamless as possible.

(2) Agriculture faculty at Connors State College to continue to track students as they transfer in order to identify and seek possible solutions to problems as they appear.

(3) A required orientation course for all agricultural transfer students at Oklahoma State University that focuses on aquatinting the students with the campus and faculty in their major department, faculty expectations of the students and academic services available to them.

(4) It is recommended that the faculty at Connors State College periodically evaluate general education courses for adequate content and rigor.

Recommendations for Further Research

Further research concerning the transfer process as a means of easing the transition and identifying "at risk" transfer students should be addressed in the following areas:

(1) Additional study should be directed at agricultural transfer students from other two-year colleges in Oklahoma.

(2) Additional study should be directed at identifying at risk students at Connors State College prior to transfer and at Oklahoma State University after transfer.

(3) Additional study is needed to investigate differences in academic performance due to gender.

REFERENCES

Allen, W.S. (1930). University success of junior college graduates. Junior College Journal, 1,147-148

Anderson, E.F. (1972). Comparison of transfer and native students progress at the University of Illinois at Urbana-Champaign, 1970-1971 academic year. Research Memorandum 72-2. Illinois University, Urbana. Office of School and College Relations. (ERIC Document No. ED 063 927)

Anderson, E.F. (1977). Three year comparison of transfer and native students progress at the University of Illinois at Urbana-Champaign, fall 1971 group. Research Memorandum No. 74-9. Illinois University, Urbana. Office of School and College Relations. (ERIC Document No. ED 099 022)

Anderson, E.F. and DeGray, J. (1976). Comparison of transfer and native student progress at the University of Illinois at Urbana-Champaign, fall 1973 group. Research Memorandum 76-8. Illinois University, Urbana. Office of School and College Relations. (ERIC Document No. ED 128 062)

Anderson, E.F. and Riehl, N.S. (1974). Comparison of transfer and native student progress at the University of Illinois at Urbana-Champaign, fall 1971 group. Research Memorandum No. 74-9. Illinois University, Urbana. Office of School and College Relations. (ERIC Document ED 099 022)

Bragg, A.K. (1982). Fall 1979 transfer study. Report 3: Second year persistence and achievement. Illinois Community College Board, Springfield. Dec 1982. (ERIC Document No. 230 228)

Britton, R.B. (1969). The first semester academic performance of urban junior college transfer students to Columbia vs. two urban campuses of the University of Missouri. Paper presented at the EPDA Institute for Advanced Study in Student Personnel Work in Junior Colleges and Technical Institutes, University of Missouri, Columbia. (ERIC Document No. ED 043 331)

Clagett, C.A. (1987). Community college transfers at UMCP. Research Brief 88-1. Prince George's Community College, Largo MD. Office of Institutional Research and Analysis. (ERIC Document No. ED 296 776)

Connors State College Catalog 1995-1997. (1995) Warner, OK: Connors State College.

Cooper, L.R. (1968). The difficulty of identifying the real transfer student. Junior College Journal. 38, 40.

Dennison, J.D. and Jones, G. (1970). A long rang study of the subsequent performance and degree attainment of students who transferred from Vancouver Community College to the University of British Columbia from 1966-1969. Vancouver City College, British Columbia. (ERIC Document No. ED 037 217)

Diaz, P.E. (1992). Effects of transfer on academic performance of community college students at the four-year institution. Community /Junior College Quarterly, 16, 279.

Farley, W.S. (1968). Some factors affecting academic success of economic disadvantaged junior college transfer students. (ERIC Document No. 023 385)

Frankel, E. (1970). The academic history of community college transferees at Herbert E. Lehman College. City University of New York, N.Y. Herbert H. Lehman College. (ERIC Document No. ED 038 134)

Gold, B.K. (1972). Academic performance of LACC transfers to UCLA through the special services program, 1971-1972. RS 72-13. Los Angeles City College, California. (ERIC Document No. ED 067 089)

Graham, S.W., (1987). Persistence and the relationship to academic performance measures: A longitudinal study. Community College Quarterly of Review and Practice, 11, 75.

Graham, S.W. and Hughes, J.A. (1994). Moving down the road: Community college students' academic performance at the university. Community College Journal of Research and Practice, 18, 449.

Grote, C.L. (1994). The importance of selected factors on the success of transfer students in the college of agricultural sciences and natural resources at Oklahoma State University from 1987-88 to 1991-92. Unpublished doctoral dissertation, Oklahoma State University, Stillwater.

Grover, A.L. (1960). A comparative study of Wyoming community college students who transferred to the University of Wyoming. College and University, 42, 204.

Hall, L.H. (1967). Performance of average students in a junior college and in four-year institutions. Research Bulletin 16. California State Department of Education, Sacramento. (ERIC Document No. ED 013 106)

Head, R.B. (1990). The academic performance of PVCC transfers to Virginia public senior institutions of higher education (1988-89). Piedmont Virginia Community College, Charlottesville, VA Office of Institutional Research and Planning. (ERIC Document No. ED 319 420)

Hills, J.R. (1965). Transfer shock: the academic performance of the junior college transfer. Journal of Experimental Education, 33, 201.

House, J.D. (1989). The effect of time of transfer on academic performance of community college transfer students. Journal of College Student Development ,30, 144.

Hughes, J.A. and Graham, S.W. (1992). Academic performance and background characteristics among community college transfer students. Community/Junior College Quarterly of Research and Practice, 16, 35.

Illinois Community College Board. (1986). Illinois community college board transfer study: A five-year study of students transferring from Illinois two-year colleges to Illinois senior colleges/universities in the fall of 1979. Springfield, IL: Author. (ERIC Document No. ED 270 148)

Johnson, D.M., Taylor, W.N., and Owens Jr., T.O. A comparison of community college vocational-technical and transfer agriculture students. In R. Waters (Ed.), Proceedings of the Forty-Second Annual Southern Regional Agricultural Education Research Meeting (pp. 58 - 65).

Johnson, N.T. (1987). Academic factors that affect transfer student persistence. Journal of College Student Personnel ,24, 323.

Knoell, D.M. (1965). Focus on the transfer program. Junior College Journal, 35, 5.

Knoell, D.M. and Medsker, L.L. (1965). From junior college to senior college-a national study of the transfer student. Washington, DC: American Council on Education.

Mann, B. (1969). Student achievement: junior college transfers vs. university transfers to the University of Missouri-Columbia. Paper presented at the EPDA Institute for Advanced Study in Student personnel Work in Junior Colleges and Technical Institutes, University of Columbia. (ERIC Document No. ED 043 324)

Martorana, S.V. and Williams, L.L. (1954). Academic success of junior college transfers at the state college of Washington. Junior College Journal, 24,402.

Moughnamian, H. et al. (1978). A statewide follow-up study of students who transfer from Illinois public community colleges to Illinois four-year colleges and universities. Fall 1973 transfer students followed through spring 1976. Research Report 143. Illinois Community College Board, Springfield. (ERIC Document No. ED 160 146)

National Center for Educational Statistics. (1993). Profile of undergraduates in U.S. postsecondary education institutions: 1989-90. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement.

Nickens, J.M. (1972). "Transfer shock" or transfer ecstasy"? Research Report. Florida Community Junior College Inter-institutional Research Council, Gainsville; Florida State Department of education, Tallahassee. Division of Community Junior Colleges. (ERIC Document No. ED 116 721)

Oklahoma State Regents for Higher Education. (1994). The study of the success of community college transfer students in the Oklahoma state system of higher education.

Oklahoma State University Catalog 1995-1996. (1995). Stillwater, OK: Oklahoma State University.

Phelan, D. and Kirkland, T. (1990). A study of the relative effect of the community college on transfer students: Achievement and satisfaction. Paper presented at the Annual Meeting of the Council of Universities and Colleges at the Annual Convention of the American Association of Community and Junior Colleges (70th, Seattle, Washington, April 22, 1990). (ERIC Document No. ED 314 146)

Prather, H.R. and Anderson, B. (1989). Retention of non-traditional students. Paper presented at the Annual Meeting of the Southern Association for Institutional Research (Pipestem, WV, October 1986). (ERIC Document No. ED 274 296)

Radcliff, S.K. (1984). Academic performance of Howard Community College students in transfer institutions: Preliminary findings. (Research Report No. 37). Columbia, MD: Howard Community College, Office of Research and Planning. (ERIC Document No. ED 244 707)

Richardson, R.C., Jr. and Doucette, D.S. (1980). Persistence, performance and degree achievement of Arizona's community college transfers Arizona's public universities. Research Report. Arizona State University, Tempe. Department of Higher and Adult Education. (ERIC Document No. ED 197 785)

Wright, R.J., Reilly, B.A., and Lytle, E.F., Jr. (1990). The predictability of college transfer student performance. Widner University. Chester, Penn. Position Paper. (ERIC Document No. 317 242)

APPENDICES

APPENDIX A

INSTRUMENT COVER LETTER AND FOLLOW UP LETTER

September 17, 1996

Dear Former Connors State College Agricultural Student:

As you probably experienced to some degree, there can be some problems associated with transferring from a junior college to a four-year university. Because of our desire to eliminate these problems and thereby improve the educational experience for students, we are conducting a research study. This study involves Connors State College agricultural students who transferred to the OSU College of Agricultural Sciences and Natural Resources during the period, 1991-1996.

Your responses will provide valuable information about some of your experiences before, during, and following transfer to OSU. In turn, this will enable both CSC and OSU to better serve future students. Your participation is voluntary; however, what you have to tell us is important. We ask that you take a few minutes to complete the enclosed questionnaire and return it to us in the stamped, self-addressed envelope by October 7, 1996. Please keep in mind that your responses will be kept strictly confidential. You will note the questionnaire is numbered. The purpose of that coding is to track responses only. The researcher is the only person who will have access to the code sheet and individual responses. Upon completion of the study, the code sheets will be destroyed. In the presentation of findings, names will not be possible since data will be reported in aggregate.

If you have further questions, please feel free to contact me (405)744-6942 or Ms. Gay Clarkson at the OSU Institutional review Board at (405)744-5700.

Sincerely,

Ronald Ramming
Graduate Student

Dr. H. Robert Terry
Graduate Advisor

Dr. Paul Hummer
Assoc. Dean
College of Agricultural Sciences
And Natural Resources
Oklahoma State University

Dr. Gary Updyke
Vice-President, Academic Services
Connors State College

November 11, 1996

Dear Former Connors State College Agricultural Department Student:

Approximately 8 weeks ago you were mailed a questionnaire concerning your experience in transferring from Connors State College to Oklahoma State University. I would very much like your input on this matter and have enclosed another questionnaire. Please complete the questionnaire and return it in the enclosed self-addressed, stamped envelope by November 23, 1996. If you have access to a fax machine, send it to me at (405)744-5176.

Once again your opinions are valuable. Please take a few minutes and complete the survey.

Thanks in advance,

Ronald Ramming

APPENDIX B

INSTRUMENT

CONNORS STATE COLLEGE/OKLAHOMA STATE UNIVERSITY TRANSFER STUDENT QUESTIONNAIRE

1. What was the total number of students in your high school graduating class? _____

2. Did you enroll at OSU during established transfer days?

_____ yes _____ no

3. Indicate where you lived while enrolled at CSC and OSU.

CSC	Housing	OSU
	With parents	
	Off campus	
	Residence Halls	
	Fraternity/Sorority	
	Married Student Housing	
	Other	

4. Indicate the number of hours worked per week while enrolled at CSC and OSU.

CSC	Hours Worked	OSU
	0	
	0-10	
	10-20	
	21-30	
	31-40	
	more than 40	

5. Check the amount of time outside of class you spent studying during a typical week at the following institutions.

Time	High School	CSC	OSU
Less than 2 hours			
2 to 4 hours			
4 to 6 hours			
6 to 8 hours			
8 to 10 hours			
more than 10 hours			

6. Check the number of times you "cut" classes during a typical semester.

CSC	Classes Missed	OSU
	0	
	1	
	2	
	3	
	4	
	5 or more	

4. Check the number of clubs, student organizations, honor societies, judging teams, etc. you belonged to at CSC and OSU.

CSC	No. of Organizations	OSU
	0	
	1	
	2	
	3	
	4	
	5 or more	

8. Rate yourself in the following areas prior to entry into CSC and OSU.

Poor CSC Excellent							Poor OSU Excellent					
1	2	3	4	5	6		1	2	3	4	5	6
						Math Skills						
						Reading Skills						
						Writing Skills						
						Study Habits						

9. Estimate the extent to which you engaged in the following activities at CSC and OSU.

Never CSC Frequently							Never OSU Frequently					
1	2	3	4	5	6		1	2	3	4	5	6
						Institution Sponsored Activities (Intramural sports, student club activities, collegiate athletic events, judging teams etc.)						
						Non-Sponsored Social Activities (night clubs-dancing, movies, bowling, private parties, etc.)						
						Study Activities (Library, study groups, etc.)						
						Work						

10. Rate the following CSC agriculture courses on the extent to which they prepared you for subsequent courses at OSU. If you did not take the course at CSC, please check the "NA" column for that course.

	NA	Poor 1	2	3	4	5	Excellent 6
Introduction to Animal Science							
Introduction to Agricultural Economics							
Introduction to Soil Science							
Introduction to Plant Science							
Introduction to Agricultural Engineering							
Microcomputer Techniques in Agriculture							
Feeds and Feeding							
Agricultural Orientation							
Agricultural Ecology							

11. If you are no longer enrolled at OSU College of Agricultural Sciences and Natural Resources, check all the appropriate reasons. Skip this question if you are still enrolled.

	Graduated
	Entered College of Veterinary Medicine
	Changed Major
	Academic (Probation, suspension)
	Financial
	Personal
	Other (please specify)

12. Rate the following items in terms of what you expected before entering CSC and what you found while there.

Before entering CSC I expected Strongly Agree 1	2	3	4	5	Strongly Disagree 6		**While at CSC I found** Strongly Agree 1	2	3	4	5	Strongly Disagree 6
						difficulty in scheduling classes I wanted at the times I wanted to take them						
						the faculty to care about my academic and personal success						
						my GPA at CSC to be at least as high as my high school GPA						
						academic advisors to accessible						
						faculty to be accessible						
						to make many new friends						
						to be active in student clubs and organizations						
						to have difficulty balancing social activities and study time						
						Small class size						
						no difficulty finding my way around campus						
						to encounter financial difficulty						
						my plan of studies to help me achieve my career goals						

13. Rate the following items in terms of what you expected before entering OSU and what you found while there.

Before entering OSU I expected Strongly Agree 1	2	3	4	5	Strongly Disagree 6		**While at OSU I found** Strongly Agree 1	2	3	4	5	Strongly Disagree 6
						difficulty in scheduling classes I wanted at the times I wanted to take them						
						the faculty to care about my academic and personal success						
						my GPA at OSU to be at least as high as my CSC GPA						
						academic advisors to accessible						
						faculty to be accessible						
						to make many new friends						
						to be active in student clubs and organizations						
						to have difficulty balancing social activities and study time						
						small class size						
						no difficulty finding my way around campus						
						to encounter financial difficulty						
						my plan of studies to help me achieve my career goals						

14. Check the box that best describes your intended major upon leaving CSC and OSU. Please mark only <u>one</u> box per side. If your main objective was to enter the College Veterinary Medicine, mark the "Pre-Vet" box where appropriate.

Upon Entering	CSC MAJOR	Upon Leaving
	Undecided	
	Agricultural Communications	
	Agricultural Economics	
	Agec-AgEd Double	
	Agricultural Education	
	Agronomy	
	Animal Science	
	Pre-Vet	
	Other _____	

Upon Entering	OSU MAJOR	Upon Leaving
	Undecided	
	Agricultural Communications	
	Agricultural Economics	
	Agec-AgEd Double	
	Agricultural Education	
	Agronomy	
	Animal Science	
	Pre-Vet	
	Other _____	

15. Rate your satisfaction with the <u>general education courses</u> (math, science, humanities, etc.) you took at CSC.

	Not Satisfied 1	2	3	4	5	Highly Satisfied 6
General Education Courses						

16. Rate your overall satisfaction with CSC's and OSU's role in the transfer process.

CSC Not Satisfied 1	2	3	4	5	Highly Satisfied 6		OSU Not Satisfied 1	2	3	4	5	Highly Satisfied 6
						Overall Satisfaction						

17. Based on your experience, what are your recommendations for the improvement of the transfer process.

18. What should be done to improve the academic success of transfer students?

Comments

APPENDIX C

INSTITUTIONAL REVIEW BOARD APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
INSTITUTIONAL REVIEW BOARD
HUMAN SUBJECTS REVIEW

Date: 08-05-96 **IRB#:** AG-97-001

Proposal Title: A FOLLOW-UP OF AGRICULTURE TRANSFER STUDENTS FROM CONNERS STATE COLLEGE TO OKLAHOMA STATE UNIVERSITY

Principal Investigator(s): H. Robert Terry, Ronald Ramming

Reviewed and Processed as: Exempt

Approval Status Recommended by Reviewer(s): Approved

ALL APPROVALS MAY BE SUBJECT TO REVIEW BY FULL INSTITUTIONAL REVIEW BOARD AT NEXT MEETING.
APPROVAL STATUS PERIOD VALID FOR ONE CALENDAR YEAR AFTER WHICH A CONTINUATION OR RENEWAL REQUEST IS REQUIRED TO BE SUBMITTED FOR BOARD APPROVAL.
ANY MODIFICATIONS TO APPROVED PROJECT MUST ALSO BE SUBMITTED FOR APPROVAL.

Comments, Modifications/Conditions for Approval or Reasons for Deferral or Disapproval are as follows:

Signature: _____ Date: August 7, 1996

Chair of Institutional Review Board

VITA

Ronald S. Ramming

Candidate for the Degree of

Doctor of Philosophy

Thesis: ASSESSMENTS OF A GROUP OF AGRICULTURAL TRANSFERS FROM CONNORS STATE COLLEGE TO OKLAHOMA STATE UNIVERSITY

Major Field: Agricultural Education

Area of Specialization: Higher Education Administration

Biographical:

Personal Data: Born in Omaha, NB, September 10, 1965, the son of Robert E. and L. Darlene Ramming. Married Gina Renee Bunch June 3, 1995. Son - Robert Steven Ramming, born November 30, 1996.

Education: Graduated from Hinton High School, Hinton, OK, May 1983; received Associate of Science Degree from Connors State College, Warner, OK, May 1985; majored in Animal Science at Oklahoma State University and graduated with a Bachelor of Science Degree in Agriculture in December of 1987; received Master of Science in Animal Science from The University of Tennessee, Knoxville, TN, August 1993; completed the requirements for the Doctor of Philosophy degree in Agricultural Education at Oklahoma State University, Stillwater, OK, July 1997.

Professional Experience: Raised on a diversified livestock and crop farm near Hinton, OK; employed at Oklahoma State University Purebred Swine Center and Animal Science Arena as an undergraduate; Graduate Teaching Fellow and Livestock Judging Team Coach University of Tennessee, Knoxville, 1988 to 1990; Graduate Teaching Associate, Department of Agricultural Education, Communications, and 4-H Youth Development, Oklahoma State University during sabbatical Fall 1996; Agriculture Instructor and Livestock Judging Team Coach, Connors State College, Warner, OK, 1990 to present.