A STUDY OF THE ACADEMIC SUCCESS AND

RETENTION RATE OF LATE REGISTRANTS

AT CENTRAL STATE UNIVERSITY

By

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ACKNOWLEDGEMENTS

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INTRODUCTION

Nature of the Problem

Increased emphasis on accountability of higher
education mandates that higher education administrators
scrutinize the policies and procedures in place on their
campuses for inconsistencies and deficiencies toward
meeting this goal of accountability. As Noel (1985, p. 1)
stated it, "Recent national reports on the status of
education suggest that the key in the 1980s is going to be
quality."

The public, and students particularly, have become
sophisticated consumers questioning not just the quality of
our programs, but the value of possessing the academic
degrees we tout as invaluable. The economic rate of return
on a college education has gone down by fifty percent in
the last fifteen years.

In the State of Oklahoma, the public has been outraged
by misappropriation of funds by higher education,
questionable consultant work by a former Chancellor of the
State Board of Regents for Higher Education, and inequities
in funding between institutions.

Students are carefully evaluating their options and
weighing the costs of education (tuition, housing,

transportation, time, forfeited income, and effort) against the benefits of education (job entry skills, transferable job skills, self-satisfaction, money, upward mobility, status, lifestyle, and respectability).

Compounding the task of selling the value of its product to potential student/clients, higher education is facing a diminishing pool of traditional, college-age students. Declining enrollment has been documented in a number of journals such as the "Chronicle of Higher Education." "The realities of enrollment declines have caused college and university administrators to think in terms of retrenchment and financial exigency. These are unpleasant bywords in the vocabulary of academia" (Dallam, Dawes 1981, p. 151).

In a concerted effort to combat this dwindling traditional resource of students, higher education has increased research in student retention, hired marketing strategists, explored avenues of new student populations, lowered admissions standards, developed evening and weekend programs, negotiated off-campus classroom settings, and in general, have run the gamut from the gimmicks to the highly sophisticated.

As in any mass movement, there exist positive and negative by-products, sometimes unforeseen in the attempt to produce the desired outcome. One by-product of this mass movement which is poignantly at odds with the goal of

accountability is that of late registration. In an attempt to exceed or maintain enrollment levels, institutions have broadened enrollment parameters and permitted increasing numbers of students to enroll progressively later into the semester.

Inconvenience to faculty and staff aside, there exists an alarming concern for the academic success of these students. Ethical standards dictate that educational institutions be concerned with the return their student clients receive for their monetary investment and any state and federal funds endowed to them. Professional judgment must be exercised even at the risk of lower FTEs and decreased budgetary dollars.

The realization that these administrative pressures do exist and will possibly increase indicated a need to assess the seriousness of this problem, outline academic advisement implications, and explore enrollment scheduling strategies to better serve our clients.

Located in a state plagued by poor economic conditions and scandal in higher education and government, Central State University has felt the pressure of enrollment-driven state budgetary processes, public distrust of education, and inadequate fiscal resources. It seemed dually appropriate, therefore, to increase our accountability by insuring that students are not being permitted to enroll at a point in the semester which greatly diminishes their

chances of success, thus taking their money on false pretenses, as well as retaining students once they enroll since the costs of recruiting new students is considerably higher than retaining the current students.

Statement of the Problem

A survey conducted by the Oklahoma Association of Collegiate Registrars and Admissions Officers (1987) showed that of the 47 Oklahoma colleges and universities surveyed, 29 responded which resulted in a 61.7 percent return rate. Of the 29 respondents, 100% permitted students to enroll up to one week after the start of classes, and 72 percent permitted a longer enrollment period (up to 1 - 3 weeks into the semester). The limited number of studies in this area, particularly at the four-year institution level, have indicated the need for further study of the effects of registering late on the academic success and retention rate of students who start classes after the official first day of the semester.

Purpose of the Study

The purpose of this study was to compare the academic success and retention rate of students who enrolled the week before classes begin with students who enrolled during weeks one, two, and three of the semester.

Research Questions

To accomplish the stated purpose, the following research questions were investigated:

1. Do students' grades relate to the time of enrollment?

2. Do late registrants' success rates relate to the academic college in which they enroll?

3. Are there student characteristic patterns of late enrollees which have implications for enrollment management?

4. What is the retention rate of these early and late enrollees for the next semester?

Assumptions

The following assumptions were made:

1. The grades by which academic success was measured are based on the grading system of each instructor being fundamentally the same where achievements can be measured by the conventional course grading system of A, B, C, D, F, X, I, P, S,and W in which A is given a numerical value of 4, B has the value 3, C has the value 2, D has the value 1, F has the value zero, X is non-punitive and assigned to students who fail to officially withdraw but do not attend class after mid-term, I is non-punitive and assigned to students who are passing the course but are unable to complete the

course due to unavoidable circumstances. P and S
indicate passing/satisfactory completion of course
requirements. These courses are not used in grade
point average computation. W is a non-punitive
student-initiated drop or withdrawal from the course.
Students who audit courses receive no grade; however,
the designation AUDIT does appear on their academic
transcript.

The following grades were introduced into the grading
system effective Fall 1988: M - missing (used when an
instructor fails to submit final grades by the
published deadline), T - retake (used when a student
fails to obtain the skill level necessary to advance
from a 0-level developmental course to the next level
course), AUD-X - student did not meet the instructor's
attendance requirements for an audit. M, T and AUD-X
are non-punitive, thus are not used in grade point
average computation.

2. Grades, as defined in assumption #1, are a valid
indicator of academic success.

Limitations

The study was limited by the following factors:

1. Possible differences in grading standards among
teachers were not considered. Caution should be
exercised when assuming that a certain grade made would

have been the same under a different instructor.

2. Possible differences in particular methods of
    instruction among teachers were not considered.
    Caution should be exercised when assuming that a
    certain grade made would have been the same under a
    different instructor.

3. Varying levels of motivation among students were not
    considered. Caution should be exercised when assuming
    that all students would perform the same way or were
    equitably challenged.

4. Varying levels of capabilities among students were not
    considered. Caution should be exercised when assuming
    that all students would be capable of performing the
    same way.

5. Fall 1988 graduates were included in the retention rate
    figures cited, even though they successfully completed
    their degree programs and were not considered drop-outs
    or stop-outs. Their inclusion was based on the number
    of graduates who remain at the university to pursue
    graduate study. To maintain consistency, they were
    included in both the overall university retention rate,
    as well as the retention rate of the students studied.

Institutional Profile

Central State University is a four-year, public institution
which falls in the middle of the three-tier system of state
supported institutions (junior colleges, regional colleges,
two comprehensive research universities).

Founded:	December 24, 1890
Location:	Two hundred acre campus in Edmond, Oklahoma, twelve miles north of downtown Oklahoma City
Enrollment:	14,378 Total Headcount: 10,940 undergraduates, 3,438 graduates
Faculty:	Approximately 322 full time professors are employed by the University. An additional 172 professionals from the community instruct as adjunct faculty.
Student/Faculty Ratio:	30:1
Student Population:	Average age: 28.5 Students are represented from 44 states and 73 foreign countries.
Degrees:	CSU offers three certificate programs, eight pre-professional programs, 59 bachelor degree programs with 112 options, and 22 master degree programs with 75 options.
Academic Calendar:	Semester system (16-week Fall and Spring) 8-week summer session (June and July)
Library:	The University Library Collection numbers some 750,000 volumes of books, microforms, period-icals, and government documents. All materials can be located through the aid of the computerized library catalog.
Organizations:	Over 90 active student clubs and organizations.
Athletics:	Member of NAIA/NCAA Division II (Lone Star Conference)
Accreditation:	North Central Association of Colleges and Schools, as well as additional national accreditation and professional affiliations awarded to departmental programs
Academic Colleges:	College of Business Administration College of Education College of Liberal Arts College of Mathematics and Science

Definitions of Terms

1. Academic Success Rate - attainment of passing grades and

    completion of coursework

2. FTE - full-time enrollment equivalency, generally used

    for reporting purposes. In Oklahoma, fifteen

    credit hours of study equals one FTE for the

fall/spring semesters, 7.5 credit hours of study

equals one FTE for the summer session.

3. Late Registrant - one who enrolls for coursework after

the official beginning of the semester.

4. Late Registration - the processing of enrolling students

for coursework after the official beginning of

the semester.

5. Mid-term - the halfway point in the semester.

Fall/Spring = 8 weeks; summer session = 4 weeks.

6. Semester credit hour - a unit of credit awarded per

course for sucessful completion, the accumulation

of which is necessary for earning an academic

degree. One semester credit hour is based on 50

contact minutes per week of instruction time each

week during a sixteen week semester exclusive of

orientation, holiday, or break time.

7. Student Retention Rate - the percent of students who

enroll and are retained at the institution from

one semester until the next until such time that

they graduate from the institution. It could be

argued that students who meet their educational

goals, which may are may not include earning a

degree, should be considered the same as those

who graduate. For the purpose of this study,

student retention rate will refer to those

students who enrolled for the Fall 1988 semester
and re-enrolled for the Spring 1989 semester.

Scope of the Study

This study included all students who enrolled at
Central State University during one week prior to the
beginning of the Fall 1988 semester (August 15 - 19),
students who enrolled during week one (August 22 - 26) of
the semester, students who enrolled during week two (August
29 - September 2), and student who enrolled during week
three (September 5 - 9).

CHAPTER II

REVIEW OF THE LITERATURE

Overview

This review presents information on the effects of
registering late on the academic success and retention rate
of students. Indirectly related, yet pertinent, literature
has been used due to the limited availability of directly
related literature. The literature has been divided into
the following categories related to this study for
presentation: (1) Demographics of Late Registrants, (2)
Identification of Factors Affecting Late Registrants, (3)
Academic Performance of Late Registrants, (4) Summary of
Findings, (5) Factors Affecting Academic Success, (6)
Factors Affecting Student Retention.

It was interesting to note that the limited number of
previous studies found on late registration were all two-
year institution specific. This is not surprising since,
traditionally, four-year institutions have had stricter
deadlines and admissions standards which they have adhered
to until recent years. Declining enrollments, as well as
the fact that two-year institutions have by nature been
more responsive to student needs and have directed their
efforts to the more non-traditional or less academically
prepared students, have attributed to the evolvement of

their open door admissions policies.

Demographics of Late Registrants

Sova (1986, p. 16) described this group as:

> ...a high risk population that is very easy to identify. The late admits, despite their high risk factor, are less likely to receive needed assistance as they enroll. Because they enter late, they miss hearing about or receiving help from the very student services designed to increase student success and persistence: orientation, placement testing, academic advising, counseling, financial aid advice.

She continued by pointing out that late admits were basically short-sighted, possibly impulsive, and irresponsible concerning their enrollment. Her study showed that 50 percent of the late admits in her study did not complete their courses, yet only 19 percent of them took responsibility for their enrollments by withdrawing, which would have resulted in a non-punitive grade.

Peterson (1986, p. 8) presented a similar description when she said,

> The problem of the late applicant really may be the problem of the undecided, undirected student, who is just out of high school and undecided about career objectives. The late applicant, as evidenced by this study, is also the student who needs remediation.

On the other hand, Stein (1984, p. 4), portrayed a different picture, not just the wet-behind-the-ears rookie freshman, but a variety of students with different academic backgrounds and goals. Her study indicated that:

> Of the 335 students who registered for winter
> quarter during this period, 175, or 52.7 percent,
> were new students. They included special students
> not interested in a degree and part- and full-time
> degree seeking students comprising both transfer and
> first-time college students.

A gaping hole still exists regarding the miniscule information available on the demographics of late registrants. Ironically, each of these studies included specific recommendations for this group labeled late registrants, yet they had not fully identified the late registrant. The content and appropriateness of the programs they recommended could, and generally should, vary greatly depending on the past academic and curricular preparation of the student, age of the student, ethnic background, student's goals, and admission type (first-time freshman, transfer student, graduate student - first semester at their institution, or graduate student - received bachelor's degree there and continuing on).

For example, a graduate student balancing work responsibilities, family responsibilities, civic or church responsibilities, and the logistics of travelling from one to the other, will wait until all are sufficiently balanced before adding academic responsibilities. For this student, late registration is a necessary option which allows the flexibility an adult, graduate student needs.

On the other hand, age alone cannot be a factor. An adult returning to school after a decade, possibly in mid-

life transition, probably needs individualized academic and career counseling, as well as other student and faculty services.

Hartnagel and Union (1985, p. 9) identified a potential group of late registrants when they noted that "The Admissions Office operates on a rolling admissions basis, which is especially important because the adult student tends to apply later in the year than the traditional student." They cited a number of reasons for this, some of which may have definite implications for late registrants: (1) Fear that they are too old to learn, (2) Apprehension of being ill-prepared academically, often because of a less than perfect high school record, (3) Unsure of their capabilities to perform at the college level, (4) Anxiety as to whether college work taken long ago will still count, (5) Fear of balancing family and job with school, and (6) Uncertainty as to where to begin.

In order to accurately assess students' needs compared to institutional services rendered, one must first identify the population and know who the students are. Retention studies reveal the most effective retention strategies are those that focus on serving specific student populations; such as, women returning to college, academically underprepared students, students who commute, first-generation college students, students with uncertain academic goals/aspirations, or low-income students.

Identification of Factors Affecting
Late Registrants

Courseload was determined to be the most crucial factor affecting late registrants. Stein (1984) concluded that students taking 1 - 7 credit hours were more successful than those students taking 8 - 11 credit hours or 12+ credit hours. Peterson (1986) concurred, though more conservatively, with the highest success rate attributed to those students carrying 1 - 3 credit hours.

This suggests academic advisors need to counsel students to look at contributing factors, in addition to fulfilling pre-requisites, or course selection based primarily on availability. Students perhaps have a misconception of an adequate courseload, which is sometimes forced by financial aid or veteran requirements to be a full-time student to be eligible for monetary assistance.

Another factor which surfaced as relevant was the type of course in which the student enrolled. Peterson (1986) discovered that students enrolled in vocational courses were more successful than enrollments in liberal arts courses. She attributed this in part to the supportive peer group in shop areas and longer class contact hours.

Academic Performance of Late
Registrants

Overall, the general consensus was that late registrants, as nebulously defined, perform at a lower

level of academic success as measured by course completion and assigned grades, than students who enroll in the prescribed timeframe for regular enrollment.

Sova (1986) compared the academic performance of regular admits and late admits in all ENG 090 (Basic Language Skills) and ENG 110 (Written Expression I) classes since virtually all first semester freshmen enroll in one or the other. Enrollment is based on academic placement testing. The academic success rate in the study by Sova (1986, p. 13, Table 4) showed a significant variance between the regular admits and the late admits as shown below in Table I:

TABLE I

FINAL GRADE COMPARISON, REGULAR
AND LATE ADMITS

	Regular Admits	Late Admits
Enrolled	1439	234
Passed	1167 (81.10%)	118 (50.43%)
Failed	27 (1.88%)	63 (26.92%)
Withdrew	230 (15.98%)	45 (19.23%)
Incomplete	15 (1.04%)	8 (3.42%)

It was not known how many of the F grades were truly earned or indicative of an unofficial withdrawal (cessation of class without officially processing a withdrawal). There were no statistics given on the retention of these students for the next semester.

Late registrants in the study by Stein (1984) tended toward extremes, with 28.0 percent earning a 4.0 grade point average, 30.8 percent earning 0.0 grade point average, and 18.3 percent with no academic record due to failure to pay fees. Retention rate for the next quarter was 23.4 percent which calculates the attrition rate to be 76.6 percent. Compared to previous retention studies completed at the institution in 1973, 1976 and 1979, the attrition rate was almost double for the late registrants.

Working with a smaller population than the other two studies, Peterson (1986) had the highest retention rate of all at 88.2 percent. The 99 late registrants attempted 214 courses with 152 courses completed.

Literature Findings

The three studies relating to two-year post-secondary institutions all recognized that late registrants were a high risk group which warranted strong recommendations with one underlying theme -target late registrants for special assistance. Better communication about available services is vital to the success and retention of these students.

Late registrants according to these previous studies, need help in clarifying their academic and career goals, appropriate course selection, location of facilities, university policies and procedures, and availability of tutoring services. Orientation and assessment/placement testing, preferably mandatory, were also unanimous recommendations, as well as programs such as STEP (Special Transitional Enrichment Program) which is part of the EOP (Educational Opportunity Program) now in place at the University of California at Davis.

Factors Affecting Academic Success

One must look at the reasons students choose to attend college for insight into the motivational factors behind academic success. Trent (1970) established that this decision results from a complicated interaction of external and internal factors or forces. Anderson (1985) using a theoretical model pioneered by Lewin (1951) to analyze the forces that promote or impede the fulfillment of students' goals.

Among the external forces that may influence students' decisions to attend college are: (1) parents' perceptions of the value of a college education, (2) peers/friends' perceptions and intentions toward a college education, (3) cultural values, (4) information received on the benefits of attending college, (5) community exposure to college

educated persons, (6) teachers and counselors communicated perceptions of students' capabilities, and (7) information received on how to be admitted to college, availability of financial aid, and opportunities for personal growth.

Internal forces which affect students' decisions to attend college are: (1) adequate academic skills, (2) motivation to succeed, (3) personal interest in obtaining a college degree, (4) career aspirations which require a college redential/education, (5) enjoyment of learning, (6) self-confidence, (7) recognition of the value of a college education, and (8) positive feedback or strong identification with college educated persons.

Anderson (1985, pp.46-47) cautioned against over-optimism by mentioning that 40 percent of students who enter higher education never attain a bachelor's degree. He presented six obstacles and requirements exacted by higher education which act as stumbling blocks for students:

1. Completing institutional procedures -- applying for admission, registering, enrolling in classes, filing petitions, obtaining financial aid, procuring campus housing, and so on.

2. Selecting appropriate courses -- fulfilling graduation requirements by completing 45-60 courses in proper sequence and combination.

3. Reading and analyzing college-level texts -- informal surveys indicate that a college student is assigned from 24,000 to 40,000 pages of reading in courses leading to the bachelor's degree.

4. Achieving on tests -- taking and achieving on

examinations, estimated by informal surveys to number from 100 to 200.

5. Completing library research and written assignments -- meeting academic standards, and professors' expectations.

6. Performing in laboratories and studios and completing other out-of-class assignments -- demonstrating ability and motivation and budgeting time.

These obstacles and requirements would seem insurmountable and intimidating to all but the best academically prepared, self-confident individual -- image the perceptions of students who fit in one or more of the following categories: academically unprepared, low-income, minority, non-traditional adult learners, students with undecided career goals.

Coupled with this are a variety of external and internal forces working against academic success. Anderson (1985) lists the negative external forces as (1) lack of money, (2) difficulties with housing/roommates, (3) transportation problems, (4) work demands and conflicts, (5) social demands which distract from the educational process, (6) discrimination - ethnic or gender, (7) rejection by family or friends, and (8) family obligations.

The negative internal forces proposed by Anderson (1985) clearly delineate into two areas: (1) self-defeating perceptions and behavior patterns and (2)confusion or indecision. Specifically, they were procrastination,

loneliness, not asserting needs and problems, self-doubt,
fears of failure, fears of success, fears of rejection,
value conflicts, career indecision, and boredom.

These factors, if not all, at least in part, affect
each student enrolling at institutions of higher education.
They have extensive implications for academic advising --
one of the needs cited most often in the studies of the
late registrant.

Factors Affecting Student Retention

There are many variables that affect
retention/attrition, and it is likely that the complex
configuration of factors that cause students to withdraw
also, in some cases, cause them to enroll late.

Noel (1985) identified seven major themes of
attrition: (1) academic boredom, (2) uncertainty about what
to study, (3) transition/adjustment problems, (4) limited
and/or unrealistic expectations of college, (5) academic
underpreparedness, (6) incompatibility between students and
institutions, and (7) irrelevancy of instructional design
and course content to future goals and adult societal
roles.

Myers (1981) observed that 50 percent of students who
drop out during their freshman year (not between
semesters), drop out during the first six weeks.

Noel (1985, p. 21) succinctly stated that:

> A key step in improving retention is then
> recognition of the fact that those first sessions
> taught in freshman courses are probably the most
> important class sessions students will encounter
> during their college days.

This further emphasizes the need for accountability to the late registrant, who oftentimes may have missed those crucial first sessions.

Summary

In summary, the research is limited, the demographics virtually unknown, with a number of variables unidentified. There are no conclusive findings, particularly at the four-year college/university level, concerning this ever-present population of late registrants. The review of literature has led to far more questions than answers, and points out that the majority of our policies and procedures concerning registration may not be taking into account all of the important elements.

CHAPTER III

METHODS AND PROCEDURES

Selection of the Population

The purpose of this study was to compare the academic
success and retention rate of students who enrolled the
week before classes begin with students who enrolled during
weeks one, two, and three of the semester.

Collection of Data

The following demographic data was requested from the
Central State University computer center and supplied on a
high density 5 1/4" floppy disk: 1) SS#, 2) last name/first
name, 3) classification - fr/soph/jr/sr/grad, 4) major, 5)
gender, 6) race, 7) birthdate, 8) original admission date,
9) current admission type, 10) original date of enrollment
in the fall 1988 semester, 11) number of undergraduate
hours enrolled in, 12) number of graduate hours enrolled
in, 13) number of undergraduate hours completed, 14)
permanent address street/city/state/zip code, 15)
undergraduate gpa, 16) graduate gpa, 17) marital status,
18) nationality international student/American student.

The parameters for the population used were all
students who enrolled from one week prior to the start of

classes for the Fall 1988 semester to the end of the third week of the semester. For the Fall 1988 semester, this would be August 15 through September 9. There were 3,529 students in the total population (universe). Descriptive statistics were compiled on the entire population. The t-test used for research question #1 and the ANOVA used for research question #2 used a population of 3,409. Students who successfully audited, earned P or S grades, or received only I grades where deleted from these compilations because the resulting semester grade point average was 0.00 and would have skewed the data. These grades were not intended to be used in grade point average calculation.

Hypotheses

Research question number one, (Do students' grades relate to the time of enrollment?) was answered by testing the following hypotheses using the "t" test with the level of significance .05.

Hypothesis #1 – There is no significant difference in the academic success between students who enrolled the week before the semester begins and students who enrolled the first week of the semester. Group one mean is going to be equal to group two mean.

Hypothesis #2 – There is no significant difference in the academic success between students who enrolled the week

before the semester begins and students who enrolled the second week of the emester. Group one mean is going to be equal to group two mean.

Hypothesis #3 - There is no significant difference in the academic success between students who enrolled the week before the semester begins and students who enrolled the third week of the semester. Group one mean is going to be equal to group two mean.

Hypothesis #4 - There is no significant difference in the academic success between students who enrolled the first week of the semester and students who enrolled the second week of the semester. Group one mean is going to be equal to group two mean.

Hypothesis #5 - There is no significant difference in the academic success between students who enrolled the first week of the semester and students who enrolled the third week of the semester. Group one mean is going to be equal to group two mean.

Hypothesis #6 - There is no significant difference in the academic success between students who enrolled the second week of the semester and students who enrolled the third week of the semester. Group one mean is going to be equal to group two mean.

Academic success was measured by semester grade point average. Dallam and Dawes (1981) tracked Fall 1974 first-time freshmen through nine consecutive semesters through

Spring 1979 and discovered in their study on student retention that the first semester GPA was the most potent predictor of graduation (correlation .68).

Research question #2, (Do late registrants' success rates relate with the academic college in which they enroll?) was answered by using a single classification analysis of variance, with academic success as the dependent variable and academic college of enrollment as the independent variable.

Hypothesis #7 - There is no significant difference in the academic success of students between academic college of enrollment. Group one mean is going to be equal to group two mean.

Research question #3, (Are there student characteristic patterns of late enrollees which have implications for enrollment management?) was answered using the descriptive statistics gathered from the demographic data stored in the computer center.

Research question #4, (What is the retention rate of these early and late enrollees for the next semester?) was answered by determining which students in the population enrolled for the next semester, Spring 1989.

Data Analysis

Data was downloaded from the CSU mainframe computer by computer center personnel onto a high density 5 1/4" floppy

disk, then uploaded into a Dell System 200 microcomputer with a 80286 processor, which ran at 12.5 megahertz with a 40 megabyte hard drive and 1152k memory.

The data was loaded into R:BASE, version 2 (R:BASE) Statistical computation and tables were processed using Lotus 1-2-3, version 2 (Lotus 1-2-3). The statistical formulas used for analysis of data were the t-test (Popham), single-classification analysis of variance (Popham), and descriptive statistics of cross-tabulation, tabulation, frequencies, means and percentages. As Key explained:

> The primary use of descriptive statistics is to describe information or data through the use of numbers. The characteristics of groups of numbers representing information or data are called descriptive statistics. Descriptive statistics are used to describe groups of numerical data such as test scores, numbers or hours of instruction, or the number of students enrolled in a particular course (Key).

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

Presented in this chapter are the results of the
statistical analyses for the hypotheses formulated in this
study. From the outset, the major emphasis of this study
has been to compare the academic success and retention rate
of students who enrolled the week before classes began in
the Fall 1988 semester with students who enrolled during
weeks one, two and three of the semester. This goal was
to be accomplished through the investigation of four
research questions, and the results are reported in this
chapter in the order of the research questions and the
corresponding null hypotheses where appropriate.

Research Question #1

Research question #1, (Do students' grades relate to
the time of enrollment?) was answered by hypotheses one,
two, three, four, five and six. Statistical analyses for
hypotheses one through six is shown in Table II on page 33.

Hypothesis #1 stated that there is no significant
difference in the academic success between students who
enrolled the week before the semester begins and students
who enrolled the first week of the semester. The t-test

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used to test Hypothesis #1 produced a t value of 5.83148. This exceeded the tabled t values of 1.645 and 2.326 necessary to show a significant relationship at the .05 and the .01 levels of confidence; therefore, the hypothesis was rejected. It was concluded that students who enrolled the week before classes began performed significantly better academically, as represented by their semester grade point averages, than did those students who enrolled the first week of the semester.

Hypothesis #2 stated that there is no significant difference in the academic success between students who enrolled the week before the semester begins and students who enrolled the second week of the semester. The t-test used to test Hypothesis #2 produced a t value of 2.78792. This exceeded the tabled t values of 1.645 and 2.326 necessary to show a significant relationship at the .05 and the .01 levels of confidence. It was concluded that students who enrolled the week before classes began performed significantly better academically, as represented by their semester grade point averages, than did those students who enrolled the second week of the semester. Hypothesis #2 was rejected.

Hypothesis #3 stated that there is no significant difference in the academic success between students who enrolled the week before the semester begins and students who enrolled the third week of the semester. The t-test

used to test Hypothesis #3 produced a t value of 2.48883. This exceeded the tabled t values of 1.645 and 2.326 necessary to show a significant relationship at the .05 and the .01 levels of confidence. It was concluded that students who enrolled the week before classes began performed significantly better academically, as represented by their semester grade point averages, than did those students who enrolled the third week of the semester. Hypothesis #3 was rejected.

Hypothesis #4 stated that there is no significant difference in the academic success between students who enrolled the first week of the semester and students who enrolled the second week of the semester. The t-test used to test Hypothesis #4 produced a t value of -0.96747. This t value was less than the tabled t values of 1.645 and 2.326 necessary to show a significant relationship at the .05 and the .01 levels of confidence. It was concluded that there was no significant difference in academic performance, as measured by semester grade point averages, between students who enrolled the first week of the semester and students who enrolled the second week of the semester. Hypothesis #4 was accepted.

Hypothesis #5 stated that there is no significant difference in the academic success between students who enrolled the first week of the semester and students who enrolled the third week of the semester. The t-test used

to test Hypothesis #5 produced a t value of 0.18759. This t value was less than the tabled tvalue of 2.326 necessary to show a significant relationship at the .01 level of confidence; however, it exceeded the tabled t value of 1.645 necessary to show a significant relationship at the .05 level of confidence. As stated in the hypotheses section of Chapter III, the level of significance to be used for this study is .05, consequently, hypothesis #5 is rejected. It was concluded that though the difference was not as great as displayed in earlier hypotheses, there still remains a statistically significant difference in the academic performance, as measured by semester grade point averages, between students who enrolled the first week of the semester and students who enrolled the third week of the semester.

Hypothesis #6 stated that there is no significant difference in the academic success between students who enrolled the second week of the semester and students who enrolled the third week of the semester. The t-test used to test hypothesis #6 produced a t value of 0.71002 which was less than the tabled t values of 1.645 and 2.326 necessary to show a significant relationship at the .05 and .01 levels of confidence. It was concluded that there is no significant difference in the academic performance, as measured by semester grade point averages, between students who enrolled the second week of the semester and students

who enrolled the third week of the semester. Hypothesis #6 was accepted.

Research Question #2

Research question #2, (Do late registrants' success rates relate with the academic college in which they enroll?) was answered by hypothesis #7 using a single classification analysis of variance with academic success as the dependent variable and academic college of enrollment as the independent variable. Regression statistical techniques were used to calculate an F value. The F value obtained was compared with the tabled F value required to indicate a difference at the .05 and .01 levels of confidence as shown in Table III on page 34. The tabled F value .05 level was 2.60 and the .01 level was 3.78. The observed F value was 61.247167, thus Hypothesis #7 was rejected.

TABLE II

SUMMARY OF t-TEST ANALYSIS FOR
HYPOTHESES 1-6:   USING SEMESTER GPA
VS WEEK OF ENROLLMENT

MEAN GPA:
  Week 0 = 2.520   n = 1488   sum (x-xbar)2 =   3086.361
  Week 1 = 2.203   n = 1361   sum (x-xbar)2 =   2893.756
  Week 2 = 2.285   n = 421   sum (x-xbar)2 =   1008.683
  Week 3 = 2.177   n = 139   sum (x-xbar)2 =   340.100

S2 w0 = 2.074   Wk1 standard error = 1.4401
S2 w1 = 2.126   Wk2 standard error = 1.4581
S2 w2 = 2.395   Wk3 standard error = 1.5478
S2 w3 = 2.446   Wk4 standard error = 1.5642

Comparisons:	Degrees of Freedom	Observed t-value	Table t-value df=inf a=.01	Table t-value df=inf a=.05
Week 0 and Week 1:	df= 1423.5	5.83148	2.326	1.645
Week 0 and Week 2:	df = 953.5	2.78792	2.326	1.645
Week 0 and Week 3:	df = 812.5	2.48883	2.236	1.645
Week 1 and Week 2:	df = 891	-0.96747	2.236	1.645
Week 1 and Week 3:	df = 750	0.18759	2.236	1.645
Week 2 and Week 3:	df= 280	0.71002	2.236	1.645

Week 0 = August 15, 1988 - August 19, 1988

Week 1 = August 22, 1988 - August 26, 1988

Week 2 = August 29, 1988 - September 2, 1988

Week 3 = September 5, 1988 - September 9, 1988

TABLE III

ANALYSIS OF VARIANCE (ANOVA)
BETWEEN COLLEGES

MEAN GPA:		N
Business	= 2.132072	1047
Education	= 2.814499	1118
Liberal Arts	= 2.192592	702
Math/Science	= 2.020055	542
GRAND MEAN (GX):	2.289804	TOTAL N 3409

	E(x)	$E(x-x)^2$	$E(x-GX)^2$	$(X-GX)^2 N$
Business	2232.280	2193.739	2219.788	26.049
Education	3146.610	2140.804	2448.594	307.790
Liberal Arts	1539.200	1556.499	1563.133	6.634
Math/Science	1094.870	1148.876	1188.315	39.439

		df	
SS within =	7039.92	3405	within mean sq = 2.0675242
SS Total =	7419.829	3408	ammnsq/wimnsq = 61.247167
SS Among =	379.911	3	among mean sq = 126.63

F.95 w 3 + 3405 df = 2.60

f.99 w 3 + 3405 df = 3.78

F = 61.247167

Research Question #3

Research question #3 was answered by the descriptive statistics shown in Tables IV, V, VI, VII, VIII, IX, X, XII, XII, XIII, XIV, XV, XVI, XVII and XVIII.

Table IV on page 37 describes the undergraduate student population, (freshmen, sophomores, juniors, and seniors combined), comparing the week the students enrolled to the grade point average level (gpalev) the students achieved. Overall, 13.38% of the undergraduates in the population had a 4.00 semester grade point average, 23.45% scored in the 3.00 to 3.99 range, 23.59 in the 2.00 to 2.99 range, 11.7% in the 1.00 to 1.99 range, 3.03% in the 0.01 to 0.99 range, and 24.87% scored a 0.00 semester grade point average.

Table V on page 38 describes the graduate student population, both post-graduate non-degree students, as well as graduate students working toward an advanced degree. 41.45% of the graduate students earned a 4.00, 30.18% scored in the 3.00 to 3.99 range, 6.60% fell in the 2.00 to 2.99 range, 1.47% earned a 1.00 to 1.99, and 20.30% were found at the 0.00 level.

It was interesting to note the number of graduate students with a 0.00 gpa level. There were a variety of reasons which accounted for a student's (undergraduate or graduate) 0.00 gpa level. As displayed in Table VI on page

39, the number of students who enrolled and who achieved a
0.00 gpa level increased per week with the highest
percentage (28.77%) of 0.00 gpa levels attributed to
students who enrolled the third week of the semester.
There were no 0.00 gpa levels based on S grades
(satisfactory completion) for students who enrolled during
week 2 of the semester. There was only one 0.00 gpa level
based on S grades for students who enrolled during the
third week.

Another factor which surfaced in several of the studies
found in the Review of Literature - Chapter II, as being an
important factor was the courseload students attempted.
Table VII on page 40 describes the population comparing the
courseload attempted to the week of enrollment. The study
established that 41.03% of the population enrolled for less
than 1/2 time status, 19.19% enrolled for half-time, 13,38%
enrolled for 3/4 status, and 26.40% enrolled for full-time
status. A total of 12.9% of those who enrolled for full-
time status did so after the first week of classes were
past. Mere conjecture would suggest that these full-time
enrollees might have been on financial aid, and thus need
to maintain full-time enrollment status to insure
compliance with federal or state financial aid
requirements.

Table VIII on page 40 relates the number of students
who enrolled in the various colleges during the

corresponding weeks of enrollment under study. The College of Education had the highest percentage of students who enrolled late, followed closely by the College of Business, then the College of Liberal Arts and Sciences, and lastly, the College of Mathematics and Science.

Table IX on page 41 reflects the ethnic group delination by week enrolled. Table X on page 41 expanded on the ethnic groups in relation to age groups and gender.

TABLE IV

UNDERGRADUATE STUDENTS ENROLLED
WEEK VS. GPA LEVEL

gpalev	Week 0	Week 1	Week 2	Week 3	Total
0.00	210	265	87	29	591
0.01 - 0.99	26	32	11	3	72
1.00 - 1.99	114	131	27	6	278
2.00 - 2.99	223	266	54	17	560
3.00 - 3.99	236	240	62	19	557
4.00	154	103	47	14	318
	963	1037	288	88	2376

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE V

GRADUATE STUDENTS ENROLLED
WEEK VS. GPA LEVEL

| gpalev | Week of Enrollments Studies | | | | |
	Week 0	Week 1	Week 2	Week 3	Total
0.00	95	87	35	17	234
0.01 - 0.99	0	0	0	0	0
1.00 - 1.99	6	7	3	1	17
2.00 - 2.99	173	118	45	12	348
3.00 - 3.99	263	136	58	21	478
4.00					
	570	372	152	59	1153

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE VI

REASON FOR 0.00 SEMESTER GPA
BY WEEK ENROLLED

Reason	Week 0	Week 1	Week 2	Week 3	Total
a - audit	16	24	7	3	50
f - failure	39	40	12	5	96
i - incomplete	22	17	12	4	55
s - all S grades	7	7	0	1	15
w - withdrew	149	185	64	21	419
x - early drop	39	37	14	6	96
Total 0.00 gpas	272	310	109	40	731
0 - gpa > 0.00	1261	1099	331	107	2798
Total Population	1533	1409	440	147	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE VII

FULL-TIME/PART-TIME STATUS
BY WEEK ENROLLED

Courseload	Week 0	Week 1	Week 2	Week 3	Total
full-time	333	479	94	26	932
3/4 time	212	186	53	21	472
half-time	316	252	80	29	677
< half-time	672	492	213	71	1448
	1533	1409	440	147	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE VIII

WEEK ENROLLED BY MAJOR COLLEGE

Week	BUS	EDUC	LAS	M&S	Total
Week 0	474	510	294	255	1533
Week 1	443	420	315	231	1409
Week 2	117	177	90	56	440
Week 3	40	49	43	15	147
	1074	1156	742	557	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE IX

WEEK ENROLLED BY ETHNIC GROUPS

Week	Cauc	Black	Hisp	Asian	AmerInd	Intl	Total
Week 0	1221	128	17	30	33	104	1533
Week 1	1068	158	28	22	27	106	1409
Week 2	325	51	19	6	10	29	440
Week 3	103	19	2	2	5	16	147
	2717	356	66	60	75	255	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE X

A CROSS-TABULATION OF AGE/GENDER/
ETHNIC GROUPS

	< 21		21-25		26-30		31-35		36-40		> 40	
ETHNIC	M	F	M	F	M	F	M	F	M	F	M	F
Caus	212	190	418	333	232	248	166	205	114	114	165	262
Black	29	49	58	55	19	31	23	26	10	10	14	18
Hisp	5	3	10	7	7	9	2	6	5	5	1	8
Asian	5	2	8	7	10	6	5	4	4	4	5	4
AmInd	10	4	12	8	5	10	1	5	3	3	4	7
Intl	16	14	85	28	59	11	23	8	4	4	3	1

It was disturbing to note in Table XI on page 43 that the largest sub-group of our population were freshmen, since the studies showed them to be a high-risk group. Table XII on page 44 indicated a parity in the number of male vs. female.

Table XIII on page 45 viewed the population from the aspect of the admission type employed to determine the student's admissibility to CSU. There largest sub-group was identified as students who have previously attended Central State University, stopped out, and returned to CSU without new transfer credits, which indicates they have not attended school during their separation from CSU.

Table XIV on page 46 studied marital status as it related to the week of enrollment. Single students outdistanced the closest competitor, married students, by a ratio of 2:1.

Table XV on page 46 dealt exclusively with age groups and the week of enrollment. Age group data was presented in Table X on page 41 in conjunction with the factors of gender and ethnic groups. Table XV data on page 46 reveals that 15.3% of the population was under 21, 29.1% were 21-25, 18.3% were 26-30, 13.5% were 31-35, 9.9% were 35-40,, and 13.9% were over the age of 40.

Tables XVI, XVII and XVIII (on pages 47, 48, and 49 respectively) produced residency information by providing the top ten cities, states, and foreign countries from

whence this population came. Oklahoma City and Edmond were expected to be front runners, with Midwest City in third place; however, it was notable that Yukon was a strong fourth. This was indicative of the lack of a 4-year college or university in close proximity to the Yukon area.

TABLE XI

CLASSIFICATION BY WEEK ENROLLED

Class	Week 0	Week 1	Week 2	Week 3	Total
freshman	331	386	92	24	833
sophomore	197	207	68	12	586
junior	235	247	68	22	572
senior	200	197	60	30	487
post-grad (uncl)	251	174	64	30	519
post-grad (clas)	56	42	21	3	122
graduate student	263	156	67	26	512
	1533	1409	440	147	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE XII

GENDER BY WEEK ENROLLED

Gender	Week 0	Week 1	Week 2	Week 3	Total
female	804	682	229	62	1777
male	729	727	211	85	1752
	1533	1409	440	147	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE XIII

ADMISSION TYPE BY WEEK ENROLLED

Admtype	Week 0	Week 1	Week 2	Week 3	Total
11	385	342	100	38	865
12	376	371	87	29	863
13	11	12	0	1	24
14	13	12	3	0	28
15	0	1	1	0	2
16	31	49	12	3	95
17	8	7	3	1	19
18	558	432	124	44	1158
19	78	101	28	4	211
21	42	40	37	10	129
23	4	7	0	0	11
31	1	0	20	0	21
32	17	14	22	15	68
33	9	21	2	2	34
34	0	0	1	0	1
	1533	1409	440	147	3529

Admission Types:

11 - high school grad/post-grad
12 - transfer from another institution of higher education
13 - probationary   14 - 5% waiver   15 - summer probation
16 - adult specials   17 - Tinker
18 - readmit with no new transfer credits
19 - readmit with new transfer credits
21 - single enrollment
23 - high school concurrent enrollment
31 - wkshps/inst/tours   32 - talkback t.v.
33 - audit only   34 - correspondence study only

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE XIV

MARITAL STATUS BY WEEK ENROLLED

marital	Week 0	Week 1	Week 2	Week 3	Total
1-single	923	1013	287	100	2323
2-married	588	383	149	46	1166
3-divorced	6	4	0	0	10
5-separated	1	1	0	0	2
0-didn't report	15	8	4	1	28
	1533	1409	440	147	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE XV

WEEK ENROLLED BY AGE GROUPS

Week	< 21	21-25	26-30	31-35	35-40	> 40	Total
Week 0	217	390	323	216	167	220	1533
Week 1	259	473	233	171	121	152	1409
Week 2	53	119	69	68	44	87	440
Week 3	10	47	22	19	16	33	147
	539	1029	647	474	348	492	3529

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE   XVI

RESIDENCY (TOP TEN CITIES)
BY WEEK ENROLLED

city	Week 0	Week 1	Week 2	Week 3	Total
Bethany	21	17	10	1	49
Del City	19	17	7	0	43
Edmond	350	324	60	29	763
Guthrie	29	30	10	7	76
Midwest City	50	42	17	5	114
Moore	30	12	14	2	58
Mustang	10	4	2	2	18
Norman	20	28	15	3	66
Oklahoma City	615	518	172	53	1358
Yukon	44	37	4	0	85
	1188	1029	311	102	2630

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE XVII

RESIDENCY (TOP TEN STATES)
BY WEEK ENROLLED

state	Week 0	Week 1	Week 2	Week 3	Total
Arizona	1	0	0	0	1
Arkansas	0	2	0	0	2
California	3	2	0	0	5
Colorado	1	1	1	1	4
Kansas	1	1	6	0	8
Missouri	0	2	1	0	3
New Mexico	3	1	0	0	4
Ohio	1	0	2	0	3
Oklahoma	1431	1297	405	133	3266
Texas	7	11	4	1	23
	1448	1317	419	135	3319

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

TABLE XVIII

RESIDENCY (TOP TEN FOREIGN COUNTRIES)
BY WEEK ENROLLED

Country	Week 0	Week 1	Week 2	Week 3	Total
Arabia	1	5	1	0	7
Bangladesh	7	4	0	0	11
Iran	3	3	0	2	8
Japan	3	1	2	0	6
Kuwait	3	3	0	2	8
Malaysia	15	15	2	1	33
Nigeria	2	4	0	1	7
Pakistan	8	10	0	1	19
PROC	2	2	1	2	7
Thailand	8	3	0	0	11
	52	50	6	9	117

Week 0 = Week before classes started
Week 1 = First week of classes
Week 2 = Second week of classes
Week 3 = Third week of classes

Research Question #4

Research question #4, (What is the retention rate of these early and late enrollees for the next semester?) was answered by checking the social security numbers of the population with the on-line, mainframe enrollment records. It was found that of the 3529 students, 1926 re-enrolled for the Spring 1989 semester. This produced a one-semester retention rate of 54.57%, as compared to a one-semester retention rate of 67% for the university's total Fall 1988 first-time student population.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS,
AND RECOMMENDATIONS

This chapter includes a summary of the study,
discussion of the general conclusions derived from the
study, and recommendations for future research.

Summary

The central issue of this study was to compare the
academic success rate, as measured by the semester grade
point average, of students who enrolled the week prior to
the start of classes, to students who enrolled the first,
second, and third weeks of classes. Four research
questions, with seven corresponding hypotheses, were
developed to study this issue. The statistical methods
used were t-test (one-tailed), ANOVA, and descriptive
statistics. Hypotheses #1, #2, #3, #5, and #7 were
rejected. Hypotheses #4 and #6 were accepted.

Findings

The research produced the following findings:
1.   Students who enrolled the week before the beginning of
classes in the semester had significantly higher semester
grade point averages than those students who enrolled the

first week of the semester.

2.   Students who enrolled the week before the beginning of classes in the semester had significantly higher semester grade point averages than those students who enrolled the second week of the semester.

3.   Students who enrolled the week before the beginning of classes in the semester had significantly higher semester grade point averages than students who enrolled the third week of the semester.

4.   There was no significant difference in the semester grade point averages of those students who enrolled the first week of classes compared to students who enrolled the second week of classes.

5.   Students who enrolled the first week of classes had significantly higher semester grade point averages than students who enrolled the third week of classes.

6.   There was no significant difference in the semester grade point averages of those students who enrolled the second week of classes compared to those students who enrolled the third week of classes.

7.   There was a significant difference in the semester grade point averages of the students studied based on 2 comparisons between the academic colleges. Late registrants in the College of Education achieved higher grade point averages than did the students who enrolled late in the Colleges of Business, Liberal Arts and

Sciences, and Mathematics and Science.

8.   Descriptive statistics gathered on classification of students showed an disturbingly high percentage of late enrollees were freshmen.

9.   The one-semester retention rate for late registrants was low at 54.57%, compared to the university's one-semester retention rate of 67% for first-time students.

Conclusions

The following conclusions were drawn from the research:

1.   Students who enroll after the start of classes have a lower probability of success as measured by semester grade point averages.

2.   Even though a high percentage of the students had prior college experience, this experience appeared to have little impact on their academic success.

3.   Students should be monitored more closely when they enroll late.

4.   Late registrants comprise a diverse populace with no set of all-encompassing descriptors which stand out to characterize them. Consequently, a variety of methods should be employed in monitoring these students.

Recommendations

The results of this study elicit the following recommendations:

1.   Academic counselors should use the information in this study to target high-risk populations for extensive, individualized advisement.

2.   A number of the students were former CSU students returning without new transfer work, it would beneficial to mail class schedules to any person who has attended Central State University within the last calendar year.   Early receipt of the schedule might intice some of these students to enroll earlier.

3.   Late registration should be limited to the first week of classes.   The study has shown that it is detrimental to students' semester grade point averages to enroll once classes begin.

4.   Permission to register late should be granted by the instructor and the Registrar's office, with limitations on the number of credit hours to be taken.   A student who receives permission to enroll late should be a selected student, i.e., one who has maintained a cumulative 3.0 grade point average, earned a minimum of 36 semester credit hours, and attended CSU previously.

5.   Additional research should be conducted to determine the causal factors behind late registrants at Central State

University. Table XVI on page   showed a number of
students who came from outlying areas such as Yukon and
Guthrie. The number of evening hours available to
enrollment are severely limited at 2 1/2 hours per week,
thus access to the university may be a prohibiting factor.

6.   An admitted student questionnaire or retention survey
would be a logical starting point for further study.

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