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SEASONS OF PRESIDENTIAL LEADERSHIP:  
A MIXED-METHODS STUDY CONTRIBUTING TO A THEORY ON  
INSTITUTIONAL CYCLES IN HIGHER EDUCATION

by

Roger G. Christensen

A DISSERTATION

Presented to the Faculty of  
The Graduate College at the University of Nebraska  
In Partial Fulfillment of Requirements  
For the Degree of Doctor of Philosophy

Major: Educational Studies  
(Educational Leadership in Higher Education)

Under the Supervision of Professor Sheldon L. Stick

Lincoln, Nebraska

August, 2007

SEASONS OF PRESIDENTIAL LEADERSHIP:  
A MIXED-METHODS STUDY CONTRIBUTING TO A THEORY ON  
INSTITUTIONAL CYCLES IN HIGHER EDUCATION

Roger G. Christensen, Ph.D.

University of Nebraska, 2007

Advisor: Sheldon L. Stick

Studying higher education leadership is particularly useful when considered at different periods of an institution's history; the kind of leader needed to head a major college or university will be different during different time periods. An important factor in identifying a leader for any institution is finding one qualified to lead during a particular stage of institutional development. Neff and Leondar (1992) stated that deriving presidential criteria from an appraisal of an institution's present condition and future prospects was conventional wisdom in theory and largely ignored in practice.

Various writers have suggested understanding institutional cycles was important relative to changes in leadership; however, a definitive characterization or description of specific cycles did not exist in education literature. This study sought to develop a model for higher education based on life-cycle theory as illustrated in business models. Using configurations of institutional characteristics, this study considered various public, not-for-profit institutions over a forty-year period and provided a general framework for understanding the nature of institutional cycles for colleges and universities.

The general model developed for the study included seven periods across institutional life cycles: (1) formation, (2) development, (3) growth, (4) constancy, (5) decline, (6) renewal, and (7) dissolution. All institutions included in this study were

founded prior to the beginning of the study period (1965) and all still existed at the end of the study period (2005); therefore, formation, development, and dissolution were not fully explored. The other four periods were evident in the enrollment patterns observed for the institutions included in the study.

Five general enrollment patterns were identified and defined: (1) *Constant Growth*, (2) *No Growth*, (3) *Variable Growth*, (4) *Decline*, and (5) *Unstable*. Those patterns resulted from a variety of both internal and external factors which influenced the nature of each institution. Understanding institutional characteristics that contribute to those patterns may be useful in identifying the type of leader needed for a specific time and purpose.

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As one contemplates the concept of a journey, there typically is a beginning and an ending. Although the culmination of this degree is an important component of my formal academic education, it is neither the beginning nor the end of the educational journey, but merely a step along the way.

## TABLE OF CONTENTS

|   |    |
|---|----|
| ACKNOWLEDGEMENTS.....                             | i  |
| TABLE OF CONTENTS.....                            | iv |
| LIST OF TABLES.....                               | ix |
| LIST OF FIGURES.....                              | xi |
| CHAPTER 1 – Introduction.....                     | 1  |
| Preamble.....                                     | 1  |
| Context of the Problem.....                       | 4  |
| Purpose of the Study.....                         | 6  |
| Research Questions.....                           | 7  |
| Assumptions, Delimitations, and Limitations.....  | 8  |
| Assumptions.....                                  | 8  |
| Delimitations.....                                | 8  |
| Limitations.....                                  | 11 |
| Significance of the Study.....                    | 11 |
| Definition of Terms and Use of Acronyms.....      | 12 |
| Summary.....                                      | 15 |
| CHAPTER 2 – Review of the Literature.....         | 17 |
| Overview.....                                     | 17 |
| Literature Search.....                            | 17 |
| Life Cycles of Universities as Organizations..... | 19 |
| Historic Periods.....                             | 19 |
| Colonial Period.....                              | 20 |
| Antebellum Period.....                            | 21 |
| Rise of American Universities.....                | 21 |
| Institutional Diversity and Discrimination.....   | 23 |
| Federalism and Democratization.....               | 25 |
| Continuing Development of Higher Education.....   | 29 |
| Readjustment and Educational Opportunity.....     | 29 |
| Excellence and Equality.....                      | 30 |
| Access and Equity.....                            | 31 |
| Reform and Renewal.....                           | 32 |
| Pluralism and Diversity.....                      | 32 |
| Quality, Diversity, and Accountability.....       | 33 |
| Summary.....                                      | 34 |
| Theories and Models of Life Cycles.....           | 35 |
| Characteristics of Life-cycle Stages.....         | 37 |
| Number of Phases in Life Cycles.....              | 42 |
| Configurations.....                               | 46 |
| Summary.....                                      | 52 |



|  |     |
|--|-----|
| CHAPTER 3 – Methodology.....                         | 53  |
| Rationale for Mixed-Methods Research.....            | 53  |
| Philosophical Assumptions.....                       | 53  |
| Theoretical Framework.....                           | 56  |
| Procedural Issues.....                               | 56  |
| Mixed-Methods Research Design.....                   | 57  |
| Definition of Sequential Explanatory Design.....     | 57  |
| Relationship Between Design and Study Purpose.....   | 58  |
| Sampling Procedures.....                             | 58  |
| Criteria for Selecting Site and Participants.....    | 58  |
| Study Population.....                                | 59  |
| Number of Participants Selected.....                 | 59  |
| Recruitment Procedures.....                          | 63  |
| Data Collection.....                                 | 64  |
| Data Sources.....                                    | 64  |
| Data Collection Procedures.....                      | 66  |
| Pilot Study.....                                     | 66  |
| Quantitative Data Collection.....                    | 67  |
| Qualitative Data Collection.....                     | 70  |
| Data Analysis.....                                   | 70  |
| Quantitative Data.....                               | 70  |
| Initial Preparation of Quantitative Data.....        | 70  |
| Preliminary Exploration of Quantitative Data.....    | 71  |
| Qualitative Data.....                                | 71  |
| Initial Preparation of Qualitative Data.....         | 71  |
| Preliminary Exploration of Qualitative Data.....     | 72  |
| Data Analysis to Address Research Questions.....     | 72  |
| Use of Computer Software.....                        | 73  |
| Mixing.....  | 74  |
| Stages in Research Process where Mixing Occurs.....  | 74  |
| Legitimation.....                                    | 74  |
| Validity and Reliability for Quantitative Phase..... | 74  |
| Verification Procedures for Qualitative Phase.....   | 76  |
| Legitimation Issues in Mixed-Methods Research.....   | 76  |
| Ethical Considerations.....                          | 77  |
| Feasibility and Advantages/Disadvantages.....        | 78  |
| CHAPTER 4 – Results of Pilot.....                    | 80  |
| The Pilot Study.....                                 | 80  |
| Institutional Characteristics.....                   | 81  |
| Analysis and Results.....                            | 84  |
| General Enrollment Patterns.....                     | 84  |
| Enrollment Patterns by Major.....                    | 102 |
| Financial Characteristics.....                       | 107 |
| Organizational Structure.....                        | 118 |
| Historical Highlights.....                           | 119 |
| Summary of Seasons Identified.....                   | 126 |

|  |     |
|--|-----|
| CHAPTER 5 – Discussion of Pilot.....             | 135 |
| Lessons Learned from the Pilot Study.....        | 135 |
| Comments from Expert Panel.....                  | 138 |
| CHAPTER 6 – Results.....                         | 141 |
| Overview.....                                    | 141 |
| Institutional Demographics.....                  | 142 |
| Quantitative Analysis.....                       | 145 |
| General Enrollment Patterns.....                 | 145 |
| Enrollment Patterns by Age.....                  | 149 |
| Enrollment Patterns by Size.....                 | 151 |
| Enrollment Patterns by Geographic Region.....    | 154 |
| Other Enrollment Patterns.....                   | 156 |
| Enrollment by Gender.....                        | 156 |
| Enrollment Race/ethnicity.....                   | 158 |
| Enrollment by Major Area of Study.....           | 162 |
| Financial Characteristics.....                   | 163 |
| Summary of Quantitative Analysis.....            | 168 |
| Qualitative Analysis.....                        | 170 |
| Political Environment.....                       | 173 |
| Diversity.....                                   | 183 |
| New Facilities.....                              | 186 |
| Presidential Timelines.....                      | 189 |
| University #7.....                               | 190 |
| University #21.....                              | 192 |
| University #25.....                              | 194 |
| University #31.....                              | 195 |
| University #41.....                              | 196 |
| University #45.....                              | 197 |
| Summary.....                                     | 198 |
| Summary of Qualitative Analysis.....             | 198 |
| Mixing Quantitative and Qualitative Results..... | 200 |
| Responding to Research Questions.....            | 202 |
| Quantitative Sub-questions.....                  | 202 |
| Qualitative Sub-questions.....                   | 204 |
| Summary.....                                     | 206 |
| CHAPTER 7 – Discussion.....                      | 207 |
| Overview.....                                    | 207 |
| Institutional Demographics.....                  | 208 |
| Quantitative Analysis.....                       | 209 |
| General Enrollment Patterns.....                 | 210 |
| Other Enrollment Patterns.....                   | 211 |
| Financial Characteristics.....                   | 213 |
| Summary of Quantitative Analysis.....            | 214 |
| Qualitative Analysis.....                        | 215 |
| Political Environment.....                       | 215 |
| Diversity.....                                   | 217 |

|  |     |
|--|-----|
| New Facilities .....   | 218 |
| Presidential Timelines.....  | 219 |
| Summary of Qualitative Analysis.....   | 220 |
| Mixing Quantitative and Qualitative Results.....   | 221 |
| Responding to Research Questions.....  | 222 |
| Visual Model.....  | 224 |
| Listing of Conclusions .....   | 229 |
| Future Research .....  | 230 |
| CHAPTER 8 – Summary.....   | 233 |
| Life Cycles in Higher Education.....   | 233 |
| Study Design.....  | 233 |
| Quantitative Phase .....   | 234 |
| Data Collection .....  | 234 |
| Data Analysis .....  | 235 |
| Qualitative Phase .....  | 237 |
| Data Collection .....  | 237 |
| Data Analysis .....  | 237 |
| Findings.....  | 238 |
| Model Contributing to a Theory on Institutional Cycles.....  | 238 |
| REFERENCES .....   | 239 |
| APPENDICES .....   | 251 |
| Appendix A: Institutional Review Board Application .....   | 251 |
| Appendix B: Institutional Review Board Approval.....   | 257 |
| Appendix C: Sequential Explanatory Design Procedures: A Visual Model.....                            | 260 |
| Appendix D: List of Public Universities by Region with Enrollments in Excess of<br>10,000.....       | 262 |
| Appendix E: Curriculum Vitae of Expert Panel .....   | 267 |
| Appendix F: Interview Protocol.....  | 272 |
| Appendix G: Informed Consent Letter .....  | 276 |
| Appendix H: Data Questionnaire Transmittal Letter.....   | 280 |
| Appendix I: Follow-up Postcard (email) .....   | 283 |
| Appendix J: Second Transmittal Cover Letter.....   | 285 |
| Appendix K: Confidentiality Letter .....   | 287 |
| Appendix L: Pilot Study - Enrollment by Area of Concentration .....                                  | 289 |
| Appendix M: Consumer Price Index, 1965-2005 .....  | 293 |
| Appendix N: Pilot Study - Simple Scattergrams of Correlations Identified as<br>Significant.....      | 296 |
| Appendix O: Organizational Structure of Pilot Institution .....                                      | 299 |
| Appendix P: Pilot Study - Themes by Code/Category .....  | 301 |
| Appendix Q: Trends in Total Enrollment for Study Institutions .....                                  | 307 |
| Appendix R: Trends in Enrollment by Gender for Study Institutions .....                              | 328 |
| Appendix S: Chi-square Values for the Percentage of Total Enrollments for Study<br>Institutions..... | 349 |
| Appendix T: Trends in Enrollment by Race/ethnicity for Study Institutions.....                       | 370 |

Appendix U: Sources and Uses of Funding for Study Institutions.....391  
Appendix V: Themes by Code/Category.....422

## LIST OF TABLES

|     |  |     |
|-----|--|-----|
| 2.1 | Comparison of Phases of Various Life-cycle Models.....   | 43  |
| 2.2 | Orientation and Descriptive Dimensions of Life-cycle Models.....   | 50  |
| 3.1 | Regional Accreditation Associations.....   | 60  |
| 3.2 | Stratified Sample Selection for Qualifying Institutions.....   | 63  |
| 4.1 | Characteristics of Pilot Institution.....  | 83  |
| 4.2 | Pilot Study - Descriptive Statistics - Enrollment.....   | 87  |
| 4.3 | Pilot Study - Chi-square Values by Race/ethnicity.....   | 97  |
| 4.4 | Pilot Study - Chi-square Values for the Percentage of Total Enrollments<br>by Race/ethnicity.....                                      | 98  |
| 4.5 | Pilot Study - Descriptive Statistics - Enrollments by Major Area of<br>Concentration of Study as a Percentage of Total Enrollment..... | 103 |
| 4.6 | Pilot Study - Pairwise Comparisons for Sources of Revenue.....   | 110 |
| 4.7 | Pilot Study - Seasons Identified from Characteristics of the Pilot Institution...  | 127 |
| 6.1 | Institutions Used for Quantitative Analysis.....   | 141 |
| 6.2 | Institutional Demographics by Age, Size, and Geographic Region.....  | 143 |
| 6.3 | Institutional Demographics by Classification.....  | 144 |
| 6.4 | Summary of General Enrollment Patterns.....  | 149 |
| 6.5 | General Enrollment Patterns by Institution's Age.....  | 150 |
| 6.6 | General Enrollment Patterns by Institution's Size.....   | 152 |
| 6.7 | General Enrollment Patterns by Geographic Region.....  | 154 |
| 6.8 | Incidents of Significance for Changes in Enrollment Patterns by<br>Race/ethnicity.....   | 159 |
| 6.9 | Summary of Expenditure Patterns for Scholarships and Student Services.....   | 166 |

|      |   |     |
|------|---|-----|
| 6.10 | Comparison of Enrollment Patterns and Expenditure Patterns.....                   | 167 |
| 6.11 | Criteria for Selecting Institutions for Qualitative Analysis.....                 | 171 |
| 6.12 | Enrollment Trends by Race/ethnicity and by Gender.....                            | 186 |
| 6.13 | Mixing Quantitative and Qualitative Results.....                                  | 200 |
| 6.14 | Additional Elements of Institutional Characteristics.....                         | 201 |
| 7.1  | Institutional Demographics for Study Institutions Compared to the Population..... | 209 |

## LIST OF FIGURES

|      |   |     |
|------|---|-----|
| 2.1  | Generalized Model of Organizational Life Cycles.....  | 45  |
| 4.1  | Pilot Study - Trends in Total Enrollment.....   | 85  |
| 4.2  | Pilot Study - Enrollment by Gender – Total Men and Total Women.....   | 88  |
| 4.3  | Pilot Study - Enrollment by Race/ethnicity – White Men and White Women...                                     | 90  |
| 4.4  | Pilot Study - Enrollment by Race/ethnicity – Black Men and Black Women.....                                   | 91  |
| 4.5  | Pilot Study - Enrollment by Race/ethnicity – Hispanic Men and Hispanic Women.....                             | 92  |
| 4.6  | Pilot Study - Enrollment by Race/ethnicity – Asian Men and Asian Women.....                                   | 93  |
| 4.7  | Pilot Study - Enrollment by Race/ethnicity – Native American Men and Native American Women.....               | 94  |
| 4.8  | Pilot Study - Enrollment by Race/ethnicity – Non-resident Alien Men and Non-resident Alien Women.....         | 95  |
| 4.9  | Pilot Study - Enrollment by Race/ethnicity – Race/ethnicity Unknown Men and Race/ethnicity Unknown Women..... | 96  |
| 4.10 | Pilot Study - Trends in Enrollment by Race/ethnicity – Whites.....  | 99  |
| 4.11 | Pilot Study - Trends in Enrollment by Race/ethnicity – Blacks.....  | 100 |
| 4.12 | Pilot Study - Trends in Enrollment by Race/ethnicity – Hispanics.....   | 101 |
| 4.13 | Pilot Study - Enrollment by Major – Arts & Sciences and Business.....   | 104 |
| 4.14 | Pilot Study - Enrollment by Major – Undecided.....  | 106 |
| 4.15 | Pilot Study - Total Revenue in Millions of Dollars.....   | 108 |
| 4.16 | Pilot Study - Total Expenditures in Millions of Dollars.....  | 109 |
| 4.17 | Pilot Study - Appropriations, Grants, and Tuition as a Percentage of Total Revenue.....                       | 111 |

|      |   |     |
|------|---|-----|
| 4.18 | Pilot Study - Expenditures for Instruction and Research as a Percentage of Total Expenditures.....                            | 113 |
| 4.19 | Pilot Study - Expenditures for Facilities Maintenance and General & Administrative as a Percentage of Total Expenditures..... | 114 |
| 4.20 | Pilot Study - Expenditures for Other as a Percentage of Total Expenditures...   | 115 |
| 4.21 | Pilot Study - Components of Expenditures for Other as a Percentage of Total Expenditures.....                                 | 116 |
| 4.22 | Chronological Summary of Elements of Institutional Cycles from Pilot Study.   | 128 |
| 4.23 | Pilot Study - Components of Generalized Model of Institutional Cycles Applicable to the Pilot Institution.....                | 130 |
| 4.24 | Conceptual Model of Institutional Life Cycles.....  | 132 |
| 6.1  | General Trends in Total Enrollment.....   | 147 |
| 6.2  | Enrollment by Gender - University #37.....  | 157 |
| 6.3  | Enrollment by Race - White Men and White Women for Institution #10.....   | 160 |
| 6.4  | Enrollment by Major - Arts & Sciences and Business.....   | 162 |
| 6.5  | Presidential Service Compared to Actual Enrollment for University #7.....   | 190 |
| 6.6  | Presidential Service Compared to Actual Enrollment for University #21.....  | 192 |
| 6.7  | Presidential Service Compared to Actual Enrollment for University #25.....  | 194 |
| 6.8  | Presidential Service Compared to Actual Enrollment for University #31.....  | 195 |
| 6.9  | Presidential Service Compared to Actual Enrollment for University #41.....  | 196 |
| 6.10 | Presidential Service Compared to Actual Enrollment for University #45.....  | 197 |
| 7.1  | Institutional Cycles: A Visual Model.....   | 225 |
| 7.2  | Institutional Cycles: A Modified Visual Model.....  | 226 |
| 7.3  | Institutional Cycles: A Modified(2) Visual Model.....   | 227 |
| 7.4  | Institutional Cycles: A Modified(3) Visual Model.....   | 228 |



## CHAPTER 1

### Introduction

#### *Preamble*

Universities are among the most complex organizations and leading one is a multifaceted undertaking. Those who serve as college and university presidents attend to an array of duties and responsibilities; in addition, these presidents have differing abilities, characters, motivations, and personalities. Multiple factors contribute to the overall effectiveness of a president: personal characteristics, the history of the institution, the nature of the environment, and luck (Birnbaum, 1992).

Kerr (1985) noted that presidencies of colleges and universities always have been and will continue to be full of complexities, conflicts, contradictions, and challenges. He also concluded that strengthening presidential leadership was one of the most urgent concerns on the agenda of American higher education. Since Kerr made that observation, higher education environments have become even more complex and complicated.

From 1985 until the present, institutions of higher education faced numerous changes and challenges such as (1) periods of constrained resources (Baum, 2001; Toutkoushian, 2001) (2) expanding use of multiple technologies (Ely, 2002), (3) greater access to and demand for higher education through distance learning (Simonson, Smaldino, Albright, & Zvacek, 2003), (4) increasingly diverse campus environments, including rising numbers of minority students, non-traditional students over the age of 25, part-time students, and single parents (Dey & Hurtado, 1999), (5) changes in the law regarding student admissions processes (Laird, 2003), and (6) ongoing debate surrounding the reauthorization of the Higher Education Act with its financial, social, and

political implications (Shuppy, 2006). If Kerr's premise was true in 1985, it is even more so now. Identifying pertinent factors to strengthen presidential leadership further still would appear to be an imperative in the first decade of the twenty-first century.

The study of leadership can be elusive. Sample (2002) noted leadership was hard to define in a way satisfactory to everyone; there are few substantive rules of leadership, and people differ in their view of what leadership is and what they expect leaders to do. Past research addressing presidential leadership in higher education has dealt with multiple dimensions.

One method of evaluating postsecondary leadership included studying leadership styles of different presidents (Bensimon, 1989; Bensimon, Neumann, & Birnbaum, 1989; Neumann & Neumann, 1999). Another approach consisted of evaluating the background, characteristics, and preparation of those who have become presidents (Corrigan, 2002; Ross & Green, 1998). A third alternative considered presidential transitions, either by analyzing the search and selection process itself or by considering the circumstances concomitant with presidential changes (Birnbaum, 1992; Kauffman, 1974; McLaughlin, 1993; McLaughlin & Riesman, 1990; Neff & Leondar, 1992). A fourth option has taken into account the context of a president's tenure (Kerr & Gade, 1986).

Kerr and Gade (1986) noted leaders must fit the context of time and place for an individual institution. They also noted it was necessary to understand that context in order to comprehend the presidency. As Prator (1963) noted, "the requirements of the college dictate the kind of [person] needed for the job...the qualifications for presidencies differ greatly from institution to institution and from one period in history to another" (p. 82).

Considering the history of colleges and universities, it is important to note that they are mutable organizations: they go through cycles of development and change over time as does any other institution (Neff & Leondar, 1992). Casper (1995) noted, however, that universities have been extraordinarily durable as part of the fabric of society for centuries in terms of the functions performed. As a result of their longevity, typical cycles such as formation, development, growth, maturity, decline, and in some cases dissolution, normally occur over an extended period of time. Defining characteristics of shorter-term cycles may be important in understanding the polity of presidential leadership; identifying appropriate cycles may help in comprehending contexts of an institution's history. However, education literature has been scant in defining institutional cycles.

On the other hand, life-cycle theories have been considered extensively in business literature. Various studies (Adizes, 1988; Churchill & Lewis, 1983; Flamholtz, 1986; Galbraith, 1982; Greiner, 1972; Hanks, Watson, Jansen, & Chandler, 1994; Kazanjian, 1988; McMahon, 2001; Miller & Friesen, 1984; Quinn & Cameron, 1983; Scott & Bruce, 1987; Smith, Mitchell, & Summer, 1985) have illustrated the interrelationship between contextual and structural dimensions of organizations in describing stages or cycles of development. Adapting concepts from those studies to the present study provided a basis for identifying such cycles within higher education. For purposes of this study, cycles were defined as unique configurations of characteristics related to organizational context and structure that occurred over time. The study sought to identify cycles in the history of institutions by using configurations of contextual and structural dimensions in order to develop a theory of institutional cycles for higher education.

### *Context of the Problem*

Various factors should be considered in the selection of a new president. One is the frequency with which it occurs. Kerr (1985) observed the presidency, with few exceptions, is not a lifelong career but rather a chapter during a career. The average tenure for most presidencies is under seven years (Corrigan, 2002; Kerr & Gade, 1986; Neumann & Neumann, 1999). The median age for college and university presidents has not changed significantly over the past twenty years. Corrigan (2002) reported the median age for all presidents serving in 2001 was 58 years old; for doctoral-granting institutions it was slightly higher at 60 years, and the median years of service in their current position for all presidents at that time was five years. Therefore, few presidents below the age of 60 would expect to retire on the job at age 65, let alone at 70 (Kerr, 1985). As a result of these factors – age, years of service, and average length of tenure – all colleges and universities can expect to experience the selection of a new president on a recurring basis.

Another factor is the cost of conducting the search itself. The financial cost of presidential searches continues to increase, making the decision-making process for selecting a president of great consequence. The median direct cost of presidential searches in the late 1970s was around \$6,000 (Bromert, 1984). By the 1990s the median cost easily exceeded \$100,000 (Neff & Leondar, 1992); today the cost can be significantly more, and choosing a president who is incompatible with an institution and its governing board can be financially, emotionally, and socially very costly (Basinger, 2004; Bennis & Movius, 2006; Blumenstyk, 2003; Bornstein, 2003). Identifying as many

elements as possible that may contribute to a successful selection and presidency would be beneficial to the overall process.

When considering the qualifications of prospective presidential candidates, Neff and Leondar (1992) observed a critical element was identifying a person whose background and abilities matched the needs of an institution during a particular phase of its development; a particular kind of leader may be the one most necessary at certain times in an institution's history. Matching the abilities of a leader with the needs of an institution at a given time may be crucial to the future of the institution. Many times, however, the decision is based primarily on the characteristics of the individual or in reaction to the previous president rather than considering the context of the institution.

In a personal conversation with Dr. Cecil O. Samuelson, Jr. (May 7, 2003), President of Brigham Young University, he noted from his experience that too frequently decisions for academic assignments had been made based on credentials of applicants without carefully considering the experience and abilities needed to fulfill the responsibilities. This view is similar to that of Kerr and Gade (1986) who concluded, after conducting interviews with over 800 presidents and administrators, that presidents often were chosen more on the basis of their credentials than on personal merit; higher merit sometimes was sacrificed in favor of higher credentials. McLaughlin and Riesman (1990) also noted many search committees reduced their pool of prospective candidates to a small number of semifinalists based only on these candidates' vitae. In the decision-making process, what decision makers saw were largely credentials – degrees, publications, and positions held. They likewise observed that not infrequently the determination of the sort of person needed as the new president was made in reaction to

the predecessor president, whether those impressions were favorable or unfavorable. Kerr (1985) concluded that a new president should be chosen on the basis of future-oriented criteria, not simply based on the perception that a candidate had characteristics the prior president lacked.

McKenna (1972) noted the criteria for selecting presidents should be situational rather than personal. He advised, "Rather than starting with the personality of the president, the beginning point should be the personality of the institution" (p. 460). It has been acknowledged that different kinds of leadership skills and styles typically are needed during different periods of institutional cycles. Various authors (Birnbaum, 1992; Kerr, 1985; Kerr & Gade, 1986; McKenna, 1972; McLaughlin, 1993; McLaughlin & Riesman, 1990; Neff & Leondar, 1992) have addressed the importance of understanding the times and seasons of institutional cycles when considering the role of presidential leadership. They noted the criteria and the process for selection should be derived from a thorough analysis of institutional objectives and needs during various stages of an institution's life cycles; however, there was no definitive characterization of what those cycles were in available existing literature.

#### *Purpose of the Study*

The purpose of this two-phase, explanatory mixed-methods study was to develop a model for defining institutional cycles for colleges and universities for the type of universities studied. During the first phase archival quantitative data from fifty-nine (59) public, doctoral-granting universities within the United States with enrollments exceeding 10,000 over a forty year time period, from 1965 through 2005, were analyzed to help define initial characteristics of institutional cycles. During the second phase qualitative

data from six (6) purposefully selected institutions were explored further to consider issues experienced by institutions coincident with those cycles. Common themes identified in the second phase helped confirm and expand the understanding of contextual and structural dimensions of institutional cycles.

### *Research Questions*

The selection of a president should be viewed in the broad context of an institution – its history, its culture, its needs, and its current circumstances. Understanding where an institution is in its life cycle frequently is overlooked in the selection process. As a result, there is a need to delineate characteristics of institutional cycles as one element to consider in that selection process. Key research questions that guided this study to understand the nature of cycles included the following:

Central research question -

- What are typical institutional cycles for colleges and universities?

Quantitative sub-questions -

- What characteristics do those institutional cycles have?
- How are cycles defined?
- What determines points of demarcation in transitioning from one cycle to another?

Qualitative sub-questions -

- What issues do universities experience during different phases of institutional cycles?
- How do those issues contribute to identifying characteristics of institutional cycles?

Understanding institutional cycles will give better focus to comprehending the context of time and place when selecting a president.

### *Assumptions, Delimitations, and Limitations*

#### *Assumptions*

Underlying assumptions of this study included several elements: that measurable characteristics of institutional cycles existed, that patterns could be identified, and that characteristics from those patterns could be described using contextual and structural dimensions. Common contextual dimensions included age, size, growth rate, and focal tasks or challenges faced by an organization at a given point in time. Common structural dimensions included structural form, formalization, centralization, and vertical differentiation. The study sought to identify specific phases or seasons based on characteristics of contextual and structural dimensions over a forty-year period from 1965 to 2005.

Other related assumptions were: it would be possible for a university to cycle through different seasons of its life cycle at different times depending on individual circumstances and influences, and the length of each season might vary from institution to institution.

#### *Delimitations*

Of particular interest to the researcher were issues relating to presidential succession, leadership style, whether different leadership styles were noted during similar phases of institutional cycles, indicators or points of demarcation when transitioning from one cycle to another, and whether changes in presidents occurred coincident with changes in those cycles. However, a clear definition of what constituted institutional cycles for



higher education was deficient. For this study, the focus was to establish a base-line for defining institutional cycles and developing a model for higher education in general, which then could be evaluated relative to various segments of higher education.

College environments differ not only among themselves, but also from time to time at the same institution. To understand context, the study needed to be historical; to gain perspective, the context needed to be viewed for the same institutions with changing circumstances over varying presidencies.

For purposes of developing an initial model, this study was delimited to large, public, not-for-profit, doctoral-granting universities in the United States. Larger public institutions were selected because public institutions enrolled three-fourths of the college students in America (Callan, 1993; Integrated Postsecondary Education Data System [IPEDS], 2003). Of the 1,542 public colleges and universities in the United States, there were 151 doctoral-granting institutions (Corrigan, 2002); among doctoral-granting universities there were 146 not-for-profit institutions having enrollments exceeding 10,000 (IPEDS, 2003). To answer the above research questions, this study examined selected quantitative data from fifty-nine (59) public, not-for-profit, doctoral-granting universities with enrollments over 10,000 and reviewed qualitative data from six (6) of those institutions.

Institutions for the quantitative phase were selected based on four criteria: location, size, sponsorship, and Carnegie classification. Only institutions within the United States were considered for this study. To ensure subject institutions from all regions of the country, universities were selected using a proportional stratified random sample. For stratification purposes, the six geographic accrediting regions were used –

West, Northwest, North Central, Southern, Middle States, and New England. A proportional number of institutions were selected from each region.

Institutions with enrollments exceeding 10,000 were selected to compare characteristics of similar-sized institutions during the same time periods. These larger institutions were used for the study based on the assumption that data would be available over the period being studied and that trends in various cycles would be more readily apparent from data for larger institutions.

Only public universities that were categorized as doctoral-extensive or doctoral-intensive using the pre-2005 Carnegie Classification system were considered for this study. Access to public records from larger, public institutions provided sufficient data to develop a working model.

Institutions for the qualitative phase were selected purposefully based on a combination of five criteria: location, size, age, pre-2005 Carnegie classification, and status as a land-grant institution. A decision tree was developed to select a total of six institutions meeting an appropriate combination of the following conditions: one institution from each of the six geographical regions, from among those in the sample used in the first phase; three institutions with enrollments between 10,000 and 19,999, two with enrollments between 20,000 and 29,999, and one institution with enrollment greater than 30,000; one institution that was founded in the antebellum period, three institutions founded between the Civil War and WW II, and two institutions founded following WW II; two institutions classified as doctoral intensive and four categorized as doctoral extensive using the pre-2005 Carnegie classifications; and two institutions that were land-grant universities and four that were not land-grant institutions. This

combination of factors was reflective of characteristics of the 59 institutions in the original sample.

### *Limitations*

The findings from the study might not be applicable to public institutions of different sizes or to private institutions of similar size and circumstances. Likewise, they might not be applicable to for-profit institutions or institutions in other countries.

The selection of institutions for this study was based on appropriate statistical sampling techniques; however, based on the nature of the study, if a workable model did not emerge from the data, the context of the findings would be limited only to the individual institutions selected and possibly to similar types of institutions. In addition, because of the historical nature of the study, the findings were limited by the availability, or lack thereof, of adequate historical data, by the consistency of the data, and/or by interpretation of data by the researcher. The study also may reflect perspectives based on experience and perceptions of the researcher.

### *Significance of the Study*

It is through the process of leadership succession that governing boards seek to choose someone who in their best judgment either will ensure institutional continuity or will promote favorable change (McLaughlin & Riesman, 1990). Qualifications sought in a president should relate to the specific needs of an institution as identified by the board. Neff and Leondar (1992) stated that deriving presidential criteria from an appraisal of an institution's present condition and future prospects is conventional wisdom in theory and largely ignored in practice. They noted boards and search committees have a tendency to enter a selection process for presidential candidates without adequately assessing what or

who is really needed given the needs and circumstances of the institution. Kerr (1985) also observed the first step in the search for a new president should be, but seldom is, a search for the future of the institution. An important lesson for committees to comprehend is the desirability of examining their institutions before deciding what kind of individual endowed with what kind of talent will serve most successfully. What institutions have done in the past may have a profound influence over what their leaders can do today (Birnbaum, 1992).

This study intended to provide some perspectives to help boards of trustees in the important task of selecting a president. Considerations for boards in the process of determining institutional needs might include evaluating the life cycles of the institution to understand where the institution is in its development cycle and to be aware of characteristics of an institution during different cycles. Understanding those characteristics also may benefit potential presidential candidates to know what could be done at a particular cycle of the institution. Thus, the study sought to enhance the ability of a board and potential presidential candidates to match individual capabilities with the needs of an institution.

#### *Definition of Terms and Use of Acronyms*

*Axiology* – a branch of philosophy dealing with the study and nature of values; the role values play in the process of research and inquiry

*Causal linkages* – the interrelationship between causes and effects

*Deductive logic* – deriving conclusions based on an *a priori* hypothesis or theory; inference for a specific set of facts based on a general or universal premise

*Epistemology* – a branch of philosophy dealing with study and understanding of the limits of knowledge; the relationship between the knower and the known

*Generalizations* – to draw a conclusion based on a set of facts or trends; to infer broad applicability from a set of data

*HEGIS* – Higher Education General Information Survey

*HERI* – Higher Education Research Institute

*Inductive logic* – extending conclusions from specific data to a general population or universe; an emphasis on grounded theory

*Institutional cycle* – a specific period of time within institutional history with identifiable characteristics

*IPEDS* – Integrated Postsecondary Education Data System

*Life cycle* – unique configurations of characteristics and variables related to organizational context and structure that occur over time

*Ontology* – a branch of metaphysics dealing with the study and nature of reality; the perception of what is real or that can be understood

*Pragmatism* – a philosophy rooted in common sense and dedicated to the transformation of culture (Sleeper, 1986); from the Latin “pragmaticus,” meaning the use of common sense and practical thinking in finding solutions to problems

*Season* – an interval of time during the existence of an institution that can be characterized by a set of variables or indicators

*Season of constancy* – a period of at least three consecutive years when enrollments remain relatively unchanged over previous periods

*Season of decline* – a period of at least three consecutive years where enrollments decrease by approximately 5% per year over previous periods

*Season of diversity* – a period of at least three consecutive years where the percentage of students from the dominant ethnic group decreases approximately 1% per year with a corresponding increase in the percentage of student enrollment from other ethnic groups

*Season of emphasis on instruction* – a period of at least three consecutive years where the percentage of expenditures for instruction and academic support increase relative to other expenditures

*Season of emphasis on research* – a period of at least three consecutive years where the percentage of expenditures for research increase relative to other expenditures

*Season of equilibrium* – a period of at least three consecutive years where the percentage of expenditures are relatively flat across all categories of expenditures

*Season of fiscal constraint* – a period of economic difficulties, limited resources, or strained financial support marked by a consistent decline in revenues from state appropriations

*Season of fiscal prosperity* – a period of marked increase in state appropriations and a corresponding decrease in the percentage of funding from grants and tuition

*Season of fiscal stability* – a period of at least three consecutive years with relatively flat funding levels across all revenue sources

*Season of growth* – a period of at least three consecutive years when enrollments increase by approximately 5% per year over previous periods

*Season of increasing student support* – a period of at least three consecutive years where the percentage of expenditures for student support (scholarships and other student support services) increased relative to other expenditures

*Season of level student support* – a period of at least three consecutive years where the percentage of expenditures for student support (scholarships and other student support services) are relatively flat compared to other categories of expenditures

*Season of renewal* – a period marked by major investments in facilities and/or other infrastructure

*Season of retrenchment* – a period of at least three years when enrollment reverted towards the mean for a particular area of study

*Season of unrest* – a period of general discontent among students or across different factions of the student body

*Season of variation* – a period of at least three consecutive years when enrollments by preferences in areas of study change by 1% per year over previous periods

*UNL-IRB* – The University of Nebraska-Lincoln Institutional Review Board for the Protection of Human Subjects

### *Summary*

Boards of trustees should see leadership change as a part of larger cycles of institutional change. A transition in leadership provides an opportunity for the board to consider past, present, and future circumstances of an institution. Kauffman (1974) suggested the approach to presidential selection was based on two principal assumptions: first, higher education has a need for presidential leadership of the highest quality, and second, improvement in the process of selection could contribute to the quality and

effectiveness of that leadership. The purpose of the presidential selection process is to match a person with an institution. Cycles of institutional development and leadership abilities can thus be aligned (Neff & Leondar, 1992). Defining institutional life cycles is an important element of understanding the context of higher education leadership. This study sought to explain cycles in the history of institutions as well as characteristics that could be identified and anticipated for future cycles. Such a study is intended to help in finding the kind of leader needed to guide such complex and diverse institutions within a given context.



## CHAPTER 2

### Review of the Literature

#### *Overview*

Organizations evolve over time. These evolutionary periods have been referred to by various authors as *seasons*, *phases*, *growth periods*, *developmental stages*, *life cycles*, or some combination of those terms. In many cases, they have been used interchangeably in the literature without apparent efforts to differentiate or distinguish among them. Preference was given to the term *life cycles* by most writers, however, because it gives a broader connotation than other terms; it contemplates the start-up, development, and eventual decline of an organization. The notion of life cycles or institutional cycles will be evidenced in the extant study, although other terms may be used in related contexts.

#### *Literature Search*

In the process of identifying relevant literature discussing organizational cycles for the present study, scholarly books and texts relative to presidential leadership were reviewed. Various writers (Birnbaum, 1992; Kerr, 1985; Kerr & Gade, 1986; McKenna, 1972; McLaughlin, 1993; McLaughlin & Riesman, 1990; Neff & Leondar, 1992) observed that understanding institutional cycles was important relative to changes in leadership; however, a depiction of what constituted those cycles in higher education was never defined. In searching further for descriptions of life cycles, only broad notions of this concept for universities as organizations were found in these secondary literature sources.

Searches of electronic databases in education-related journals, including Digital Dissertations, from 1965 to 2005 were performed using the following key terms: institutional cycles, life cycles, developmental stages, growth periods, phases, and seasons in all possible combinations with higher education, universities, and colleges. The initial list of possible references of interest returned 7,357 articles for consideration. After eliminating sources from non-peer-reviewed journals, duplicate references, those that addressed international environments only, and those that were clearly not relevant to the specific topic of interest (e.g. Advertising and Public Relations Education: a Five-year Review), the number of sources was reduced to 13 articles. After assessing these remaining articles, only two addressed issues related to the concept of cycles as part of the historical development of a college or university. Those two referred generally to broad phases or stages affecting higher education rather than specific institutional cycles.

An additional search was done of electronic databases for business-related journals addressing organizational life cycles from business models. Evaluating life-cycle models proposed from business prototypes provided a theoretical basis for seeking patterns to define periods of institutional cycles in higher education. After refining the list of references to those relevant to the topic and reading multiple articles, work from twelve authors (Adizes, 1988; Churchill & Lewis, 1983; Flamholtz, 1986; Galbraith, 1982; Greiner, 1972; Hanks, Watson, Jansen, & Chandler, 1994; Kazanjian, 1988; McMahan, 2001; Miller & Friesen, 1984; Quinn & Cameron, 1983; Scott & Bruce, 1987; Smith, Mitchell, & Summer, 1985) was being cited frequently. Research from those twelve sources was used to develop a model for describing institutional cycles.

As noted, salient issues found in the literature regarding life cycles relative to this study were two-fold: discussions on the nature and historical development of the American university, and the theoretical framework of life cycles within organizations. Each of those concepts will be examined in greater detail in succeeding paragraphs within this chapter.

### *Life Cycles of Universities as Organizations*

Writers addressing institutional cycles, influences, and change in higher education have reflected upon its maturation in America as a general concept; however, specific cycles have not been generally defined. Among others, Goodchild and Wechsler (1997) and Fincher (2001), have addressed broad periods in the history of higher education. The work of those authors will be referenced as illustrative of general developmental stages in higher education over time.

#### *Historic Periods*

Goodchild and Wechsler (1997) defined five major periods in the history of higher education in America: the *colonial period* (1538-1789), the *antebellum period* (1790-1860), the *rise of American universities* (1860-1920), the *first half of the twentieth century: institutional diversity and discrimination* (1920-1945) and *main trends in higher education after World War II: federalism and democratization* (1945 to the present). These general categories cover intervals of varying lengths. Historical highlights and principal aspects of each period will be described briefly.

*Colonial period.* The “colonial period” described by Goodchild and Wechsler (1997) encompassed approximately 250 years starting in 1538; however, the first college within the boundaries of what became the United States (Harvard) was not founded until 1636. During the remainder of that period, only eight other colleges (William and Mary, Yale, University of Pennsylvania, Princeton, Columbia, Brown, Rutgers, and Dartmouth) were established. Most students were from the more affluent families; the educational purpose of those early colleges was to train that select group of young men to assume roles in the ministry and magistracy of the early colonies (Cremin, 1997; Moore, 1997). Higher education also was intended to advance principles of piety, civility, learning, and Christian virtues in order to prepare those students for their societal responsibilities (Church & Sedlak, 1997). Hence, higher education played a significant role in the close relationship between religion and politics during colonial times.

Clearly, start up and early growth stages would be evidenced at each of those institutions. Although the colonial period covered an extended number of years, the data would be insufficient during that period alone to identify more than preliminary phases of institutional cycles. For example, total enrollments for all American institutions approximated only 750 on the eve of the Revolutionary War and three-fourths of those students were enrolled at the four oldest of the colonial institutions (Harvard, William and Mary, Yale, and University of Pennsylvania) (McAneer, 1952).

All nine colonial institutions still exist today. One option for analyzing institutional life cycles could encompass a collective case study of those nine long-lived universities. However, since those institutions represent such a narrow segment of higher

education institutions, an alternative approach to consider larger universities collectively was formulated for the present study as described in Chapter 3.

*Antebellum period.* The next 70 years comprised the “antebellum period.” With the population of the United States increasing and spreading westward, the number of new institutions being created also increased. Some historians have estimated that between 500 and 700 institutions were founded between the Revolutionary War and the Civil War (Perkin, 1997; Tewksbury, 1932). However, Tewksbury (1932) documented only 173 of those colleges that still existed by the turn of the twentieth century. Rudolph (1962) indicated relatively rapid growth in enrollment occurred during the period. He also estimated that total student enrollments for antebellum institutions were less than two percent of the college-aged population. However, his conclusions were based on limited data being available. Statistics for all higher education institutions in the United States were collected generally starting in 1870 (Snyder, 1993).

Because of the formation, growth, and decline of many institutions, studying institutional life cycles during the antebellum period could be fruitful if adequate data were available. Unfortunately, secondary sources were limited and primary sources non-existent for many of those institutions.

*Rise of American universities.* The transition from the concept of college to a major research university in America began following the Civil War. The German university model, noted for its strength in research, became increasingly appealing to American institutions. A number of colleges began transforming themselves into a model of what was considered a modern university. During this period, the land-grant model for public universities also emerged. The Morrill Act of 1862 provided both the means and a

focus for establishing state institutions by conveying federal land to establish a financial endowment for at least one state-sponsored college in each state (Johnson, 1997).

The Johns Hopkins University, founded in 1876, was the first institution established in America with research as a primary objective. The underlying premise was that research enhanced and complemented learning as well as advancing human knowledge generally (Johns Hopkins University, 2006).

Harvard also engaged in a major transformation from being a colonial college to becoming a prototype of the American university. Under the leadership of Charles Eliot, several changes were implemented. He established an elective curriculum, broadening the fields of study; defined uniform requirements for earning a bachelor's degree from that institution; expanded the faculty from practitioner-teachers to full-time, scholarly faculty members; and regularly sought financial support from benefactors to provide for the needs of research (Geiger, 1997; 1999). Those characteristics are typical of most research universities today.

Other institutions also were founded during this period that would become influential in this transition, including the University of Chicago (1890), and Stanford University (1891). At Chicago, William Raney Harper sought to unite traditional American undergraduate liberal arts education with the German-style graduate research university. One of his curricular innovations was to offer courses year-round, allowing students to graduate whatever time of year they completed their studies. Rudolph (1962) characterized the founding of the University of Chicago as a defining moment that brought focus and spirit to the age of the American university.

Like Harper, David Starr Jordan, the first president of Stanford, wanted to create a new style of university, emphasizing applied practical education while combining both graduate research and undergraduate teaching. His concept for improving education allowed students to work directly with a faculty mentor in their major area of study. He also espoused an elective curriculum. The only required class, initially, was English 1A. In addition, Stanford was co-educational from its beginning, which was not common among major institutions of that time (Stanford History, 2004).

The origin of the American university was an important historical period in higher education. Presidents of several major institutions were agents for change and served for extended periods of time. For example, Daniel Coit Gilman, the first president of Johns Hopkins University served for 27 years (1875-1902); Eliot presided as president of Harvard for 40 years (1869 to 1909); Harper was president of the University of Chicago for 16 years (1890-1906); and Jordan was president of Stanford for 22 years (1891-1913). Subsequently, those leaders and others of that era were considered by many as “giants” in the field of education for the impact they had on their institutions individually and on higher education collectively (Kerr, 2001).

Changing circumstances experienced by institutions presented important elements in identifying institutional cycles. Considering institutional issues was contemplated as part of the design for this study in helping define and explore the nature of life cycles.

*Institutional diversity and discrimination.* Institutions of higher education continued to evolve and develop during the period following World War I (WW I) until the end of World War II (WW II). Goodchild and Wechsler (1997) identified this period as a season of “institutional diversity and discrimination.” Flexner (1930) authored a

report on the status of higher education in America, England, and Germany and recommended some changes be made. He alleged that much of higher education had become like service stations for the general public and encouraged differentiation. He supported the idea of elite institutions and personally contributed financially to some of the selective institutions to emphasize his support of this concept (Clark, 1970). In response, many undergraduate institutions developed selective admissions programs that gave preference to specific groups to the exclusion of other “undesirable” students (Levine, 1997; Wechsler, 1997). Those conditions contributed to the expansion of other types of educational institutions to benefit varying constituencies – blacks, women, and those of specific religious groups such as Roman Catholics, Baptists, Lutherans, Methodists or Presbyterians (Anderson, 1997; Goodchild, 1997; Levine, 1997; Wagoner, 1997; Wechsler, 1997). This period also saw the first significant movement in the creation of two-year junior/community colleges. Between 1900 and 1940 approximately 275 two-year colleges were established in the United States (Pedersen, 1997).

The general sentiment of the time also led towards a move to upgrade professional education at many universities with the establishment of schools of medicine, law, theology, and education. Demand for graduate education at the better institutions exceeded available places, so having the required bachelor’s degree and being able to pay the tuition no longer guaranteed admission; many graduate institutions implemented selective admissions programs as well (Brubacher & Rudy, 1997).

The various changes occurring within different facets of higher education during this period again evinced start up and early growth periods, as well as changing



circumstances among institutions. Those elements were all important considerations when evaluating institutional cycles.

*Federalism and democratization.* The three major influences in higher education during the period of “federalism and democratization” identified by Goodchild and Wechsler (1997) were growth, student revolts, and increasing federal legislative activities, which impacted funding, institutional policies, and governance structures.

Passage of the Servicemen’s Readjustment Act (GI Bill) in 1944 was pivotal to the growth in enrollment following WW II. That legislation paved the way for direct financial aid to students to attend college and facilitated access to higher education for returning veterans. The GI Bill gave rise to significant changes in the patterns of college enrollment at existing institutions. Enrollments in higher education increased from 1.5 million prior to the war to 2.5 million in the years immediately following (Geiger, 1999; IPEDS, 2003; Report of the President’s Commission on Higher Education, 1947; Snyder, 1993). By 1947, nearly 50 percent of college students were funded by the GI Bill (Education, 2002). Between 1944 and 1956 over 2.25 million veterans took advantage of the GI Bill in order to access higher education (Trow, 1993).

Following the initial surge of enrollments from those returning veterans, when the post-WW II baby boomers matured to college age the student population on college campuses exploded. Enrollments had reached 3.8 million by 1960 and more than doubled between 1960 and 1970, reaching 8.5 million students (Altbach, 1993; IPEDS, 2003). Since then, the number of students has continued to grow but at a slower rate, reaching approximately 14 million by the mid-1990’s (Altbach, 1993; Dey & Hurtado, 1999; Snyder, 1993; Trow, 1993), and hitting nearly 17 million by 2003 (IPEDS, 2003).

However, student demographics were changing. In 1975, 55 percent of all students were male; by 1995, 55 percent were female (Geiger 1999). Changing enrollment patterns represent one indicator for changes in institutional cycles and were a primary consideration in designing this study.

The dynamics of campus student bodies changed as universities became forums for student groups to challenge the social order of the country (Dey & Hurtado, 1999). Beginning in the 1960's through U.S. President Richard Nixon's ultimate resignation from office in 1974 was a turbulent period across many universities. Some estimates indicated nearly 80 percent of four-year institutions experienced varying levels of student protests (Astin, Astin, Bayer & Bisconti, 1997). Major issues engendering student activism included concerns over civil rights, nuclear arms research and testing, and the war in Vietnam, among others (Astin, et al., 1997; Kerr, 2001). Astin and his colleagues observed radicalism and activism among students had deep historical roots; student unrest was not a new phenomenon in the 1960s, but civil rights and anti-war sentiments thrust activism into the national spotlight. Carson (1999) suggested student activism started with students questioning institutional paternalism, leading to the demise of *in loco parentis*, continued to expand through the Civil Rights movement, and culminated in protests against the Vietnam War. Protests started with sit-ins and other non-violent demonstrations but eventually led to more militant attacks on people and buildings. The politics of the decade destroyed relationships and ultimately destroyed some individuals (Carson, 1999). Understanding the nature of issues and challenges faced by institutions was another factor in helping define life cycles that was contemplated for this study.

The Higher Education Act of 1965 with its various amendments and reauthorizations offered opportunities for greater access to higher education by providing federal financial aid to students; it also was a landmark for increased federal regulation of higher education. Federal and state laws impacted policies of each institution, including regulations such as: Titles VI and VII of the Civil Rights Act of 1964, Title IV of the Higher Education Act of 1965, the Age Discrimination Act of 1967, the Occupational Safety and Health Act of 1970, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Family Educational Rights and Privacy Act of 1974, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, the Crime Awareness and Campus Security Act of 1990, and the Health Insurance Portability and Accountability Act of 1996. In addition, recent decisions by the U.S. Supreme Court (*Gratz v Bollinger*, 2003; *Grutter v Bollinger*, 2003) also have caused institutions to evaluate carefully their admissions policies regarding diversity and how special admissions cases are handled (Laird, 2003). Resulting from those legislative measures, institutional policies were developed to assure access to educational opportunities for protected classes of individuals; protect the health, safety and employment environments of workers; and safeguard personal information from unauthorized access. In addition, institutions created organizational structures to substantiate compliance with regulatory issues.

Challenges resulting from constrained resources generally became widespread during the decade of the 1990s. Economic conditions experienced by most states resulted in prolonged periods of decreasing state revenues resulting in budget cuts in many programs and rising tuition for students. As legislators prepared state budgets, they faced

the challenges of determining where to cut back. Baum (2001) noted that pressures for spending on public issues such as health care and corrections resulted in reduced allocations of state funds for education. Higher education appropriations were substantially reduced in numerous states (Toutkoushian, 2001). The issue of resource allocation evidences priorities that may mark elements of change in institutional cycles.

During this period many institutions became more dependent on external funding sources, particularly for research activities. Federal research spending increased substantially at universities following WW II. Total organized research at universities was approximately \$27 million in 1940 and rose to a level exceeding \$2 billion by 1970. Although it stabilized somewhat during the 1970s, research spending increased again during the decade of the 1980s and reached a level above \$12.5 billion by 1990 (Snyder, 1993). Significant research spending also was distributed among more institutions. By 1990, 125 universities were identified as research universities, according to the Carnegie Classification system, where research was considered the most dominant faculty activity (Kerr, 2001).

Although the five general periods defined by Goodchild and Wechsler (1997) are important chapters in the overall history of higher education in America, those periods do not address cycles at the institutional level. In order to focus on institutional cycles for individual universities a more specific approach needed to be developed as presented in Chapter 3.

### *Continuing Development of Higher Education*

Fincher (2001) focused on changes affecting higher education following WW II. Although each period in the history of higher education has had many interesting facets, the last sixty years perhaps have been the most dynamic. Higher education institutions in general had reached a level of relative maturity as organizations by the middle of the twentieth century, yet colleges and universities were barely on the threshold of important changes and influences that would impact campus environments in significant ways. Fincher provided a closer look at milestones in the post-WW II era.

Although Fincher (2001) acknowledged that the choice of titles for each period could be subject to debate, he categorized six periods of change that occurred from 1945 to the end of the twentieth century. He also speculated that the concerns relevant to the sixth period would extend into the twenty-first century as well. Fincher noted the following unique phases of development: *readjustment and educational opportunity* (1946-1958), *excellence and equality* (1958-1964), *access and equity* (1964-1972), *reform and renewal* (1972-1982), *pluralism and diversity* (1982-1996), and *quality, diversity, and accountability* (1996-2001). He addressed similar historical issues as the other authors cited relative to the years under consideration, but also provided some unique insights. Each of the six periods is described briefly below.

*Readjustment and educational opportunity.* Fincher (2001) considered passage of the GI Bill as perhaps the most influential piece of legislation affecting higher education overall since the Morrill Acts of 1862 and 1890. That bill opened the door of opportunity for many returning veterans to attend college who otherwise would have had little hope of a college education. The increase in college enrollment following WW II has been

well documented. From 1946 through 1949 the majority of male students on campuses were veterans. Those students had a preference for education in practical subjects that would increase their employability following graduation. Fincher concluded that a realistic evaluation of the post-war years indicated that higher education was not well prepared to admit and instruct the influx of students that flooded the campuses. However, in response to the changing dynamics, institutions began adapting policies, programs, practices, and facilities to accommodate the changes occurring. Some of those changes are described further as individual institutions were examined for the present study.

In addition, the Report of the President's Commission on Higher Education of 1947 (the Zook Commission) paved the way for future legislative efforts that would impact higher education. One of the recommendations from that report endorsed the concept of mass education, contradicting the position taken earlier by Flexner. The Report stated:

[Institutions of higher education] can no longer consider themselves merely the instrument for producing an intellectual elite; they must become the means by which every citizen, youth and adult, is enabled and encouraged to carry his education...as far as his native capacities permit (p. 101).

Demands and expectations both from the public and from governmental agencies were changing and have continued to influence the growth, development, policies, and operations across higher education.

*Excellence and equality.* Entry into the space age marked another chapter in the emerging role of the federal government in supporting research in areas of national importance. The National Defense Education Act of 1958 was passed in response to the launch of the first orbiting satellite by Russia. The intent of the legislation was to engage

higher education to strengthen efforts in math, sciences, and foreign languages. The extent of increased funding to support those areas has been described previously. The value of the educational system was viewed as a means to discover and develop talent to support issues that might be beneficial in areas of public and national interest; the bill provided funding for testing and for counseling to identify promising students who could be encouraged to pursue careers in crucial disciplines.

*Access and equity.* The period from 1964 to 1972 started with legislative interest and intent to remove economic barriers to educational opportunities. The Higher Education Act of 1965 was passed with the intent to strengthen the educational system of the United States and to provide financial assistance to students (Council for Opportunity in Education, 2003; Kerr, 1997). Two years later, the Carnegie Foundation initiated a five-year study of higher education to identify issues, problems, and areas of possible reform. Resulting recommendations advocated policy changes and reform in governance structures for higher education institutions. One strong recommendation concluded that providing equality of educational opportunities should be the nation's top priority. Subsequent studies and reports such as the Friday Task Force of 1966 and the Gardner-Howe Interagency Task Forces of 1966 and 1967 confirmed the recommendations of the Carnegie Foundation report; however, most of the recommendations were considered by some to be too costly to implement and were never advanced on a legislative agenda (Kerr, 1997). By the end of the period, student protests and faculty dissent allowed few institutions to make much progress for change or attain commensurate levels of productivity in scholarly research (Fincher, 2001).

*Reform and renewal.* The national climate and attitude towards higher education had shifted by 1972 and many were calling for reform and renewal. Student protests had created high levels of interest in stronger management. Donors and policy makers pushed for more accountability and more efficiency (not necessarily more effectiveness) in higher education operations; business leaders believed universities were mismanaged and could benefit from implementing business management principles. Although business concepts had much to offer academic administrators, many adopted corporate planning models without questioning their overall usefulness in an academic environment with an entirely different mission than most businesses (Fincher, 2001). In adapting academic systems to meet new objectives, many institutions learned in the process that systemic changes could produce unanticipated and even undesired outcomes. Fincher concluded that with the benefit of hindsight, many academic leaders determined that change should be a transition from one stage to another and not a radical reorganization.

*Pluralism and diversity.* Starting in 1983, the Carnegie Commission and other organizations issued various reports recommending educational reform and a greater emphasis on assessment and outcomes. Rather than focus on national perspectives, many of those reports addressed regional, state, and institutional perspectives. Fincher (2001) pointed out that during this period, federal funding allowed for the creation of statewide planning committees. Those committees emphasized state-wide curricular needs for high school and college, teaching and learning, and the societal and individual benefits of education. As a result of the work of many planning committees, education was being considered as an integrated process and the concept of K-16 programs was initiated. Education was discussed in the context of meeting traditional, non-traditional, and adult



development needs. Public perceptions and expectations continued changing, and institutions needed to adapt to address some of those changing expectations.

*Quality, diversity, and accountability.* By the mid-1990s, quality, diversity, and accountability were recurring themes; accrediting associations, professional associations, government leaders, and the general public expressed concerns about accountability including measured results. Constituent groups wanted more emphasis on three general areas: (1) measurable educational outcomes, (2) increased diversity with greater access to education by underrepresented groups, and (3) more visibility and accountability at all levels of institutions. To meet those objectives, many institutions entered an age of competition according to Fincher (2001) – competition for students, competition for resources, and even competition to confer degrees. Technical colleges and businesses entered the educational process by preparing and certifying workers for jobs where they considered traditional four-year colleges and universities were failing. Online universities began to be accredited by regional accrediting associations, allowing these virtual institutions to gain access to students in all areas of the U.S. and beyond. In addition, there was a significant increase in the number of for-profit institutions that also competed for many of the students who were dissatisfied with the education offered by traditional colleges and universities.

The themes of accessibility, affordability, and accountability are issues receiving continuing attention in the twenty-first century. The recently issued report, “A Test of Leadership: Charting the Future of U.S. Higher Education” (The Spellings Commission Report) again emphasized the need for higher education to be more responsive to the

perceived needs of the various stakeholders in American higher education (U.S. Department of Education, 2006).

Like the other authors cited, Fincher (2001) did not address individual institutions but rather general conditions affecting higher education. However, he did allude to factors that could provide a foundation to consider cycles at the institutional level: the concept of focal tasks, challenges, and issues of concern being addressed, including legislative actions and institutional responses to changes in the law; and the change from intent to reality (if these two are different), as a demarcation point to consider for changes in institutional cycles.

#### *Summary*

Although the various periods described by the above authors probably are interesting in the study of higher education, none was definitive enough to consider leadership of specific presidencies and its relevance to institutional life cycles. The changing dynamics in higher education point to the need to consider life cycles at an institutional level. Kerr and Gade (1986) observed that there have been distinct periods of change and crisis affecting most college campuses in the past; they also suggested more periods of change and crisis will occur in the future, although characteristics of specific periods again were not defined by these authors or others. Additionally, Fincher (2001) observed institutions develop through a process of growth from within. He asserted all of the laws, reports, and external influences do little more than contribute to an environment that stimulates, encourages, or facilitates change within an institution. Without constructive or progressive change from within, an institution is limited in its potential for continued development.

Because education literature was inconclusive in defining life cycles, finding an appropriate approach for considering cycles for individual institutions appeared evident. Evaluating life-cycle models proposed from business literature provided a theoretical basis for seeking patterns to define periods of institutional cycles in higher education.

### *Theories and Models of Life Cycles*

Some of the earliest life-cycle models were proposed by Davis (1951) and Chandler (1962). Davis' work was done following WW II when the U.S. economy in general was experiencing growth. The model he described focused narrowly on characteristics within growth periods. He emphasized the importance of monitoring industry trends and how those trends impacted the work of organizations, such as personnel requirements, capital requirements, and internal plans for growth to remain competitive. Chandler's work, on the other hand, was undertaken in a period of relative economic stability. His foundational work relative to life-cycle models focused on growth of large institutions, comprising case studies of selected conglomerate organizations. He suggested that as organizations moved from one stage to another, their strategies and structures also changed, such as from centralized to decentralized management. An underlying premise at that time appeared to assume that large organizations would continue to grow. The four cycles he identified for the type of entities studied included (1) accumulating resources, (2) determining how those resources were to be used, (3) continued growth, and (4) rationalizing the use of expanding resources. Both of those early studies failed to look at overall life cycles of organizations from early start up to the ultimate possibility of dissolution of an organization. Subsequent researchers have proposed additional models addressing multiple aspects of life cycles.

Among more recent models proffered, researchers have endeavored to define life-cycle stages, characteristics of those stages, and the number of stages existing within organizational life cycles. Some studies attempted to describe organizational evolution by defining characteristics of organizations during static stages; others looked at longitudinal data to consider developmental stages within the same organizations over periods of time. Twelve studies were identified for providing a framework for the present study in considering a life-cycle model for higher education. Those twelve were selected for their ability to add breadth and depth to the study of life cycles. The model developed by Greiner (1972) was an early study considered by many to represent an important baseline in the field of life cycle models. Three studies (Miller & Friesen, 1984; Quinn & Cameron, 1983; Smith, Mitchell, & Summer, 1985) represented efforts to synthesize various works and develop a proposed summary of life-cycle models. Five individual models (Adizes, 1988; Churchill & Lewis, 1983; Flamholtz, 1986; Kazanjian, 1988; Scott & Bruce, 1987) were included because they had not been incorporated into the previous summary models and provided useful perspectives to consider, such as organizations of different sizes, linkages between one cycle and another, and organizational structure and challenges associated with different cycles. The final three models (Galbraith, 1982; Hanks, Watson, Jansen, & Chandler, 1994; McMahon, 2001) were included because the writers recognized the need to create a usable taxonomy for life-cycle models and also because the studies addressed organizations in industries experiencing dynamic change. The above selections also included a combination of conceptual and empirical studies.

While the various studies had different viewpoints and emphasized distinctive characteristics, unique aspects of those studies will be highlighted briefly based upon their apparent comparability.

#### *Characteristics of Life-cycle Stages*

Quinn and Cameron (1983) concluded changes in organizations occurred in predictable patterns that could be characterized by stages. They documented four stages occurring regularly in developing companies: (1) the entrepreneurial stage, (2) the collectivity stage, (3) the formalization and control stage, and (4) the elaboration of structure stage. Different attributes were emphasized during each stage. Characteristics of the *entrepreneurial stage* generally typified flexibility, growth, resource acquisition, and development of external support. The *collectivity stage* was marked by an informal communications structure, high member commitment, and personalized leadership. In the *formalization and control stage*, organizations became more conservative and structured, particularly in areas such as creating organizational stability, developing efficiency in production, and formalizing policies and procedures. During the *elaboration of structure stage*, organizations tended to monitor external environments more closely in order to leverage competitive advantages. In characterizing those stages, the authors noted that distinguishing features were (1) sequential in nature, (2) occurred as a hierarchical progression that was not easily reversed, and (3) involved a broad range of organizational activities and structures.

The research by Quinn and Cameron (1983) focused primarily on the early stages of organizational development, however. One reason given for limiting the scope was the premise that predictable patterns occurred only from birth to maturity. They surmised that

after maturity, definitive stages tended to break down. They stated, based on organizational theories, that group behavior tended to revert to earlier stages of development when environmental turbulence was encountered, when turnover in membership occurred, when primary tasks changed, or when leadership style was altered. They proposed the same may be true of organizations in their life cycles.

Kazanjian (1988) also observed organizations followed developmental patterns, and the issues each organization confronted were associated with a particular stage of its development. He suggested that in the *conception and development* periods, organizations tended to lack formal structure; activities were organized around projects and product development. All employees in the organization worked closely together, usually in the same room. During the period of *commercialization*, most issues for the organization were technical in nature and a more formalized organizational structure was developed. Responsibilities for specific functions, such as engineering, manufacturing, sales and marketing, administration, etc., began to emerge. Once products or services achieved a level of acceptance in the marketplace, growth followed. During periods of *growth*, most organizations were confronted with meeting expectations and promised results without compromising quality or being overtaken by competitors. If an organization survived strong growth, it matured into a stable organization. Characteristics of *stability* included a more formalized structure, an experienced management team (replacing or supporting the founder), and established policies and procedures.

Similarly, Smith and others (1985) observed that models of life-cycle stages presupposed regularities in organizational development and such regularities occurred in a way that the organizations' developmental processes could be segmented into stages or

periods of time. According to Smith and his colleagues, during the early stages energy would be concentrated on start-up, organization, and growth issues. The next period emphasized managing the expanding enterprise. Mature organizations focused on maintaining the status quo or restructuring to allow for new growth.

Another element proposed by Galbraith (1982) was the interrelationship or connectivity of one stage to another. Each stage had elements connecting people, structure, tasks, decision processes, and reward systems; changes in any one of those dimensions affected all others. Galbraith noted during periods of transition from one stage to another, those interrelationships adapted to the new environment. Also, transitions followed predictable patterns from conceptualization (*proof of principle*) through organizational maturity (*strategic maneuvering*). He suggested if a leader were to understand the stages and was aware of the transition issues, he/she could implement more easily the organization needed during each stage.

Much of the conceptual literature (Galbraith, 1982; Quinn & Cameron, 1983; Smith, et al., 1985, Kazanjian, 1988) assumed a sequential progression through the different stages. However, Miller and Friesen (1984) noted from their longitudinal study based on empirical data that although many organizations appeared to follow sequential evolutionary patterns as described by others, there were a number of exceptions; the actual patterns could traverse a variety of transitional paths. Their model included five phases: *birth*, *growth*, *maturity*, *revival*, and *decline*. Of the organizations studied (n=125), most followed a predictable path through the prescribed phases. Although, many organizations tended to stay in the growth/maturity/revival stages for extended periods of time, usually ten years or more. However, 23 percent of the organizations in the revival

stage reverted back to the mature phase; 42 percent of firms in the decline phase progressed (returned) to the revival stage; and 25 percent went on to the mature phase. They concluded that although stages of life cycles were internally coherent, they did not necessarily follow a specific sequence; maturity could be followed directly by decline, or revival, or growth; growth might be followed by maturity or decline; revival might precede or follow decline, etc. They postulated there was no common corporate life cycle, but there were common life-cycle stages that differed distinctly and consistently from one another.

Adizes (1988) also suggested there might be multiple paths through the stages, identifying possible causes for his observations. He described a “healthy organization” as having a life cycle following the pattern of a normal distribution model – a bell-shaped curve. However, he postulated that different segments of an organization aged (matured) at different times. As a result, characteristics exhibited by some parts of the organization emulated an early phase of development, while others reflected later phases. Identifying where an organization was in its life cycle was determined by those characteristics exhibited most of the time. Adizes also described critical transition points when moving from one stage to another; organizations typically experienced pain coincident with transition. How the organization responded to the pains of transition and what kind of leadership was exhibited determined which stage would follow, either continued growth or premature aging.

Part of Adizes’ (1988) model hypothesized that different leadership styles were needed at different stages of the cycle. He identified four general characteristics demonstrated by different leadership styles: performance, administration,



entrepreneurship, and integration. He proposed that an emphasis on certain leadership characteristics (or a specific combination of characteristics) was needed at different life-cycle stages.

Other authors (Flamholtz, 1986; Greiner, 1972; Scott & Bruce, 1987) also observed transitions from one stage to another required change and frequently were the result of some internal or external crisis. Greiner (1972) suggested each stage experienced a period of relative calm (evolution) followed by a crisis (revolution). Additionally, Flamholtz (1986) observed the greater the incongruity between an organization's size and the maturity of its structure and operations, the greater the probability it would experience challenges. Scott and Bruce (1987) added that crises tended to be disruptive, and problems associated with change could be minimized when leaders acted proactively rather than reactively.

Churchill and Lewis (1983), Miller and Friesen (1984), as well as Hanks and colleagues (1994) described various stages of life cycles in terms of configurations of characteristics. They all have suggested that individual stages could be identified by a set of attributes unique to each phase. Galbraith (1982) further supported the concept of configurations by characterizing the turning point from one stage to the next by using the term "reconfiguration" to describe the transition.

In each of these life-cycle models, the authors described the various phases in multidimensional terms. Although there was considerable variability, all included some dimensions related to organizational context and organizational structure. Those dimensions are addressed in greater detail later in this chapter.

### *Number of Phases in Life Cycles*

Varying terms have been used to describe representative time periods within life cycles. Some authors used the term *life cycle stages* (Adizes, 1988; Hanks, et al., 1994; Quinn & Cameron, 1983; Smith, et al., 1985); others have used terms such as *growth stages* (Flamholtz, 1986; Galbraith, 1982; Kazanjian, 1988; Scott & Bruce, 1987), *development stages* (Churchill & Lewis, 1983; McMahon, 2001); *life stages* (Miller & Friesen, 1984); or simply *phases* (Greiner, 1972). Sometimes the terms were used interchangeably without apparent effort to differentiate among them.

In addition, there has not been consensus among writers as to the number of phases or the definition of what constituted a specific stage or phase within life cycles. For example, the models selected for consideration in this study included three phases (McMahon, 2001; Smith, et al., 1985), four phases (Kazanjian, 1988; Quinn & Cameron, 1983), five phases (Churchill & Lewis, 1983; Galbraith, 1982; Greiner, 1972; Hanks, et al., 1994; Miller & Friesen, 1984; Scott & Bruce, 1987), seven phases (Flamholtz, 1986) and ten phases (Adizes, 1988).

A comparison of the various models is illustrated in Table 2.1. Variations in the models and lack of consistency in use of terminology are readily evident in the table. Hanks and his colleagues (1994) also indicated, “While the models suggest a fairly consistent pattern of organization growth, there is wide variance as to the specific number of stages...Extensive taxonomic study remains to be done before the number-of-stages question can be answered more definitively” (p. 11).

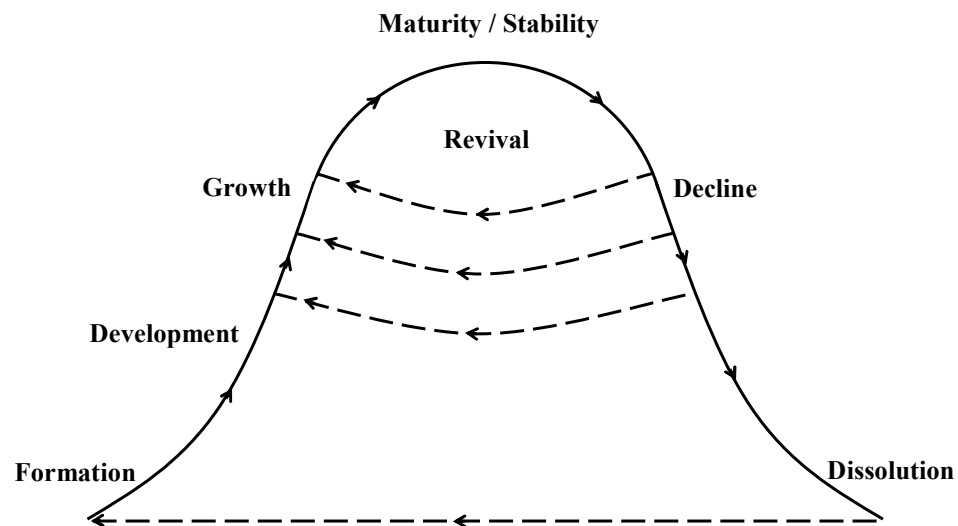
| <b>Model</b>            | <b>Phase 1</b>                | <b>Phase 2</b>    | <b>Phase 3</b>              | <b>Phase 4</b>           | <b>Phase 5</b>        | <b>Phase 6</b> | <b>Phase 7</b> | <b>Phase 8</b>    | <b>Phase 9</b> | <b>Phase 10</b> |
|-------------------------|-------------------------------|-------------------|-----------------------------|--------------------------|-----------------------|----------------|----------------|-------------------|----------------|-----------------|
| Adizes, 1988            | Courtship                     | Infancy           | Go-Go                       | Adolescence              | Prime                 | Stable         | Aristocracy    | Early Bureaucracy | Bureaucracy    | Death           |
| Churchill & Lewis, 1983 | Existence                     | Survival          | Success                     | Take-off                 | Resource Maturity     |                |                |                   |                |                 |
| Flamholtz, 1986         | New Venture                   | Expansion         | Professionalism             | Consolidation            | Diversification       | Integration    | Decline        |                   |                |                 |
| Galbraith, 1982         | Proof of Principle/ Prototype | Model Shop        | Start-up/ Volume Production | Natural Growth           | Strategic Maneuvering |                |                |                   |                |                 |
| Greiner, 1972           | Creativity                    | Direction         | Delegation                  | Coordination             | Collaboration         |                |                |                   |                |                 |
| Hanks, et al, 1994      | Start-up                      | Expansion         | Maturity                    | Diversification          | Decline               |                |                |                   |                |                 |
| Kazanjian, 1988         | Conception & Development      | Commercialization | Growth                      | Stability                |                       |                |                |                   |                |                 |
| McMahon, 2001           | Low Growth                    | Moderate Growth   | High Growth                 |                          |                       |                |                |                   |                |                 |
| Miller & Friesen, 1984  | Birth                         | Growth            | Maturity                    | Revival                  | Decline               |                |                |                   |                |                 |
| Quinn & Cameron, 1983   | Entrepreneurial               | Collectivity      | Formalization               | Elaboration of Structure |                       |                |                |                   |                |                 |
| Scott & Bruce, 1987     | Inception                     | Survival          | Growth                      | Expansion                | Maturity              |                |                |                   |                |                 |
| Smith, et al, 1985      | Inception                     | High Growth       | Maturity                    |                          |                       |                |                |                   |                |                 |

Table 2.1 – Comparison of Phases of Various Life-cycle Models

The choice of titles and the number of phases may be subject to continuing debate; however, all of the models addressed one or more phases related to formation/birth/start up; development/expansion; growth; and maturity/stability stages of organizations. Additionally, six models (Flamholtz, 1986; Galbraith, 1982; Greiner, 1972; Hanks, et al., 1994; Miller & Friesen, 1984; Quinn & Cameron, 1983) mentioned some aspect of diversification/restructuring/revival. Three (Flamholtz, 1986; Hanks, et al., 1994; Miller & Friesen, 1984) specifically included a decline phase. Only one model (Adizes, 1988) mentioned the possible dissolution or death of an organization. Hanks and colleagues (1994) concluded that excluding the decline phase in the majority of models may be attributed to two factors: first, the impact of decline on organizational structure and systems was far less predictable than changes associated with growth, and second, the onset of organizational decline actually might occur at any stage of the life cycle. Notwithstanding the differences, all models identified specific characteristics describing each phase.

A generalized model representing the combination of phases described in those various life cycle models is illustrated in Figure 2.1. The duration of each phase may be different for each organization. The model reflects predictable patterns of growth; however, once an organization passes the maturity/stability phase and begins to decline, it can proceed in one of two directions: (1) it must experience a period of revival to return to a growth phase or (2) it will continue towards dissolution. The farther along the decline path an institution progresses, the longer (and perhaps more difficult) the revival stage might be. If an organization gets to the point of dissolution, the only path to becoming a viable entity again is to return to the formation stage.

Figure 2.1 – Generalized Model of Organizational Life Cycles



Adapted from Adizes, 1988, p. 88.

Common themes from the referenced studies related to organizational context and organizational structure. The consistency of those two dimensions across the various studies provided a core for considering the concept of life cycles for higher education.

### *Configurations*

Life-cycle models have been based upon both conceptual and empirical studies. Among those empirical in nature, Miller and Friesen (1984) measured essential attributes along four classes of variables – situation (context), strategy, structure, and decision-making style – to identify configurations for organizations in predictable patterns during phases of their life cycle. The premise was that every organization engaged in multiple activities regularly such as producing products or providing services; research and development; marketing; sells; purchasing; distribution; planning; budgeting; addressing competitive forces within its marketplace; and hiring, training, promoting and/or firing of personnel. In addition, most organizations dealt with various issues over time like organizational size; growth; management structure; decision-making processes; sources of funding; recognition and reward systems; and both internal and external relationships, as well as influences on the organization by various stakeholders. Relating to configurations, Miller and Friesen provided two conclusions: (1) characteristics of organizations were reasonably predictable along key attributes within each phase, and (2) the characteristics of one phase were very distinctive from another.

The study by Smith and his colleagues (1985) also was empirical in nature, but rather narrow in scope. That study used a small sample size (n=27) and measured organizational structures and management priorities along three clusters (technical

efficiency, organizational coordination, and political support) to see how they co-varied with life-cycle stages. They evaluated three hypotheses:

*Hypothesis 1: Technical efficiency is more important at inception and maturity than it is in intermediate stages.*

*Hypothesis 2: Organizational coordination is more important at intermediate stages than it is at inception or maturity.*

*Hypothesis 3: Political support is more important at maturity than it is at earlier stages (Smith, et al., 1985, p. 804).*

For the study, senior managers (n=38) were given three folders each with information necessary to make decisions regarding how a new product was to be developed. Responses to “solving” the problems were recorded using pre-tested questionnaires with Likert-scale type ratings. The last group of questions was structured to gather data about the ages, sizes, and growth rate of the organizations being studied. They then used cluster analysis to categorize the different organizations based on three life-cycle stages: inception, high growth, and maturity. The key finding of that research was that management priorities changed between one phase and another.

In order to validate their findings, Smith and colleagues (1985) used a simulation model replicating organizational experiences and life-cycle stages using undergraduate students enrolled in a senior-level business policy course. Participants (n=128) were assigned randomly in groups of eight to hypothetical organizations and each was given a different management role. Each organization addressed typical concerns confronted by business organizations: product development, design, marketing, expansion, acquisition/mergers by or with competitors, etc. After several rounds of the simulation, the results of the hypothetical organizations were similar to those experienced by

managers of actual organizations: management priorities changed between stages.

Although the findings in both evaluations were similar, the researchers acknowledged the need for further empirical research to assess whether a manager's ability (or inability) to adapt to changing priorities inhibited further development of an organization.

Kazanjian (1988) included an empirical element in his study intended to identify major issues or challenges faced by organizations during different stages of development. In that phase of the study, Kazanjian measured attributes for dominant problems faced by management across four measures: conception and development, commercialization, growth, and stability. He concluded the configuration of issues receiving attention by management was distinctive during each stage of development and that changes in the types of priorities might mark transitions from one period to another. He also noted, however, that some challenges were persistent across all phases, suggesting that individual stages might not be differentiated as clearly as conceptual models might imply.

The next empirical study considered was that of Hanks and associates (1994). They theorized that if organizations evolved across stages, it should be possible to cluster organizations based on common configurations of variables. Two sets of variables were used: cluster variables with two subsets, contextual (age, size, and growth rates) and structural (vertical differentiation, structural form, formalization, specialization, and centralization), and descriptive variables (total sales, sales growth, total employees, and employee growth rates). That study confirmed empirically that patterns of life-cycle stages could be systematically defined and explored. It also created a taxonomy whereby additional studies could be measured and compared.



McMahon's study (2001) was an additional effort to extend the work done by Hanks and others (1994) by expanding the data base of organizations examined through cluster analysis. Using similar cluster and descriptive variables applied to the manufacturing sector, McMahon concluded the configurations matched reasonably well in similar clusters as the previous study for the type of organizations he studied. Additional confirmation of the taxonomy provided strength for the concept of using contextual and structural dimensions for identifying variables for understanding the characteristics of organizations within life-cycle stages.

The conceptual models, along with the other selected studies used to formulate the framework for the present study also referenced similar variables as used by Hanks and colleagues (1994) in the cluster analysis. All of those factors can be summarized into contextual and structural dimensions. Phases of institutional cycles then should be able to be characterized by a specific configuration of organizational context and organizational structure. Common contextual dimensions across all of the studies included age, size, growth rate, and focal tasks or challenges faced by the organization at a given point in time. Common structural dimensions included structural form, formalization, centralization, and vertical differentiation – the number of organization levels from the president to the lowest level in the organization. Table 2.2 provides a summary of the orientation of the selected models being considered, showing elements of both contextual and structural dimensions identified in each study.

Adapting concepts from those studies to the present study – seeking to understand the nature of institutional cycles within higher education – provided a basis for identifying such cycles.

Table 2.2 – Orientation and Descriptive Dimensions of Life-cycle Models

| Model   | Contextual Dimension   | Structural Dimension   |
|---|--|--|
| <p>Adizes, 1988:<br/>"Organizations have lifecycles just as living organisms do; they go through the normal struggles and difficulties accompanying each stage of the Organizational Lifecycle and are faced with the transitional problems of moving to the next phase of development." (p. xiii)</p>  | <p>Age<br/>Size<br/>Normal problems &amp; transitions</p>            | <p>Structural form<br/>Formalization of policies &amp; procedures<br/>Leadership characteristics needed<br/>Depth of management<br/>Diversity<br/>Complexity</p> |
| <p>Churchill &amp; Lewis, 1983:<br/>"The framework...delineates live stages of development. Each stage is characterized by an index of size, diversity, and complexity and described by five management factors: managerial style, organizational structure, extent of formal systems, major strategic goals, and the owners' involvement in the business." (p. 31)</p>   | <p>Age<br/>Size<br/>Growth rate<br/>Major strategies</p>             | <p>Management style<br/>Organizational structure<br/>Extent of formal systems<br/>Business/Owner relationship</p>  |
| <p>Flamholtz, 1986:<br/>"The framework for organizational development...includes six organizational development areas or tasks that are critical in determining whether an organization will be successful at any particular stage of growth," (p. 18)<br/>"An organization will face significant problems if its internal development is too far out of step with its size. The greater the degree the incongruity between an organization's size and the development of its operational systems, the greater the probability that the firm will experience the onset of growing pains." (pp. 44-45)</p> | <p>Age<br/>Size<br/>Growth rate<br/>Critical developmental tasks</p> | <p>Organization<br/>Formalization of planning, control, budgeting, operating &amp; management systems<br/>Leadership<br/>Decision making</p>                     |
| <p>Galbraith, 1982:<br/>"The stage of development and the business idea determine the basic task to be performed. For different tasks, different structures, decision processes, reward systems, and people are needed in order to execute that task...[E]ach of these dimensions is connected to the others." (p. 71)</p>  | <p>Age<br/>Size<br/>Growth rate<br/>Task</p>                         | <p>Structural form<br/>People (Specialization)<br/>Reward system<br/>Processes (Formalization)<br/>Centralization<br/>Leadership style</p>                       |
| <p>Greiner, 1972:<br/>"[G]rowing organizations move through five distinguishable phases of development, each of which contains a relatively calm period of growth that ends with a management crisis...[E]ach phase is strongly influenced by the previous one" (p. 37).</p>  | <p>Age<br/>Size<br/>Industry growth rate<br/>Management focus</p>    | <p>Organizational structure<br/>Formalization<br/>Top management Style<br/>Control system<br/>Management reward emphasis</p>                                     |
| <p>Hanks, Watson, Jansen &amp; Chandler 1994:<br/>"[W]e have chosen to define a life-cycle stage as a unique configuration of variables related to organization context and structure" (p. 7).</p>  | <p>Age<br/>Size<br/>Current growth rate</p>                          | <p>Vertical differentiation<br/>Structural form<br/>Formalization<br/>Specialization<br/>Centralization</p>  |

|  |   |  |
|--|---|--|
| <p>Kazanjan, 1988:<br/>"The growth histories...suggest a stage developmental pattern... The particular problems faced at a given time appeared to be strongly associated with a venture's position in a particular stage of growth." (p. 261)</p>  | <p>Age<br/>Size<br/>Growth rate<br/>Dominant management problems</p>  | <p>Structural form<br/>Formalization<br/>Centralization<br/>Top management composition</p>   |
| <p>McMahon, 2001:<br/>"For many decades it has been very common...to view growth as a series of phases or stages of development through which the business may pass in an enterprise life-cycle...a strong argument can be made that longitudinal data are inherently appropriate to conceptualising growth and development over time." (pp. 4,6)</p>  | <p>Age<br/>Size<br/>Growth rate</p>   | <p>Ownership structure<br/>Management practices<br/>International orientation<br/>Innovation<br/>Networking activities</p>   |
| <p>Miller &amp; Friesen, 1984:<br/>"A review of recent literature on the corporate life cycle disclosed five common stages; birth, growth, maturity, revival, and decline. Theorists predicted that each stage would manifest integral complementarities among variables of environment ('situation'), strategy and structure and decision making methods; that organization growth and increasing environmental complexity would cause each stage to exhibit certain significant differences from all other stages along these four classes of variables . . ." (p. 1161)</p> | <p>Age<br/>Number of employees<br/>Sales growth<br/>Size (relative to competitors)<br/>Strategy variables<br/>Environmental dynamism, hostility &amp; heterogeneity</p> | <p>Basis of organization<br/>Participative management<br/>Sophistication of info, systems<br/>Performance controls<br/>Concentration of ownership<br/>Stakeholder influence<br/>Action planning<br/>Formal controls<br/>Internal communications<br/>Centralization of power<br/>Delegation for routine decisions<br/>Technocratization<br/>Resource availability<br/>Differentiation<br/>Decision making style</p> |
| <p>Quinn &amp; Cameron, 1983;<br/>"[C]hanges that occur in organizations follow a predictable pattern that can be characterized by developmental stages ... They range from cognitive orientations of organization members to organizational structures and environment relations." (p. 33)</p>  | <p>Age<br/>Size<br/>Criteria of organizational Effectiveness</p>  | <p>Structural form<br/>Formalization<br/>Centralization<br/>Leadership<br/>Culture</p>   |
| <p>Scott &amp; Bruce, 1987:<br/>"As a small business develops it moves through five growth stages, each with its own distinctive characteristics. Because the transition from one stage to the next requires change, it will be accompanied by some crisis or another. Crises tend to be disruptive and the problems of change can be minimized if managers are proactive rather than reactive." (p. 45)</p>   | <p>Age<br/>Size<br/>Growth rate<br/>Industry stage<br/>Key issues:<br/>Source of finance<br/>Cash generation<br/>Major investments<br/>Products/Market scope</p>        | <p>Structural form<br/>Formalization of systems &amp; controls<br/>Top management role/style<br/>Centralization</p>  |
| <p>Smith, Mitchell &amp; Summer, 1985:<br/>"Models of life cycle stages presuppose that there are regularities in organizational development and that these regularities occur in such a way that the organizations' developmental processes lend themselves to segmentation into stages or periods of time (Scott, 1968)." (p. 801)</p>   | <p>Age<br/>Size (Sales)<br/>Size (Employees)<br/>Growth rate<br/>Top management priorities</p>  | <p>Structural form<br/>Reward system<br/>Formalization<br/>Centralization<br/>Top Management Composition</p>   |

Adapted from Hanks, Watson, Jansen, and Chandler, 1994, pp. 8-9.

### *Summary*

Since the literature on life cycles was inconclusive for defining specific cycles for higher education, this study used the principles of configurations from business models to identify and define institutional cycles for higher education as a foundational approach. This study sought to identify specific phases or seasons based on characteristics of contextual and structural dimensions over the forty-year period between 1965 and 2005.

Delimiting the study to specific institutions over a time horizon of forty years entailed inherent limitations. Based on the longevity of higher educational institutions, this study anticipated defining dimensions that covered the possibility of periods of development, growth, maturity/stability, decline, and revival; however, it was uncertain whether periods of formation or dissolution would be evident from the institutions selected (although those phases would be assumed to exist). Therefore, the study did not intend to evaluate the nature of every period of an overall taxonomy for the entire life cycle of institutions, rather it sought to identify seasons for existing institutions.

To develop a model for institutional cycles, the benefits of both quantitative and qualitative research traditions were needed. In order to consider both contextual and structural dimensions of institutions, a combination of both quantitative and qualitative data were used. How these data were utilized is described in more detail in Chapter 3.

## CHAPTER 3

### Methodology

#### *Rationale for Mixed-Methods Research*

Some authors (Erzberger & Kelle 2003; Johnson & Turner, 2003; Punch, 1998; Tashakkori & Teddlie, 1998) have suggested a mixed-methods approach, using both quantitative and qualitative methods, may be preferable in some cases where neither method by itself was sufficient to capture all of the details of the topic under study. A mixed-methods research approach was beneficial for the present study because higher educational institutions are complex by nature. Mixing quantitative and qualitative methods allowed the researcher a better platform to identify and to corroborate multiple facets of those institutions.

The quantitative data and their results provided a general perspective of some of the contextual characteristics of institutional cycles; the qualitative data and their analysis added the perspective of structural characteristics and were used to provide a more in-depth picture of the issues and social settings experienced by institutions coincident with those cycles. In the process of analyzing different types of data, models related to understanding life cycles of higher education institutions emerged. The models are described in detail and represented visually in Chapters 4 and 7.

#### *Philosophical Assumptions*

Every study is influenced by the perspectives, experiences, biases, and philosophical assumptions of the researcher. Identifying an appropriate lens to guide the study was a necessity. The concept of pragmatism was appealing related to the present study because (1) it presents a practical approach to applied research, and (2) it gives a

philosophical paradigm that embraces mixed-methods designs (Tashakkori & Teddlie 1998). Using practical features of both quantitative and qualitative methods is the foundation of mixed-methods research. Tashakkori and Teddlie also noted the origins of pragmatism were rooted in the observation of natural consequences; pragmatists reconcile their thinking around observable events. Those aspects of pragmatism were relevant when considering institutional cycles as natural, observable events.

Disclosing the worldview of the researcher also helps readers understand the perspectives presented in the study on ontology (the nature of reality), epistemology (the relationship of the knower and the known), axiology (the role of values in inquiry), generalizations, causal linkages, and deductive/inductive logic. How each of those relates to the present study is described below:

- *Ontology* – This project focused on identifying life cycles for institutions of higher education over a period of time. Underlying assumptions of this study anticipated that measurable characteristics of institutional cycles existed, that patterns could be identified, and that characteristics from those patterns could be described. Although different institutions went through cycles at different times depending on individual circumstances and influences, and the length of each season varied from institution to institution, the premise was there are cycles for all institutions and this study sought to identify those cycles.
- *Epistemology* – Using life-cycle models from business, this study developed a prototype to define institutional cycles for colleges and universities. The underlying theory emerging from the data was anticipated to identify a foundation for such cycles in higher education. The relationship between the

anticipated learning and the views of the researcher developed together through this process.

- *Axiology* – In developing a model to support a theory, the research reflected perspectives based on experience and perceptions of the writer. Attempts were made to identify and to account for any researcher bias; however, the attitudes and values of the researcher were inherent in looking at social systems such as institutional cycles.
- *Generalizations* – In identifying subject institutions, a proportional, stratified random sampling approach was employed to be able to suggest the results of the study might be applied or generalized to other institutions not included in the study.
- *Causal linkages* – Business models suggested there was an interrelationship between contextual and structural dimensions in describing stages. Each phase of an institutional cycle was characterized by a specific configuration of contextual and structural dimensions.
- *Deductive/inductive logic* – Studies that look for meanings, build up data to give readers a detailed picture of social settings, use subjective judgments to evoke meanings, and allow the model to emerge from the data for developing the contextual model are inductive in nature. This study anticipated developing a theory based upon these principles.

### *Theoretical Framework*

Applicable factors used to consider contextual and structural dimensions of institutions were identified through an analysis of twelve studies describing dimensions of life-cycle models. Concepts and principles from those studies were used to help define institutional cycles in higher education. Therefore, rather than providing advocacy or a transformative lens, this study was primarily descriptive, based on work from those previous studies.

### *Procedural Issues*

The choice for a design was based upon four criteria: implementation, priority, integration, and theoretical perspectives. In general, implementation considers the sequence in which data are collected, either sequentially or concurrently. Priority refers to the emphasis being placed on either quantitative or qualitative components of the study. The emphasis may give both methods equal priority, or alternatively either quantitative or qualitative method may be given greater emphasis (Creswell, Plano Clark, Guttman, & Hanson, 2003). The point of integration is the most critical aspect of mixed-methods research. Integration can occur at the point of developing research questions, during data collection, incorporated in data analysis, or reserved for data interpretation. The point of integration should be determined by the purpose of the study and the nature of the research questions being addressed. The theoretical perspective considers whether the study is intended to be transformative in nature. As noted, this study is descriptive rather than transformative.



### *Mixed-Methods Research Design*

#### *Definition of Sequential Explanatory Design*

Among the design options for mixed-methods research, Creswell and colleagues (2003) suggested six typologies that incorporate various alternatives and provide flexibility in choosing the design best suited to address a particular research situation. The design selected for this study was sequential explanatory. In sequential explanatory studies, which entail an initial quantitative phase followed by a qualitative phase, priority typically is given to the quantitative phase. Emphasis was placed on the quantitative data while integrating both quantitative and qualitative arms through data analysis and data interpretation.

Quantitative data were collected and analyzed first to identify and define some characteristics of institutional cycles. The results of the quantitative phase guided the work in the qualitative phase that followed. Based on the results of the initial phase of the study, the institutions for the second, qualitative phase were selected purposefully, one from each of the six accrediting regions, to explore issues experienced by universities during different cycles and to understand whether those issues contributed to identifying additional characteristics of institutional cycles. Integration took place following the initial analysis of all those data. A visual diagram of the sequential explanatory design is presented in Appendix C (p. 260).

Greene, Caracelli, and Graham (1989) identified complementarity – using one method to elaborate, enhance, illustrate, clarify or compliment the use of the other method – as a key element in mixed-methods designs. Complementarity benefited this

study by capitalizing on the strengths of both methods while counteracting the potential weaknesses inherent in either method individually; the qualitative results helped increase the validity, meaningfulness, and interpretability (inference quality) of the results from the quantitative phase.

#### *Relationship between Design and Study Purpose*

Studies that involve looking for meanings, building up data to give readers a detailed picture of settings (both social and empirical), using subjective judgments to evoke meanings, being comfortable with changes within the design as the study evolves and progresses, and allowing the model to emerge from the data require a combination of both qualitative and quantitative research. As noted previously, the present study anticipated having a model for institutional cycles emerge from analysis of the data relying upon pattern theories, rather than causal theories.

Identifying initial institutional cycles and defining some of their characteristics was accomplished first by collecting and analyzing the quantitative data. The supporting qualitative data resulted from selecting a subset from among the institutions selected for the first phase of the study. The results of the qualitative data analysis provided additional perspectives of the characteristics of institutions during different cycles and expanded relevant issues for characterizing additional seasons.

#### *Sampling Procedures*

##### *Criteria for Selecting Site and Participants*

Institutions were selected initially based on four explicit criteria: location, size, sponsorship, and pre-2005 Carnegie classification. All institutions considered in the study population were public, not-for-profit universities and within the United States. The

population was delimited further to include only doctoral-granting institutions in order to develop an initial model based on institutions of similar size and sponsorship.

### *Study Population*

Among the 3,848 colleges and universities in the United States at the point of selecting the sample, there were 1,553 private institutions, 1,542 public institutions, and 753 other institutions (Corrigan, 2002). Public colleges and universities enrolled three-fourths of all college students (Callan, 1993; IPEDS, 2003), so public institutions clearly were more dominant in terms of total size of student population served. Data from public institutions provided a foundation for developing a theory of institutional cycles and also were more readily available.

Within public institutions, there were 151 doctoral-granting institutions (Corrigan, 2002), of which 146 had enrollments exceeding 10,000 when the sample was selected (IPEDS, 2003). This figure of 146 included both doctoral-extensive and doctoral-intensive universities according to the pre-2005 Carnegie Foundation classification system. Institutions with larger enrollments (those exceeding 10,000) were used to assure sufficient, observable variations in the data to identify configurations within cycles.

### *Number of Participants Selected*

Institutions were selected for the quantitative phase of this study from among the 146 qualifying universities using a proportional stratified random sampling procedure as outlined below. The institutions in the population were divided into the six regions used for institutional accreditation: West, Northwest, North Central, Southern, Middle States, and New England. The purpose for the geographical selection was to assess whether geopolitical and socio/environmental influences affected institutions in similar ways

during similar periods. Table 3.1 identifies the respective regions and the states, plus the District of Columbia, included within each region. A table identifying all 146 institutions by region is included in Appendix D (p. 262).

Table 3.1 – Regional Accreditation Associations

| <b>Region (Number of states in region)</b> | <b>States included within the region</b>   |
|--|--|
| West (2)                                   | California; Hawaii   |
| Northwest (7)                              | Alaska; Idaho; Montana; Nevada; Oregon; Utah; Washington   |
| North Central (19)                         | Arizona; Arkansas; Colorado; Illinois; Indiana; Iowa; Kansas; Michigan; Minnesota; Missouri; Nebraska; New Mexico; North Dakota; Ohio; Oklahoma; South Dakota; West Virginia; Wisconsin; Wyoming |
| Southern (11)                              | Alabama; Florida; Georgia; Kentucky; Louisiana; Mississippi; North Carolina; South Carolina; Tennessee; Texas; Virginia  |
| Middle States (6)                          | Delaware; District of Columbia; Maryland; New Jersey; New York; Pennsylvania   |
| New England (6)                            | Connecticut; Maine; Massachusetts; New Hampshire; Rhode Island; Vermont  |

Based on the size of the population, the sample size was 59, using a simplified sample calculation derived by Yamane (1967):

$$n = N / 1 + N(e)^2$$

Where: n = sample size needed for desired level of precision

N = size of population

e = level of precision

The calculation assumes a confidence level of 95%, which corresponds to a Z statistic of 1.96, and an estimated variability of 0.5, which presupposes a heterogeneous population.

Notwithstanding the unique nature of individual higher education institutions, the population of universities used in this study, based on the selection criteria, would tend to be more homogeneous in nature – the more homogeneous the population, the smaller the sample size needed (Israel, 2006). To compensate for the estimated variability assumed in the equation, the level of precision was modified to yield a smaller sample size. Based on the nature of this study and the survey population, a precision level of  $\pm 10\%$  was used for the sampling error.

The above calculation produces a result that is mathematically equivalent to the concept of efficient sample sizes with a finite population correction factor presented by Henry (1990), computed in two steps as follows:

$$n' = p(1-p)/(t_e/t)^2$$

$$n = n'/(1 + n'/N)$$

Where:  $n'$  = sample size without the finite population correction

$n$  = sample size needed with the finite population correction

$N$  = size of population

$p$  = proportion of the sample (maximum variance occurs where  $p = 0.5$ )

$t_e$  = tolerable error

$t = 1.96$

The sample size represents 3.8 percent of all the public institutions ( $N=1,542$ ) and 40.4 percent of all the institutions meeting the selection criteria in the sampling frame ( $N=146$ ). Once the sample institutions were identified, data for those institutions were gathered for further analysis. Selected data were collected for all 59 institutions for the quantitative phase of this study.

From among those 59 institutions selected in the first phase, six institutions were purposefully selected for the qualitative phase. Those six institutions were selected based on five criteria: location, size, age, pre-2005 Carnegie classification, and status as a land-grant institution. A decision tree was developed to select institutions meeting the appropriate combinations of the following conditions: one institution from each of the six geographical regions; three institutions with enrollments between 10,000 and 19,999 (N=27), two with enrollments between 20,000 and 29,999 (N=21), and one institution with enrollment greater than 30,000 (N=11); one institution that was founded in the antebellum period (N=15), three institutions founded between the Civil War and WW II (N=31), and two institutions founded following WW II (N=13); two institutions classified as doctoral intensive (N=20) and four from the doctoral extensive (N=39) category; and two institutions that were land-grant universities (N=18) and four that were not land-grant institutions (N=41). This combination of factors was reflective of general characteristics of the 59 institutions used for the quantitative phase of the study.

University histories and other qualitative data for the selected institutions were analyzed to explore what issues universities experienced during different phases of institutional cycles and how those issues contributed to identifying characteristics of institutional cycles. The various criteria were identified to consider whether the issues and challenges encountered by institutions during the period studied were consistent across all the institutions.

### *Recruitment Procedures*

Archival data were used for this study; therefore, directly recruiting participants was not necessary. The relative number of institutions needed for the stratified random sample was selected from each region as follows: (1) not-for-profit, doctoral-granting institutions with enrollments over 10,000 were identified using the IPEDS peer analysis website (<http://nces.ed.gov/ipeds/pas/dct/index.asp>), (2) all qualifying institutions were listed alphabetically according to the geographic region where they were located, (3) each institution was assigned a unique sequential number from 1 through 146, and (4) individual numbers were selected, using a random number generator, within the parameters of the number of institutions per region until the appropriate sample size was identified. Table 3.2 identifies the number of institutions by region and how many institutions from each region were needed to comprise the sample.

Table 3.2 – Stratified Sample Selection for Qualifying Institutions

| <b>Region</b> | <b>Number of Institutions</b> | <b>Sample Size</b> | <b>Percentage</b> |
|---------------|-------------------------------|--------------------|-------------------|
| West          | 10                            | 4                  | 40.0%             |
| Northwest     | 13                            | 5                  | 38.5%             |
| North Central | 56                            | 23                 | 41.1%             |
| Southern      | 46                            | 19                 | 41.3%             |
| Middle States | 13                            | 5                  | 38.5%             |
| New England   | 8                             | 3                  | 37.5%             |
| <b>Total</b>  | <b>146</b>                    | <b>59</b>          | <b>40.4%</b>      |

## *Data Collection*

### *Data Sources*

Both quantitative and qualitative data were collected from existing data sources. The quantitative data collected for this study included enrollment data and financial data. Quantitative data elements comprised total enrollments, male enrollments, female enrollments, minority group enrollments, enrollments by academic program, and selected financial data from published financial statements. Qualitative data consisted of published histories, organizational charts and related data, other institutional documents, individual institutional web sites, and researcher memos.

Most of the data were compiled from the Integrated Postsecondary Education Data System (IPEDS), its predecessor public reporting sources such as the Higher Education General Information Survey (HEGIS), other general data repositories such as the Higher Education Research Institute (HERI), institutional websites, financial statements, and other archival records.

As noted previously, business models for identifying life cycles have focused on two dimensions of organizations, contextual and structural. Common elements noted for the contextual dimension included age, size, and growth rate of the organization; the common elements of the structural dimension encompassed the overall organizational structure, including number of organizational levels and the degree of centralization or decentralization of management. In addition to those two dimensions, anticipated changes in sources of funds (state appropriations; student tuition; and grants and contracts) and uses of relative financial resources allocated to mission-related activities (instruction,



research, and service) also provided further insight into the development and configurations of institutional cycles of these organizations.

Age, size, and growth rates were determined through published sources of data for each institution. Age was determined from the date the institution was founded to the period being examined throughout this study (1965-2005). Size and growth rates were evaluated from data supplied by the institutions to IPEDS or from other general data repositories. These two characteristics included multiple factors over time: total enrollment, levels of male and female enrollment, changes in enrollment of minority groups, and shifts in enrollments by academic areas of study.

Organizational structural elements were considered in conjunction with the number of schools, colleges, and departments each institution had relative to its size over time. In addition to the number of department chairs, deans, and vice presidents that were part of the organizational structure, how the academic functions were organized provided insight to the level of centralization or decentralization of the overall institution. Data about institutional organization were available through data reported to IPEDS or from published institutional records.

Financial data provided glimpses of institutional priorities. Evaluating trends in sources and uses of resources provided an additional confirmatory data source for identifying cycles. Data for public institutions were available from published financial statements; from institutional data reported on Form 990, available as a public record; or from data reported to IPEDS.

### *Data Collection Procedures*

Gathering data for this study involved multiple steps. The first step was a pilot study to test the construct validity of the data elements for both contextual and structural dimensions. The second step included gathering enrollment data and supplemental financial data for the remaining institutions in the sample from the available sources. The third step included obtaining histories and other institutional records. If for some reason data were not available for an institution for one or more of the years during the study period, a fourth step became necessary. In some cases, individualized requests were created for requesting specific data from the subject institution(s).

Individual electronic databases were created for each of the selected institutions. Data were accumulated by institution and by year. Electronic files were maintained on the researcher's computers, which were password protected, accessible only by the researcher or an authorized administrative assistant. A separate file also was created for each institution and kept in the office of the researcher in a locked file cabinet, again accessible only by the researcher. Institutional data such as written histories, financial statements, organization charts, other records or survey data gathered for this study were kept in the locked file cabinet. All data, records, reports, and notes were to be kept for one year following completion of this study and notification of such was approved by the University of Nebraska-Lincoln Institutional Review Board (UNL-IRB). After that time, all records were to be destroyed or deleted.

*Pilot study.* The pilot study included two phases. Phase one included identifying and confirming availability of the data from the anticipated sources for both quantitative and qualitative types of data. (Once the data elements, sources, and process were

confirmed, data for all other institutions in the sample would be able to be compiled.)

Using data from one of the 59 institutions, a descriptive prototype of institutional cycles was developed by defining contextual and structural dimensions of an institution. Visual models were prepared based on that data and are presented in Chapter 4.

In the second phase, an expert panel was used to review and critique the number and types of elements selected by the researcher to measure trends in institutional cycles. The expert panel was asked to review the model and all of the elements identified for the prototype to confirm (1) whether the characteristics represented a reasonable configuration of an institution at any point in time, (2) whether the definition of cycles was adequately descriptive, and (3) whether the planned design would capture adequately the changes in cycles. The panel consisted of four individuals (listed alphabetically): Dr. Kim Cameron, Professor of Business Management at the University of Michigan; Dr. Gerrit Gong, Assistant to the President for Planning and Assessment at Brigham Young University; Dr. Steven Hite, Professor of Educational Leadership at Brigham Young University; and Dr. Nataliya Ivankova, Assistant Professor of Educational Psychology at the University of Alabama-Birmingham. (Abbreviated curriculum vitae for each member of the panel are included in Appendix E (p. 267)) As a result of feedback received from the pilot, the data elements were modified to consider appropriate aspects of cycles for measurement.

*Quantitative data collection.* The quantitative data collected for this study included enrollment data and financial data. Most of the data were compiled from the Integrated Postsecondary Education Data System (IPEDS), its predecessor public reporting sources such as the Higher Education General Information Survey (HEGIS),

other general data repositories such as the Higher Education Research Institute (HERI), institutional websites, financial statements, and other archival records.

In some cases, individualized requests were created for requesting specific data from the subject institutions. Since these requests were not typical conventional surveys, where distribution and response rates are critical, the general methods used for survey research described by Dillman (2000) were modified. However, in order to achieve the needed responses, a multi-step process similar to those of survey research was used. As many as five contacts were needed.

The first consisted of a personal contact with the officer in charge of institutional assessment, the person typically responsible for providing data to IPEDS. The researcher explained the nature of the study, the type and source of the data accumulated, and the elements of institutional data still needed to complete the data sets. A copy of a typical interview protocol is included in Appendix F (p. 272). In some cases, the individual responsible for institutional assessment was able to provide an electronic source for completing the data gathering for the institution. If the data only could be obtained directly from the institution, a commitment was secured to respond to the questionnaire that was sent.

The second contact was the formal written request. As recommended by Dillman (2000), this contact contained several elements: the cover letter, a copy of the actual request, two copies of an informed consent letter with the UNL-IRB approval stamp, and a self-addressed stamped return envelope to facilitate return of the request and one of the signed informed consent letters. The third contact was a thank you postcard (email) timed to arrive approximately ten days to two weeks following the initial mailing of the request.

That time period was slightly longer than recommended by Dillman; however, since the preliminary contact had been made, the additional time allowed for responding and returning the original request by mail. The thank you card was the final contact for many of the respondents if the requested data were received by the researcher prior to sending out the postcard (email).

The fourth contact was limited to those few cases where the original request was not returned within three to four weeks of the original mailing. This communication contained a revised cover letter, a follow-up request, another informed consent letter, and another self-addressed stamped envelope. Because the number of institutions being surveyed was small and selective, the challenges of processing multiple responses from the same respondent were not an issue. (See samples of the Informed Consent Letter in Appendix G (p. 276) and Data Questionnaire Transmittal Letters in Appendices H (p. 280), I (p. 283), and J (p. 285).)

The fifth contact applied only to situations when an institution had not responded after previous contacts or if additional clarification of research information was needed. A telephone contact or email (after prior communications with the respondent) was used in these cases. The contact was timed within a week of sending the follow-up request to make sure the document had been received, to respond to any questions there were, and to remind the respondent of the importance of participation. This personal contact assured a high level of response. A closely monitored follow up request system was used to assure timely response by each subject institution.

*Qualitative data collection.* The main sources of qualitative data were published histories, organizational data, other institutional documents, individual web sites, and researcher memos. These data also were compiled from public data repositories. Histories or other relevant documents not available from archival sources were requested of individual institutions following the same multi-step procedures described above. Since data from only six institutions were used for this arm of the study, the time and effort to collect the data were less intensive.

Data for the quantitative phase were collected during the fall of 2006 and the spring of 2007. After completing the data analysis for the first phase, data for the qualitative phase were collected and analyzed during the spring of 2007. The initial model for contributing to a theory on institutional cycles was completed by the summer of 2007.

### *Data Analysis*

Data analysis included aspects of both quantitative and qualitative research traditions. Multivariate analysis was used for evaluating changes in enrollment patterns and levels of financial support. Descriptive statistics were used to represent the context of cycles. Organizational composition was considered by comparing degrees of similarity or differences in structure. Qualitative inference methodology was used by coding histories and doing a thematic analysis for identifying common issues.

### *Quantitative Data*

*Initial preparation of quantitative data.* Quantitative data were accumulated electronically, primarily from archival sources, and compiled by institution and by year. Changes in enrollment trends for total enrollments, male and female enrollments,

minority group enrollments, and shifts in areas of academic study then were calculated for each institution individually. Directional changes in enrollment patterns served as indicators of turning points marking a potential transition from one institutional cycle to another. For purposes of this study, changes that persisted for three years or more were used to identify trends. A minimum of three years were needed in order to note a marked directional change and not simply an isolated enrollment anomaly between one year and the next. Remy, Clay and Oliva (2005) observed that nothing could replace examining data in context from year to year over an adequate time horizon; however, suspected trends could be confirmed by observing linear patterns. They suggested that after portraying a sufficient number of cases, as few as three data points could essentially convey a ten-year trend.

*Preliminary exploration of quantitative data.* Changes in enrollment patterns from each of the fifty-nine subject institutions were evaluated. Similarly, selected financial data were analyzed. Revenue sources such as tuition; state appropriations; state, federal, and private grants; and other general revenue sources were analyzed to consider significant fluctuations in funding sources for institutional operations. Resources allocated to instruction, research, and service also were analyzed to consider changes in emphasis among mission-related activities.

#### *Qualitative Data*

*Initial preparation of qualitative data.* Histories, documents, memos, and other materials were used in either paper or electronic format for coding and further analysis. Those materials readily available in electronic form were preferred. Other resources in paper form were processed and coded manually.

*Preliminary exploration of qualitative data.* In a sequential explanatory study, qualitative aspects of the research are guided by the findings from the quantitative phase. For the present study, qualitative data were coded based initially on topics identified from the quantitative portion of the study. In addition, other themes emerged from the data highlighting institutional focus and issues faced by the universities during the study period. The themes either supported the seasons previously identified or indicated characteristics of possible additional cycles. Categories and frames of analysis were ascertained using open coding, axial coding and selective coding. Selected data excerpts were included to support the central themes presented.

#### *Data Analysis to Address Research Questions*

Developing a model for life cycles in higher education considered both contextual and structural dimensions of the sample institutions. The process included multiple aspects of data analysis. The foundation for this study was based on mutual interpretation and triangulation of qualitative and quantitative data. The first phase looked at enrollment trends and financial allocations in order to define characteristics of institutional cycles. Changes in enrollment patterns or revenue and expenditures trends served as indicators of turning points marking a potential transition from one institutional cycle to another.

Once periods were identified as seasons within institutional history, the qualitative data were analyzed. The organizational structural dimension of institutions was evaluated based on the number of schools, colleges, and departments as well as the leadership organization to manage the institution over time. The analysis of these data was descriptive in nature – the numbers and sizes of the organizations as well as the number of people in the organizational structure. The process for the balance of the



qualitative data analysis was both iterative and extensive. Creswell (2002) noted, “In analysis and interpretation of qualitative data, the researcher makes sense of the data” (p. 258). Analysis of the data included the following steps to consider common themes that characterized institutional cycles emerging from the data:

- Each history was coded to identify categories and frames of analysis using an open coding approach, wherein the researcher formed initial categories about the phenomenon being studied and segmented the data into those categories. Codes and sub-codes were identified and categorized at the parent, child, and grandchild levels.
- Axial coding was used to identify the central themes and other intervening conditions that emerged from the categories.
- Selective coding, identifying issues faced based on the results presented by the data, formed the foundation for the contextual dimension of each institution.
- Selected data excerpts from those histories were included to support the central themes presented.

(See Appendix P (p. 301) for the pilot study and Appendix U (p. 391) for all six institutions for a summary of codes and themes resulting from the qualitative analysis)

#### *Use of Computer Software*

Computer software was needed for analyzing data for both quantitative and qualitative arms of this study. Statistical analysis of quantitative data was done using SPSS 12.0 for Windows. Coding of themes and analysis of qualitative data was done using QSR NVivo 7.

### *Mixing*

*Stages in research process where mixing occurs.* Using a sequential explanatory design (Creswell, et al, 2003), data collection was done separately in two independent phases. Integration occurred with analysis and interpretation of the findings and subsequent discussion of results. The first quantitative phase sought to identify and define characteristics of institutional cycles and points of transition or reconfiguring from one cycle to the next. The second, qualitative phase explored issues experienced by institutions during those different cycles. The first point of integration occurred in the selection of institutions for further analysis in the qualitative phase. Common themes identified in that phase helped in defining contextual issues in support of the concept of institutional cycles. All data were compared to provide evidence of consistency of the themes. Based on those data, both descriptive and visual models of institutional cycles were created as shown in Chapters 4 and 7.

### *Legitimation*

#### *Validity and Reliability for the Quantitative Phase*

Validity may be defined in a number of ways, including the extent to which an instrument measures what it is intended to measure, and whether the data gathered supports the conclusions drawn (McMillan, 2004). Some measures of validity include construct, content, concurrent, and predictive validity. Construct validity is the ability to legitimately conclude that the results of the testing can be generalized; content validity is the ability to measure all relevant characteristics of a specified subject; concurrent validity is the ability to appropriately differentiate a designated characteristic between two people or groups; predictive validity is the ability to predict something that

theoretically should be able to be predicted and to be able to draw appropriate conclusions (Tashakkori & Teddlie, 1998). Construct, content, and concurrent validity for the quantitative arm of this study were evaluated in two ways: (1) applicable factors for contextual and structural dimensions of institutions were identified and compared to twelve existing life-cycle models through an analysis of relevant literature, and (2) an expert panel was used to review and critique the number and types of elements selected by the researcher to measure trends in institutional cycles for higher education. Predictive validity was evaluated with convergent and/or divergent (discriminant) measurements. A common measure of determining consistency of data is calculating and reporting a correlation coefficient. Descriptive statistics also were used to summarize and present the data in tables, including frequency distributions. All relevant information is reported in Chapters 4, 5 and 6.

Reliability considers the extent to which data are credible, consistent, or free from error (McMillan, 2004). Since archival data were used for this study, reliability was contingent largely on the data provided by each institution to public data repositories and the ability of the researcher to collect the appropriate data. Since the data were available to the public for consideration and review, it was presumed credible. Also, data for the selected institutions were reviewed by at least two individuals (one or more administrative assistants and by the researcher) to confirm its completeness, its consistency, and its freedom from error.

### *Verification Procedures for the Qualitative Phase*

Verification is significant relative to trustworthiness of qualitative research (Onwuegbuzie & Johnson, 2004). There are a variety of procedures that may be utilized. Verification of the qualitative arm for this study was evaluated in three ways: (1) peer review by an expert panel, (2) rich, thick descriptions of the circumstances and environments for the six selected institutions, and (3) triangulation of data to other corroborating sources to provide evidence of consistency of the themes.

For the peer review, the same expert panel used for the pilot study was asked to review the process for selecting the six participant institutions, the themes resulting from the selective coding, and copies of the data excerpts to verify the strength of the categories identified. Rich, thick descriptions provided details of the issues in the contextual settings, enabling readers to determine whether the findings could be transferred to other settings. For triangulation, the issues and themes from the qualitative arm were compared to institutional cycles defined in the quantitative arm to understand whether those issues contributed to identifying characteristics of cycles.

### *Legitimation Issues in Mixed-Methods Research*

Erzberger and Kelle (2003) noted mixed-methods could be applied meaningfully in cases where one single research method did not suffice to collect adequate and/or sufficient empirical data to support the initial theoretical assumptions, as in the present study. However, using mixed-methods also presents legitimation challenges. In a sequential design, one of the challenges is determining which method will have priority. The decision may lead to a strong inference based on the priority phase and a weak inference from the non-priority phase (Onwuegbuzie & Johnson, 2004). Another

challenge has to do with the sample sizes chosen. If the sample is not the same in both quantitative and qualitative phases the inference quality is diminished, especially if the quantitative sample is nonrandom. Another significant challenge is whether the inferences are dependent on the order of the sequencing. If the conclusions depend on which method is performed first, then alternative approaches may be required to enhance the inferences made.

These three issues were mitigated in the present study by using a stratified random sample for the quantitative phase and triangulation of results from the quantitative and qualitative arms. Although priority was given to the quantitative portion of the study and sample sizes were not the same, developing a model for institutional cycles describing contextual and structural dimensions of universities depended on the benefits of both research methods.

#### *Ethical Considerations*

Individual electronic databases were created for each of the fifty-nine selected institutions for the quantitative phase of the study. Data were accumulated by institution and by year. In order to maintain confidentiality and anonymity of the data, electronic files were maintained on the researcher's computers, which were password protected, accessible only by the researcher or an authorized administrative assistant. Similarly, qualitative data – histories and other institutional records for the six universities selected for the qualitative phase – also were kept electronically on the researcher's computers. For non-electronic media, a separate file was created for each institution and kept in the office of the researcher in a locked file cabinet, again accessible only by the researcher. This included institutional data such as written histories, financial statements,

organizational charts, other records or survey data gathered for this study. Any data that needed to be transcribed was done by the researcher personally or by an authorized administrative assistant. If done by the administrative assistant, a confidentiality agreement was required. (A copy of the confidentiality agreement is included in Appendix K (p. 287))

In subsequent chapters, the results of the study were summarized and reported in the aggregate without identification of the subject institutions individually. If situations needed to be mentioned to illustrate a specific point, pseudonyms or general descriptions of individual institutions were used. If individual institutions were contacted for additional information, participants were notified of the study and confidentiality procedures were explained verbally, a verbal commitment to participate was obtained via an initial telephone contact, and an informed consent letter was mailed for signature.

#### *Feasibility and Advantages/Disadvantages*

For this study, the focus was establishing a base-line for defining institutional cycles and developing a model for higher education, which then could be evaluated relative to various types of higher educational institutions. Using a sequential explanatory design was beneficial in that it is familiar to most researchers and can result in solid, well-validated, and substantiated findings.

To understand better the context of higher educational institutions, the study needed to obtain a perspective of the same institutions with changing circumstances over an extended period of time. The combinations of contextual and structural dimensions were compiled to provide sufficient data to describe characteristics of the configuration of different cycles, the time periods of each cycle by institution, and the commonalities of

the cycles from institution to institution. Data from this study provided material for developing a model contributing to a theory on life cycles in higher education in a context of institutional history. Based on these data, both descriptive and visual models of institutional cycles were created.

Among the challenges were the effort and expertise necessary to study the research topic adequately with separate methods. Data collection and analysis required substantial amounts of data and required considerable time to process. The process also presented some problems in comparing the results with data of different forms.

Additionally, because of the historical nature of the study the findings were limited by the availability, or lack thereof, of adequate historical data, by the consistency of the data, or by interpretation of data by the researcher. However, there were no significant barriers to inhibit completion of this study.

## CHAPTER 4

### Results of Pilot

#### *The Pilot Study*

A pilot study was conducted for this project to develop a foundation for framing the balance of the study. The pilot served multiple purposes: (1) to identify and confirm availability of data from the anticipated sources for both quantitative and qualitative types of data, (2) to develop a descriptive prototype and a visual model of institutional cycles by defining contextual and structural dimensions of an institution based on that data, and (3) to test the construct validity of the data elements for both contextual and structural dimensions.

The same methodology developed for selecting institutions for the qualitative phase of this study was used for identifying one institution for the pilot study. (The pilot institution then was used as one of the six institutions in the qualitative phase.) A decision tree was used to consider specified attributes of an institution for the pilot. The 59 institutions from the sample were categorized across five criteria: geographic region, size, age, pre-2005 Carnegie classification, and whether or not the university was a land-grant institution. The selection was made based upon the following considerations: (1) a school from the Southern region was selected, anticipating there might be a greater probability of notable changes in enrollments among students from minority groups during the study period (1965-2005), (2) an institution with enrollments exceeding 30,000 was selected, assuming there would have been significant growth in total enrollment during the forty-year period, (3) an institution at least 100 years old at the beginning of the period (as of 1965) was selected based on the premise of institutional stability in its organization, its



history, and its traditions, (4) a doctoral-extensive university was chosen because that cluster represented two-thirds (N=39) of those institutions in the sample, and (5) a non-land-grant institution was selected from among the remaining schools because that cohort also comprised two-thirds (N=41) of the sample institutions. Although each institution was unique and distinctive, based on the combination of considerations used in selecting the institution for the pilot study it was not atypical of the composite profile of those larger institutions within the study population.

Selecting an established institution, however, did present certain limitations. Based on the overall life cycle of institutions, not all periods of institutional cycles were expected to be exhibited. As noted previously, business models for identifying life cycles included multiple periods. The general framework for denoting those periods was classified into seven categories: (1) formation, (2) development, (3) growth, (4) maturity/stability, (5) decline, (6) revival, and (7) dissolution (see Figure 2.1, p. 45). At the decline stage, based on a variety of factors, an institution likely would proceed in one of two directions: dissolution – eventually leading to the closure of the institution, or revival – cycling back to a growth period. Only the periods of growth, maturity/stability, and perhaps a period of decline most likely would be evident for long-lived institutions. Multiple facets of the pilot are described extensively in this chapter; the balance of this study followed the same processes for the other institutions in the sample.

### *Institutional Characteristics*

The models used for developing this study focused on two dimensions of organizations, contextual and structural, in identifying characteristics of organizational cycles. The contextual dimension included attributes such as age, size, and growth rate of

the organization; the structural dimension considered the overall organizational structure, including number of organizational levels and the degree of centralization or decentralization of management.

Characteristics of the contextual dimension included multiple factors viewed over a period of time such as total enrollment, levels of male and female enrollment, changes in enrollment of minority groups, and shifts in enrollments by areas of academic study. In addition, changes in sources of revenue and allocation and expenditure of financial resources for mission-related activities were expected to provide further insight into the development and configurations of institutional cycles of those organizations; evaluating trends in sources and uses of resources provided an additional confirmatory data source for identifying cycles.

The structural dimension contemplated issues regarding characteristics of organizational structure: the number of schools, colleges, and departments for the institution relative to its size over time; and the number of department chairs, deans, and vice presidents that were part of the organizational structure. How the academic functions were organized provided insight to the level of centralization or decentralization of the overall institution.

Key characteristics from the beginning and ending points of the study period for the institution used for the pilot are summarized in Table 4.1. A preliminary examination of those data allowed for determining changes along some attributes as noteworthy.

Table 4.1 – Characteristics of Pilot Institution

| <b>Description</b>                                    | <b>1965</b>       | <b>2005</b>       |
|---|-------------------|-------------------|
| <b>Enrollment Data</b>                                | <b>Percentage</b> | <b>Percentage</b> |
| Female enrollment                                     | 47.7%             | 56.7%             |
| Male enrollment                                       | 52.3%             | 43.3%             |
| White non-Hispanic enrollment                         | 82.7%*            | 71.4%             |
| Minority (other ethnic groups) enrollment             | 17.3%*            | 28.6%             |
| Growth rate in total enrollment between 1965 and 2005 |                   | 195.6%            |
| <b>Financial Data</b>                                 | <b>Percentage</b> | <b>Percentage</b> |
| <i>Sources</i>  |                   |                   |
| Tuition   | 13.9%             | 18.1%             |
| State appropriations                                  | 57.7%             | 49.1%             |
| Grants and contract                                   | 27.7%             | 29.4%             |
| Other   | 0.7%              | 3.4%              |
| <i>Uses</i>   |                   |                   |
| Instruction   | 42.7%             | 36.3%             |
| Research  | 19.8%             | 16.7%             |
| General & Administrative                              | 7.6%              | 8.6%              |
| Facilities Maintenance                                | 8.9%              | 7.4%              |
| Other   | 21.0%             | 31.0%             |
| <b>Organizational Data</b>                            | <b>Number</b>     | <b>Number</b>     |
| Number of colleges                                    | 11                | 14                |
| Number of professional schools                        | 0                 | 2                 |

\* The first black student enrolled at this institution in 1962; however, data on race/ethnicity were not collected generally from students until after 1975. The data shown is for 1976.

### *Analysis and Results*

Quantitative elements for the pilot study considered trends for changes in enrollment and changes in both sources and uses of financial resources to understand the nature and causes of those changes. Enrollment changes were examined for general enrollment patterns and enrollment patterns by major. Patterns were considered in total numbers and as a percentage of the total within each year. Financial characteristics contemplated total dollars and also percentages of total revenues and total expenditures within each year.

Qualitative data were used to provide an added perspective of the characteristics of the institution during different cycles and to highlight relevant issues for characterizing additional cycles. Qualitative elements included considering both organizational structure and important themes from historical records.

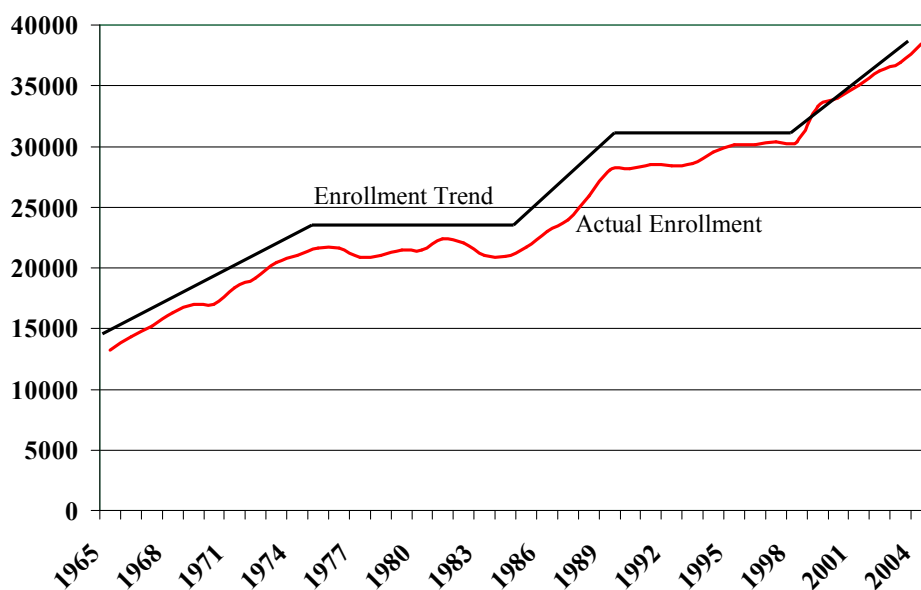
Although choice of titles for the different cycles presented in this study may be subject to debate, those used were reflective of the periods identified.

*General enrollment patterns.* The first component in examining this institution began with analyzing changes in enrollment over time. One key question in looking at enrollment patterns was what constituted a trend. Remy, Clay and Oliva (2005) observed that examining data in context from year to year over an adequate time horizon was the best source for characterizing data; however, suspected trends could be confirmed by observing linear patterns. They suggested that after portraying a sufficient number of cases, as few as three data points could essentially convey a ten-year trend. For purposes of this study, three-year periods were used to identify trends. A minimum of three years

were needed in order to note a marked directional change and not simply an indiscriminate anomaly from one year to the next.

Overall trends in total enrollment from 1965 through 2005 for the pilot institution are illustrated in Figure 4.1. Actual enrollment data are represented by the variable line, and trends are illustrated with a solid line. The underlying components of those periods were illustrative of specific cycles or seasons.

Figure 4.1 – Pilot Study - Trends in Total Enrollment



These data reflected five distinct periods for this institution over the forty years – three periods of marked growth (1965-1975; 1985-1989; and 1998-2005) and two periods of flat enrollment (1975-1985 and 1989-1998). Those periods characterized a *Season of Growth* and a *Season of Constancy*. The *Season of Growth* was defined as a period of

three or more consecutive years when enrollments increased by approximately 5% per year over the previous period. (The converse of the *Season of Growth* would be a *Season of Decline* where enrollments decreased from year to year over three or more years. Characteristics of decline, however, were not evident for the pilot institution.) The second category, the *Season of Constancy* defined as a period of three or more consecutive years when enrollments remained relatively unchanged, was characterized by periods of stable or flat enrollments.

After considering total enrollment for the institution, a more detailed analysis of enrollment changes was undertaken to understand further the components of change and to identify additional cycles. The complexity of those changes taking place over time for this institution is reflected in the set of descriptive statistics shown in Table 4.2. These data show changes in enrollment between 1976 and 2005 by gender and by race/ethnicity because data by race/ethnicity were not collected about students until after 1975; the mean and the standard deviation (SD) reflect the results for all years over the period reported.

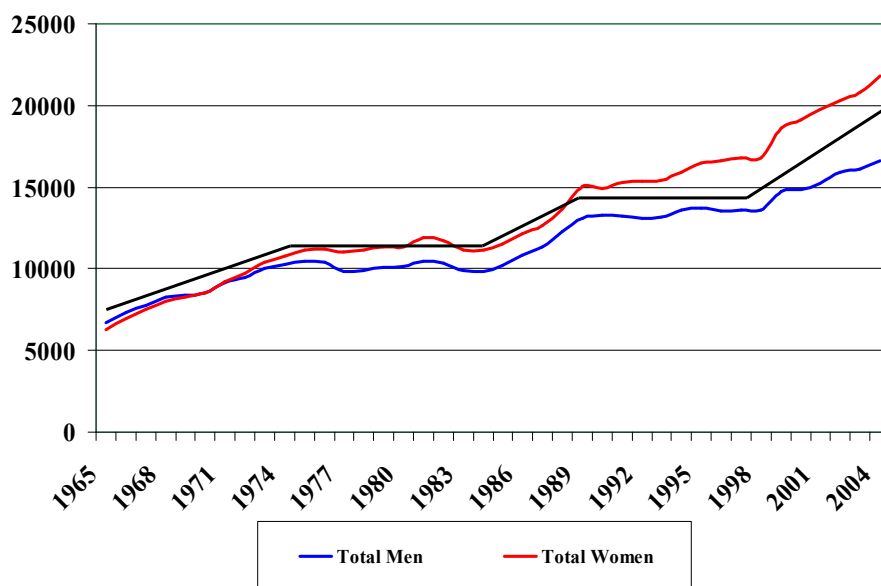
Table 4.2 – Pilot Study - Descriptive Statistics - Enrollment

| <b>Description</b>                       | <b>1976</b> | <b>2005</b> | <b>Net Change</b> | <b>Mean</b> | <b>Standard Deviation</b> |
|--|-------------|-------------|-------------------|-------------|---------------------------|
| <b>Enrollment Data by Race/Ethnicity</b> |             |             |                   |             |                           |
| <i>Female enrollment</i>                 |             |             |                   |             |                           |
| White non-Hispanic                       | 9,345       | 15,454      | 65.4%             | 11,819      | 1,926.89                  |
| Black non-Hispanic                       | 1,022       | 2,955       | 189.1%            | 1,653       | 721.03                    |
| Hispanic                                 | 90          | 1,955       | 2072.2%           | 698         | 566.49                    |
| Asian/Pacific Islander                   | 20          | 596         | 2880.0%           | 240         | 196.58                    |
| Non-resident alien                       | 399         | 455         | 14.0%             | 275         | 120.40                    |
| American Indian/Alaskan Native           | 23          | 84          | 265.2%            | 40          | 26.05                     |
| Race/ethnicity unknown                   | 323         | 299         | -7.4%             | 283         | 176.43                    |
| <i>Total Female enrollment</i>           | 11,222      | 21,798      | 94.2%             | 14,861      | 3,389.27                  |
| <i>Male enrollment</i>                   |             |             |                   |             |                           |
| White non-Hispanic                       | 8,510       | 11,981      | 40.8%             | 10,096      | 1,220.46                  |
| Black non-Hispanic                       | 575         | 1,530       | 166.1%            | 908         | 344.32                    |
| Hispanic                                 | 105         | 1,597       | 1421.0%           | 652         | 433.09                    |
| Asian/Pacific Islander                   | 22          | 525         | 2286.4%           | 222         | 167.29                    |
| Non-resident alien                       | 850         | 655         | -22.9%            | 474         | 158.48                    |
| American Indian/Alaskan Native           | 20          | 63          | 215.0%            | 35          | 23.28                     |
| Race/ethnicity unknown                   | 300         | 282         | -6.0%             | 258         | 159.58                    |
| <i>Total Male enrollment</i>             | 10,382      | 16,633      | 60.2%             | 12,510      | 2,148.99                  |
| <b>Total enrollment</b>                  | 21,604      | 38,431      | 77.9%             | 27,372      | 5,524.99                  |

The SD reflects the variability of changes in enrollment relative to the mean. The SD for some ethnic groups for both categories (females and males) is large compared to the mean enrollment, indicating a lack of homoscedasticity of the changes; however, these statistics show general variability only. A more detailed perspective of changes between years is illustrated graphically in Figures 4.2 through 4.9.

Figure 4.2 shows overall changes in enrollment by gender; changes in male and female enrollments by race/ethnicity are represented in Figures 4.3 through 4.9.

Figure 4.2 – Pilot Study - Enrollment by Gender - Total Men and Total Women



Several trends can be noted. First, the general pattern for both males (bottom line - blue) and females (top line - red) paralleled each other over time (although the lines became increasingly divergent as the number of female students enrolling at the institution grew at a faster rate than the number of male students enrolling, as noted in Table 4.2). Those characteristics were consistent within nearly every ethnic group as will be noted in the graphics that follow. Whether that phenomenon was a conscious effort of the admissions process unique to the pilot institution, would be common across all institutions, or was influenced by other sociological effects raises several additional research questions beyond the scope of the present study.



Second, because male and female enrollments were parallel, the trends for overall changes among males and females were consistent with the seasons represented by changes in total enrollments: both the *Season of Growth* (1965-1975; 1985-1989 and 1998-2005) and the *Season of Constancy* (1975-1985 and 1989-1998) were evident during the same time periods as those presented for total enrollment.

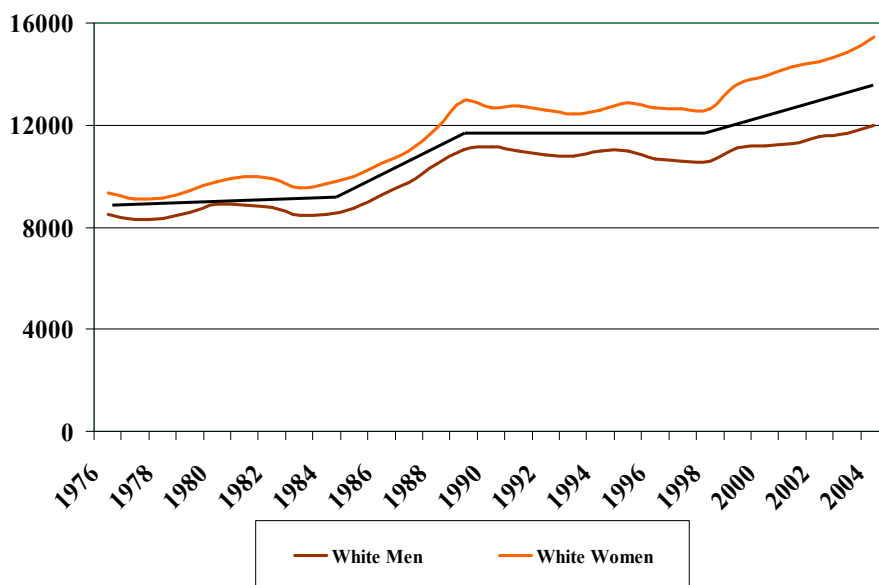
Third, the number of female students surpassed the number of males in 1970. The growth in the number of female students likely was one of the driving forces of the first *Season of Growth* from 1965-1975.

Fourth, as noted previously, enrollment data by ethnic group generally were not collected until after 1975, so the first period of growth was not indicated in the following graphics. However, the overall White-student population was such a large percentage of the total student population (see Table 4.1, p. 83) that the weighted influence of that ethnic group dominated the overall effect as noted in Figure 4.3. Presumably the growth in the number of White students was another driving force in the first *Season of Growth*.

Finally, the first *Season of Growth* coincided with the maturing of post-WW II baby-boomers reaching college age. Subsequent periods of growth may have been influenced by the demographics of succeeding generations maturing to college age as well, although that premise does not fully align with the timing of those cycles, assuming a twenty to twenty-five year difference between generations.

Graphically, as noted in Figures 4.3 through 4.9, the enrollment patterns for Whites, Blacks, Hispanics, Asians, Native Americans, Non-resident Aliens, and Race/ethnicity Unknown all had obvious changes. The Y-axis scale used for those Figures varied, however, in order to identify and highlight any potential changes. If all graphs had been drawn using the same scale consistently, changes for some ethnic groups would have been imperceptible because of the dominance of the White-student population at this university.

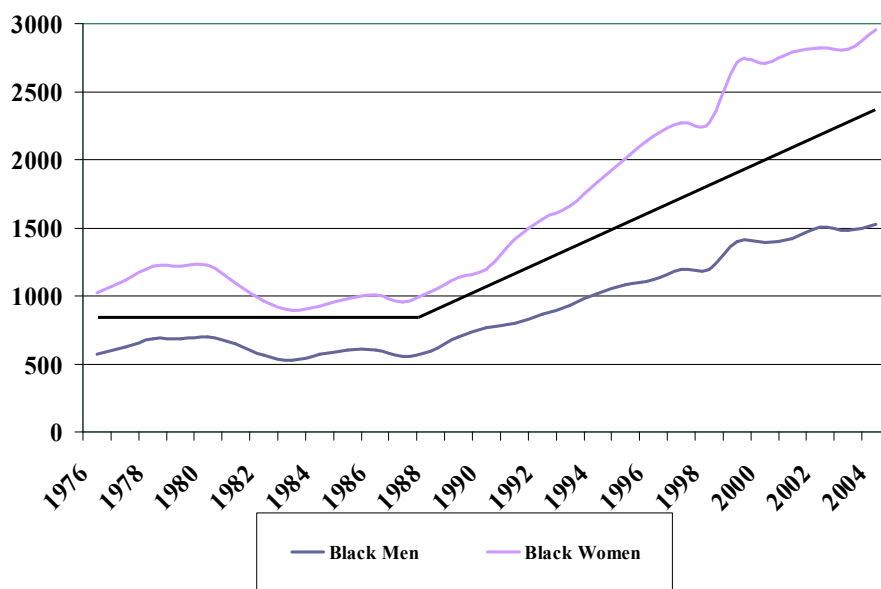
Figure 4.3 – Pilot Study - Enrollment by Race/ethnicity - White Men and White Women



As described previously, the pattern for White students was consistent (see Figure 4.1, p. 85) with the general trends (flat during the period from 1975-1985; growth from 1985-1989; flat from 1989-1998; and another period of growth from 1998-2005).

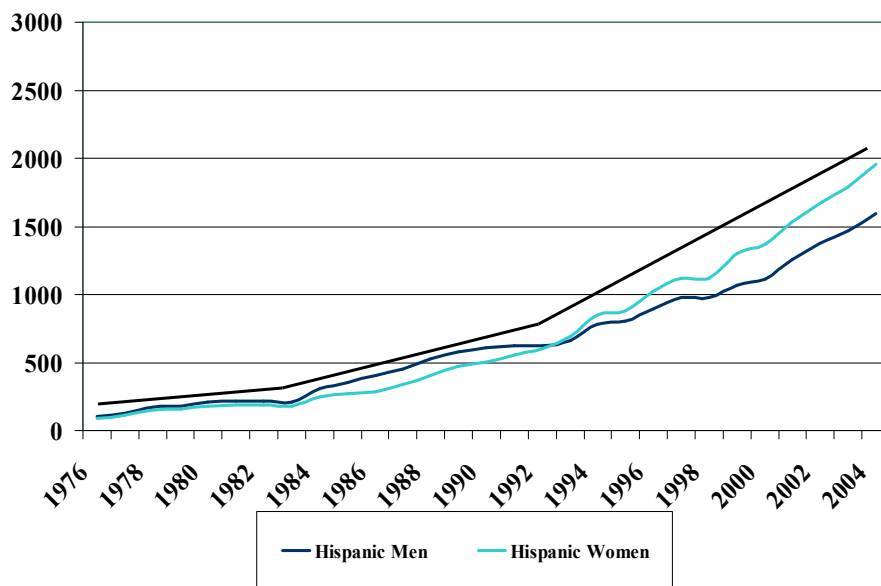
Black student enrollment remained relatively flat throughout the 1970s and 1980s; however starting in 1989 and continuing through 2005, there was a marked and steady growth in the number of Black students. Also noteworthy, the number of Black female students (top line - lavender) grew faster than Black male students (bottom line - purple) contributing to the male-female divergence in the total student population.

Figure 4.4 – Pilot Study - Enrollment by Race/ethnicity - Black Men and Black Women



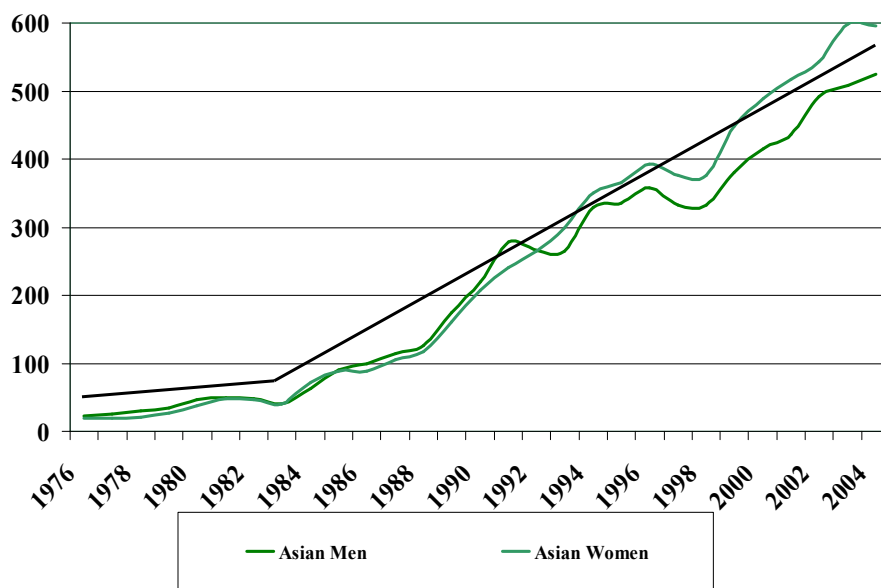
Although the number of Hispanic students was fewer than the Black students, the growth in the number of Hispanic students began sooner. Enrollment of Hispanic students showed an incremental upward trend from 1983 through 1993; from 1993 through 2005 the rate of increase was even greater. Additionally, female students (top line - aqua) outpaced male students (bottom line - blue) during that same twelve-year period.

Figure 4.5 – Pilot Study - Enrollment by Race/ethnicity - Hispanic Men and Hispanic Women



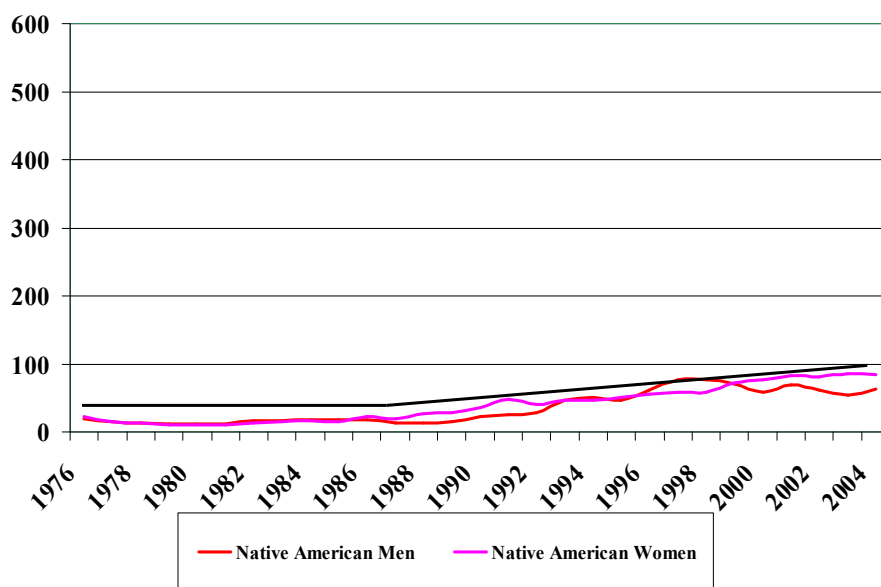
Similar to Hispanic students, the increase in the Asian-student population began in 1983. That growth continued consistently from 1983 through 2005. Once again, 1993 was a transitional year where the number of female Asian students (top line - light green) surpassed the number of male Asian students (bottom line - dark green).

Figure 4.6 – Pilot Study - Enrollment by Race/ethnicity - Asian Men and Asian Women



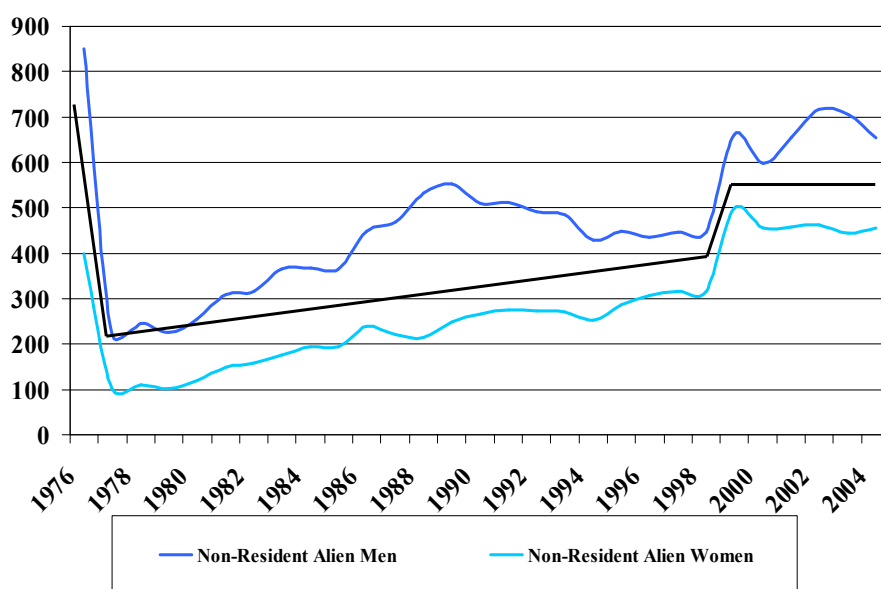
There also was an observable increase in the number of Native American students beginning in 1989. However, the number of Native American students enrolled was small relative to total students (this group was less than one-half of one percent of the total student body); therefore, changes in this group were not significant for identifying overall changes in enrollment patterns.

Figure 4.7 – Pilot Study - Enrollment by Race/ethnicity - Native American Men and Native American Women



For students identified in both Non-resident Alien (Figure 4.8) and Race/ethnicity Unknown (Figure 4.9), the changes were variable. One possible cause for this variability could be inconsistency in reporting of those two categories.

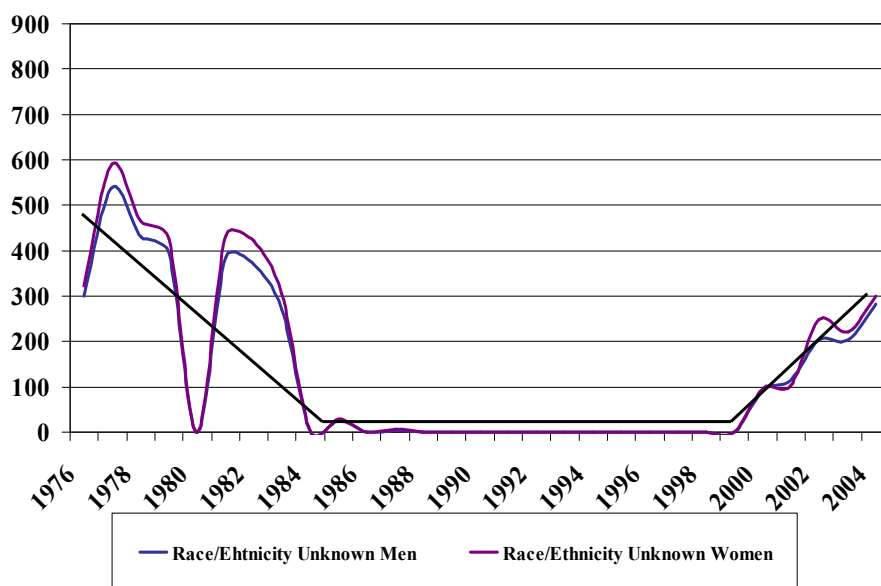
Figure 4.8 – Pilot Study - Enrollment by Race/ethnicity - Non-resident Alien Men and Non-resident Alien Women



As can be seen in comparing the graphs for those two groups, from 1976 to 1978 the number of students identified as Non-resident Aliens was declining while the number of Race/ethnicity Unknown students increased. From 1985 through 2000, no students were reported as being in the Race/ethnicity Unknown category while the number of Non-resident Alien students was increasing. From 2000 to 2005, the number of Non-resident Alien students reported flattened while the number of Race/ethnicity Unknown students reported increased. As a result of the uncertainties, those two groups were not

considered in the analysis as major factors in identifying defined periods of institutional cycles.

Figure 4.9 – Pilot Study - Enrollment by Race/ethnicity - Race/ethnicity Unknown Men and Race/ethnicity Unknown Women



Although the changes across ethnic groups appeared to be notable, a more detailed statistical analysis was needed to measure which of the underlying components had the greatest impact and to understand further the significance of those changes. The chi-square statistic ( $\chi^2$ ) was chosen as the most appropriate statistical measure of testing changes because the data were non-parametric.

The data were formatted for SPSS for a three-way comparison of changes in enrollments: by year, by gender, and by race/ethnicity. This tabulation compared changes between years. Data for race/ethnicity were gathered only for years subsequent to 1975; therefore, the number of years of data available was less than the forty-year period of the



study. For those years where data were not available, the statistics program treated the data in that cell as negligible in order not to distort the calculation for  $\chi^2$ . The resultant  $\chi^2$  values for the reported ethnic groups are presented in Table 4.3. Asymptotic significance levels less than .05 indicated changes in enrollment patterns were significant for those ethnic groups.

Table 4.3 – Pilot Study - Chi-square Values by Race/ethnicity

| <b>Race/ethnicity</b> | <b>Value</b> | <b>Df</b> | <b>Asymp. Sig. (2-sided)</b> |
|-----------------------|--------------|-----------|------------------------------|
| Asian                 | 34.057       | 28        | .199                         |
| Black                 | 65.136       | 28        | .000*                        |
| Hispanic              | 275.523      | 28        | .000*                        |
| Native American       | 36.586       | 28        | .128                         |
| Non-Resident Alien    | 169.490      | 28        | .000*                        |
| Unknown               | 4.300        | 13        | .988                         |
| White                 | 364.406      | 28        | .000*                        |

\* p < .05

Enrollment patterns for Black, Hispanic, Non-resident Alien, and White students indicated the differences were statistically significant ( $p < .05$ ). As noted previously, because of the inconsistency of the reported levels of Non-resident Alien students, that category was not considered for defining cycles. Likewise, changes in the other ethnic groups (Asian ( $p = .199$ ), Native American ( $p = .128$ ), and Race/ethnicity Unknown ( $p = .988$ )) were not statistically significant and therefore not major factors in determining institutional cycles.

Within total enrollments, the importance of changes by ethnic group relative to each other could have been hidden unless considered as a percentage of the total for each year. Using percentages added the dimension of measuring changes of different ethnic groups relative to one another within each year as well as changes between years. The  $\chi^2$  values are illustrated in Table 4.4. Again, asymptotic significance levels less than .05 indicated changes in enrollment patterns were significant for those ethnic groups.

Table 4.4 – Pilot Study - Chi-square Values for the Percentage of Total Enrollments by Race/ethnicity

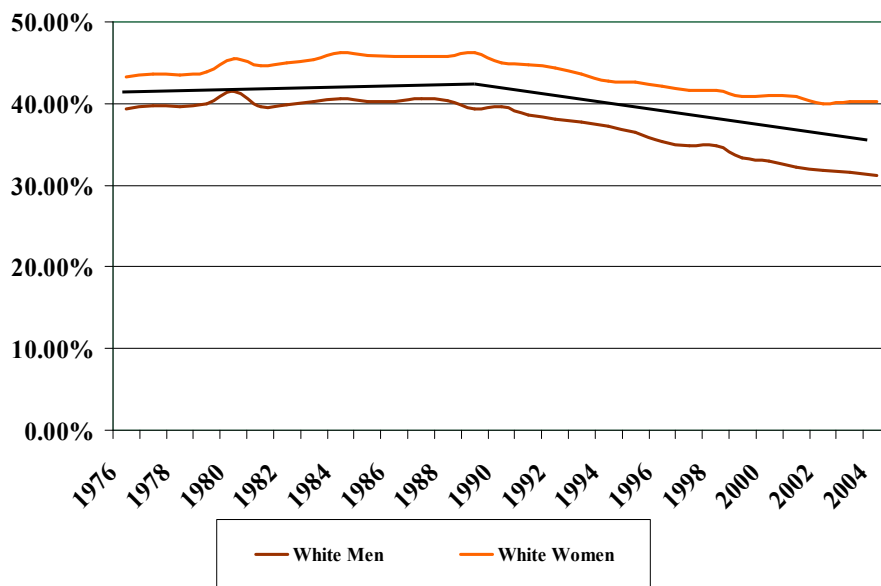
| <b>Race/ethnicity</b> | <b>Value</b> | <b>Df</b> | <b>Asymp. Sig. (2-sided)</b> |
|-----------------------|--------------|-----------|------------------------------|
| Asian                 | 11.900       | 28        | .997                         |
| Black                 | 22.984       | 28        | .734                         |
| Hispanic              | 100.779      | 28        | .000*                        |
| Native American       | 13.325       | 28        | .991                         |
| Non-Resident Alien    | 59.634       | 28        | .000*                        |
| Unknown               | 1.370        | 13        | 1.000                        |
| White                 | 121.974      | 28        | .000*                        |

\* p < .05

Groups having the greatest impact on changing patterns along this dimension were Hispanics, Non-resident Aliens, and Whites. For the reasons stated above (apparent inconsistencies in reported data), Non-resident Aliens were not considered for further analysis.

Figure 4.10 represents the changes in enrollment for White students as a percentage of total students. Although the number of students enrolled increased in total over the forty-year period (see Figure 4.1, p. 85), the percentage of White students relative to the total began declining in 1990. The reduction as a percentage of total students continued through 2005.

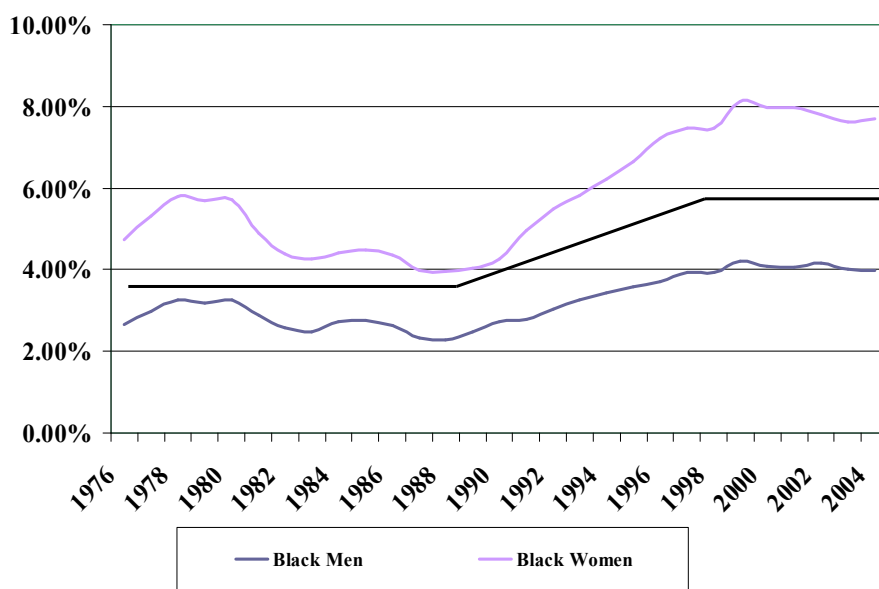
Figure 4.10 – Pilot Study - Trends in Enrollment by Race/ethnicity - Whites



This change marked what could be identified as the beginning of a *Season of Diversity*. The *Season of Diversity* was defined as a period where the dominant ethnic group (in this case White students) decreased approximately 1% per year for three or more consecutive years with a corresponding increase in the percentage of student enrollment from other ethnic groups. Although the  $\chi^2$  statistic for Blacks was viewed to mean that the change in the percentage of enrollments for that ethnic group was not

statistically significant as a percentage of total enrollments, an interesting aspect of the change was important to note graphically. The increase in the percentage of enrollments for Blacks is represented in Figure 4.11.

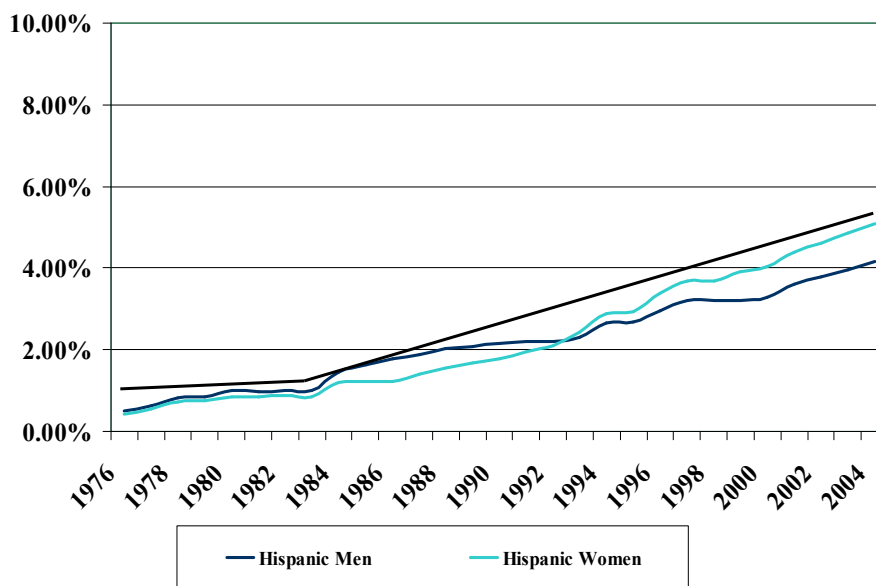
Figure 4.11 – Pilot Study - Trends in Enrollment by Race/ethnicity - Blacks



The percentage of Black students relative to total students increased over the period from 1989 through 1998. At that point, even though the number of Black students continued to increase, as noted in Figure 4.4 (p. 91), Black students as a percentage of total students remained flat.

The increase in the percentage of enrollments for Hispanic students is presented in Figure 4.12. The percentage of Hispanic students relative to the percentage of total students showed a marked increase starting in 1983 and continued increasing consistently through 2005; by 2005 the percentage of Hispanic students was approaching the level of Black students at this institution. This change was within the definition of the *Season of Diversity* so it does not denote a change in institutional cycles; however, it does identify an interesting dynamic in demographics occurring within the region.

Figure 4.12 – Pilot Study - Trends in Enrollment by Race/ethnicity - Hispanics



The fact that the percentage of minority group enrollment increased relative to total enrollments during the *Season of Growth* as well as the *Season of Constancy* was interpreted to mean that the *Season of Diversity* would be a sub-cycle to the other more dominant periods.

*Enrollment patterns by major.* Changes in enrollment patterns by area of academic study yielded minimal supplementary basis for defining cycles but some additional sub-cycles were recognized (a *Season of Variation* and a *Season of Retrenchment*). The analysis identifying those sub-cycles is presented in this section.

The total number of students enrolled, and the percentage of the total by year, in each area of concentration was studied to compare changes within years as well as between years. Data for enrollment by major area of study were available from 1979 through 2005. The percentage of students enrolled by college by year was used for further analysis. (Graphs for the pilot institution showing changes in enrollment for the various areas of concentration are included in Appendix L (p. 289)) Table 4.5 shows descriptive statistics for enrollment by major area of concentration, listed in rank order by mean enrollment.

Table 4.5 – Pilot Study - Descriptive Statistics - Enrollment by Major Area of Concentration of Study as a Percentage of Total Enrollment

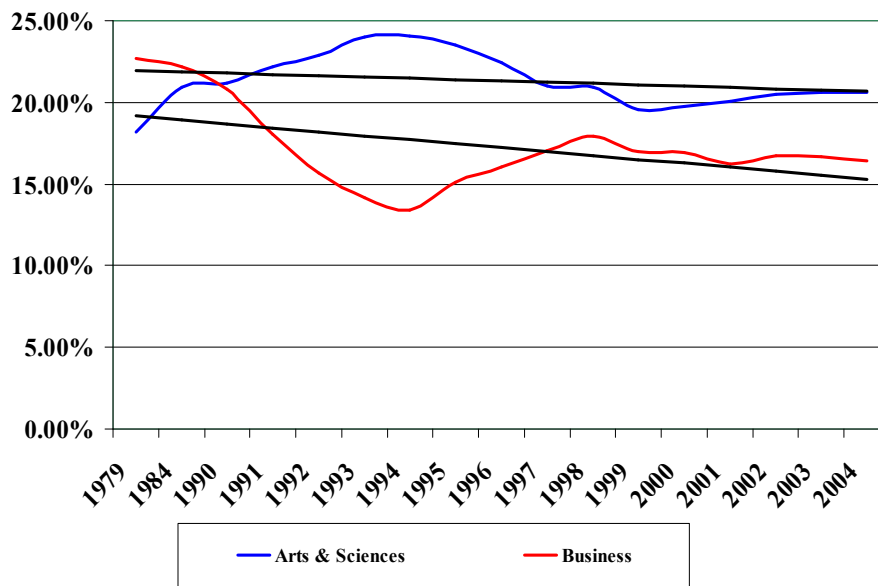
| <b>Description</b>               | <b>Min</b> | <b>Max</b> | <b>Mean</b> | <b>Standard Deviation</b> |
|----------------------------------|------------|------------|-------------|---------------------------|
| <b>Enrollment Data by Major</b>  |            |            |             |                           |
| Arts & Sciences                  | 18.20      | 24.06      | 21.42       | 1.60                      |
| Business                         | 13.41      | 22.70      | 17.59       | 2.60                      |
| Undecided                        | 7.20       | 13.71      | 10.92       | 1.67                      |
| Education                        | 7.78       | 11.50      | 9.52        | 1.02                      |
| Social Sciences                  | 5.30       | 9.40       | 8.12        | 1.15                      |
| Music, Visual, & Performing Arts | 6.80       | 9.00       | 7.92        | 0.49                      |
| Communication                    | 4.29       | 6.31       | 5.21        | 0.62                      |
| Human Sciences                   | 3.00       | 7.51       | 4.88        | 1.32                      |
| Criminology                      | 3.00       | 5.12       | 4.19        | 0.53                      |
| Engineering                      | 2.00       | 4.63       | 4.04        | 0.56                      |
| Library & Information Sciences   | 0.50       | 3.67       | 2.43        | 1.17                      |
| Nursing                          | 1.30       | 3.13       | 2.21        | 0.44                      |
| Law                              | 1.96       | 2.80       | 2.17        | 0.24                      |
| Social Work                      | 1.58       | 2.74       | 2.16        | 0.35                      |

A low standard deviation (SD) indicated the percentage of students enrolling in each major area of concentration had minimal fluctuation between years across the study period. Fields of study with enrollments greater than ten percent (Arts & Sciences, Business, and Undecided) reflected a higher degree of variability and also manifested changing trends in enrollment patterns more than other categories.

The largest enrollment in terms of numbers of students and therefore as a percent of total enrollments was in the College of Arts & Sciences. The mean enrollment in Arts & Sciences as a percentage of total enrollments was 21.42 percent with a range from

18.20 (1979) at the low end to a high of 24.06 (1994). That college also had the largest number of program offerings ranging from liberal arts (English, History, Philosophy, Psychology, Religion, etc.) to physical sciences (Aerospace, Chemistry, Geology, Mathematics, Meteorology, Physics, etc.) to biological sciences (Biology, Biochemistry, Oceanography, Zoology, etc.). The College of Business was the second largest college. The mean enrollment for Business was 17.59 percent with a range of 13.41 (1994) to 22.70 (1979). Enrollment patterns and general trend lines for those two colleges are illustrated graphically in Figure 4.13.

Figure 4.13 – Pilot Study - Enrollment by Major - Arts & Sciences and Business



The fluctuations above and below the trend line for both Arts & Sciences and for Business reflected the variability (indicated by larger standard deviations) shown in Table 4.5. There was an inverse relationship with enrollments between these two areas of study:

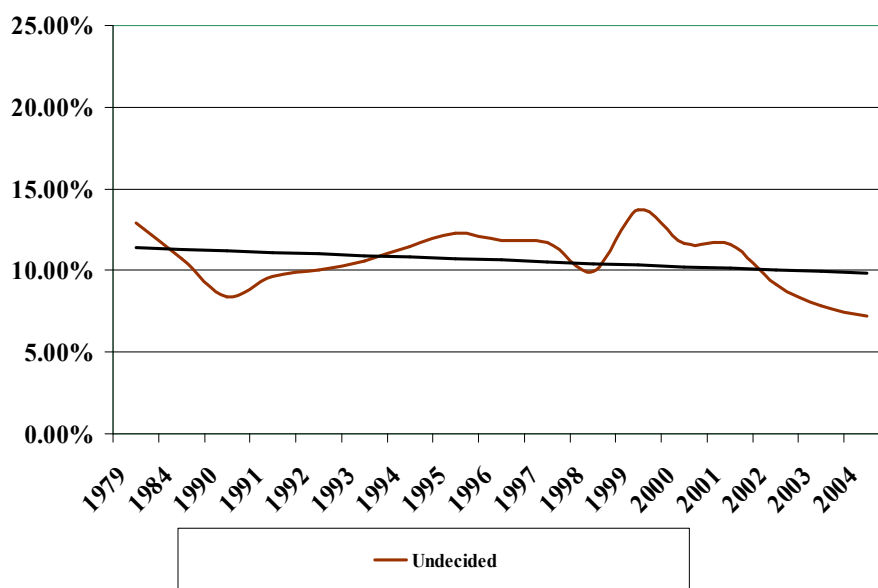


during the period from 1979 to 1994 the percentage of enrollments in Arts & Sciences climbed while the percentage in Business dropped. By 1994, the trend had reversed and the percentage of students majoring in the Arts & Sciences declined while those majoring in Business increased. From 1999 through 2005 enrollments for Arts & Sciences and for Business leveled out near the mean percentage over the entire period for each area, respectively.

Enrollment data were not reported at the program level, so identifying which programs were affected by the changes was uncertain. However, Kimball (1999) noted that in the period following the Vietnam War, many students designed their own majors, choosing courses without much regard for what they would do following graduation. Kimball also observed that on many campuses the number of courses in Women's studies, African-American studies, Asian-American studies, and world civilizations began to increase. Those factors were interpreted to mean the number of students choosing liberal arts courses increased during that particular period.

Although the percentage of students who were Undecided as to their area of study also was above ten percent (the mean was 10.92 percent with a range of 7.20 (2004) to 13.71 (1999)), the factors that may have affected students' choices to declare or not declare a specific area of study were not identifiable from the data. The changes in the enrollment pattern, including a general trend line, for Undecided students are noted in Figure 4.14.

Figure 4.14 – Pilot Study - Enrollment by Major - Undecided



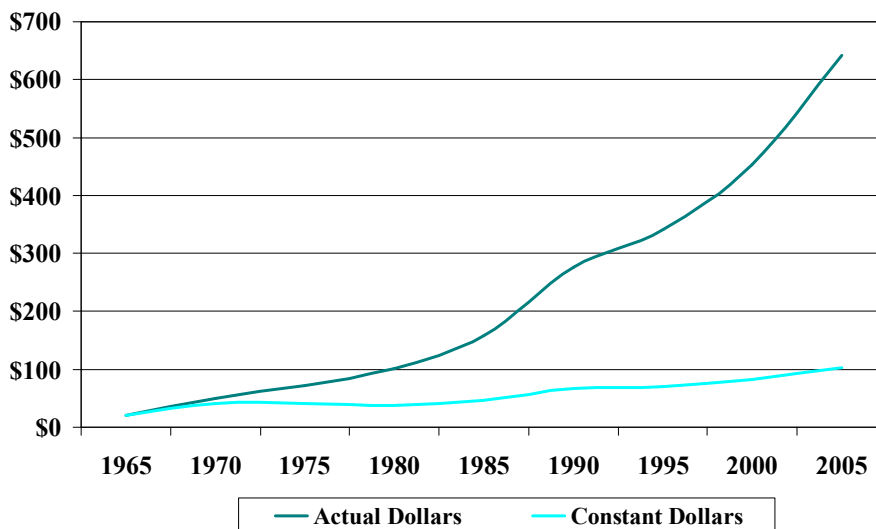
Student enrollment for those without a declared area of study fluctuated around the mean from year to year; however, since the trend did not indicate noteworthy changes, the category of Undecided was not used in determining other cycles. Enrollments in all other areas of concentration were relatively stable (see graphs in Appendix L (p. 289)) and were not of consequence in defining cycles.

Two sub-cycles were derived from the data for enrollment by major. The first was defined as a *Season of Variation*, where student enrollments for preferences in areas of study, as represented in Arts & Sciences and Business, changed by 1% per year for three or more consecutive years; the second was a *Season of Retrenchment*, where student enrollment by area of study reverted towards the mean. Those two periods also were considered sub-cycles because, like the *Season of Diversity*, the changes occurred over periods of institutional growth as well as periods of constancy.

*Financial characteristics.* Evaluating sources and uses of financial resources for the pilot institution provided additional perspectives of institutional cycles. Identifying the source of various revenue streams and how resources were expended characterized changing circumstances within the organization. To eliminate the confounding effect of inflation on the initial analysis, both revenue and expenditures were converted to constant dollars. Conversion factors were calculated from the historical Consumer Price Index (CPI) reported by the Federal Reserve Bank of Minneapolis from 1913 through 2005 as adapted to reflect 1965 as the base year (1965 = 100). (A chart showing the annual inflation rate, the adjusted CPI, and the respective conversion factors is presented in Appendix M (p. 293)) Actual dollar revenue and expenditures were converted to constant dollars by multiplying the reported values for each year by the conversion factor for that year.

Figure 4.15 shows total revenue received, in millions of dollars, for both actual dollars reported and in constant dollars.

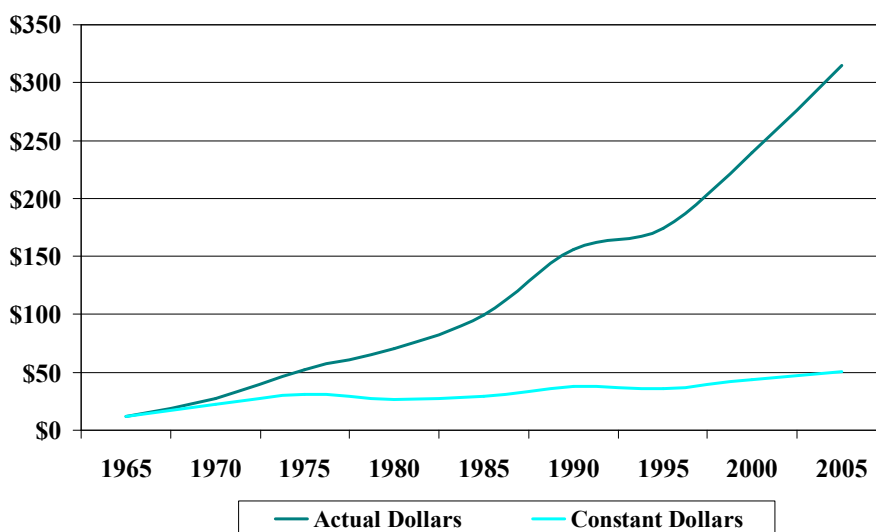
Figure 4.15 – Pilot Study - Total Revenue in Millions of Dollars



Actual dollars reported over the 40-year period increased over 2900% while constant dollars increased by 383%, or an average of approximately 9.6% per year. As noted in Figure 4.15, the majority of that increase occurred in the last twenty years; revenues were relatively flat during the first twenty years of the period.

Figure 4.16 shows total expenditures made, also for both actual dollars reported as well as in constant dollars.

Figure 4.16 – Pilot Study - Total Expenditures in Millions of Dollars



Actual dollar expenditures increased by 2490% while constant dollar expenditures increased by 317%, or an average of approximately 7.9% per year. The patterns for total revenue and total expenditures were parallel and did not provide notable evidence of any changes in cycles.

The next step required analyzing the components of both sources and uses of funds. To evaluate the changes between years as well as within each year, the percentages of sources and uses relative to total revenue and total expenditures, respectively, were used for the analysis.

Revenue came from four principal sources: State Appropriations, Student Tuition, Grants (Federal, State, and Private), and Other (primarily sales and services, investment income, and philanthropic gifts). The relationship between those sources of income was identified using the Pearson correlation coefficient ( $r$ ). Table 4.6 shows the value of  $r$  for each pairwise comparison. The significance levels less than .05 indicated the correlation between those pairs was significant.

Table 4.6 – Pilot Study - Pairwise Comparisons for Sources of Revenue

| <b>Description</b>    | <b>Appropriations</b> | <b>Grants</b> | <b>Other</b> |
|-----------------------|-----------------------|---------------|--------------|
| <b>Tuition</b>        | <b>-.961</b>          | <b>.762</b>   | <b>-.197</b> |
| Sig. (2-sided)        | .000*                 | .002*         | .486         |
| <b>Appropriations</b> |                       | <b>-.865</b>  | <b>.064</b>  |
| Sig. (2-sided)        |                       | .000*         | .824         |
| <b>Grants</b>         |                       |               | <b>-.151</b> |
| Sig. (2-sided)        |                       |               | .594         |
| <b>Other</b>          |                       |               |              |

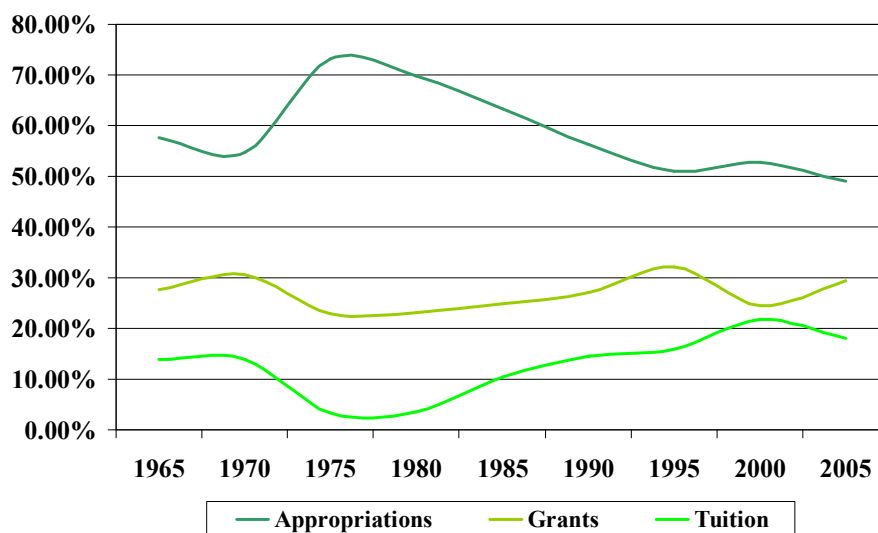
\*  $p < .05$

The analysis showed that the correlation between three pairs was statistically significant. The correlation between Tuition/Appropriations ( $r = -.961$ ) and Appropriations/Grants ( $r = -.865$ ) was negative while the correlation between and Tuition/Grants ( $r = .762$ ) was positive. (Scattergrams showing those correlations are included in Appendix N (p. 296)) The implication of those correlations was that as the level of funding from State Appropriations were to increase, funding needed from Grants and Tuition both would decline; if funding from the state were to decline, increased funding from Grants and Tuition would be necessary to maintain the funding level for the

institution, if expenditures were to continue at the same level. The percentage of revenue from Other had a range of 0.67 percent to 3.44 percent of total revenue with a mean of 1.64 percent and was not significant in considering changes.

The inverse (negative) correlation between State Appropriations and Grants, and State Appropriations and Tuition, as well as the positive correlation between Grants and Tuition are illustrated over time in Figure 4.17.

Figure 4.17 – Pilot Study - Appropriations, Grants, and Tuition as a Percentage of Total Revenue



Between 1970 and 1975 there was a marked increase in State Appropriations and a corresponding decrease in the percentage of funding from Grants and Tuition, signaling a *Season of Fiscal Prosperity*. From 1975 through 1995 there was a gradual and consistent decline in revenues from State Appropriations marking a *Season of Fiscal Constraint*. To compensate for the loss of state funding, student tuition and the level of

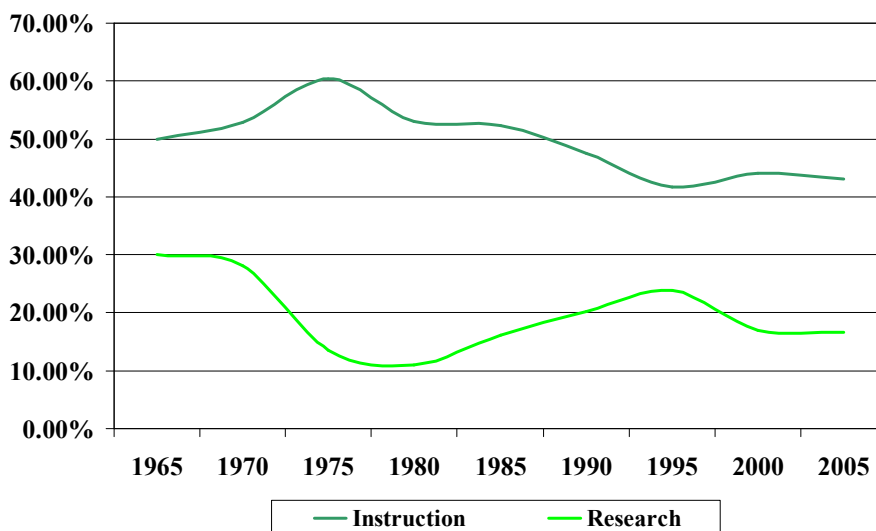
grants needed to support the institution increased correspondingly. Two periods (1965-1970 and 1995-2005) were marked by relatively flat funding levels, or a *Season of Fiscal Stability*.

The *Season of Fiscal Prosperity* lagged but coincided with the first *Season of Growth*. However, the *Season of Fiscal Constraint* and the *Season of Fiscal Stability* both extended across periods of constancy and growth. The interpretation was that the seasons associated with sources of funding were sub-cycles rather than primary cycles for institutions of higher education.

Looking at expenditures, similar patterns were evident. Expenditures were summarized into five broad categories: Instruction and Academic Support; Research; General and Administrative; Facilities Maintenance; and Other (primarily scholarships, student services, and public services). When analyzing expenditures, changes were made in the reporting formats between 1970 and 1975, and comparing data from periods prior to 1975 with other periods during the study might have resulted in some inconsistencies among categories; however, the inverse correlation between the percentage of expenditures for the major categories (instruction and research) were evident, as illustrated in Figure 4.18.



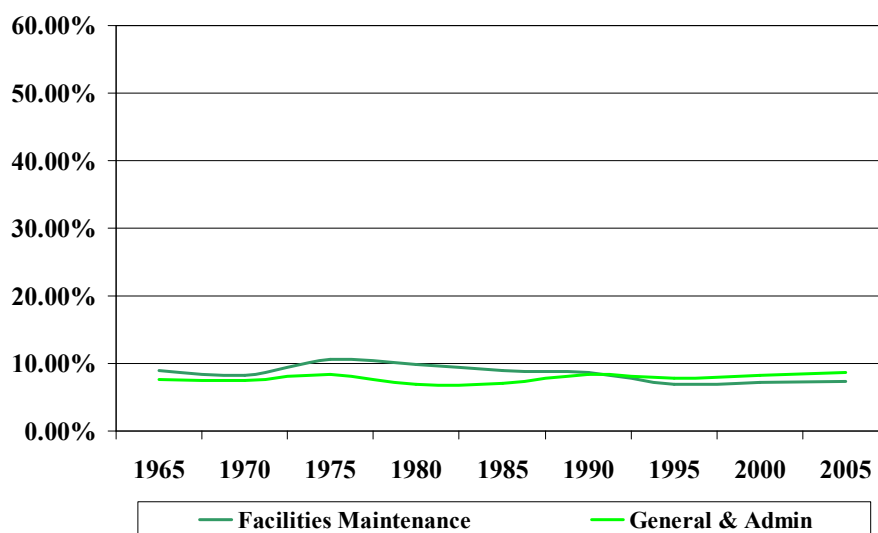
Figure 4.18 – Pilot Study - Expenditures for Instruction and Research as a Percentage of Total Expenditures



Between 1970 and 1975, there was a *Season of Emphasis on Instruction* as the percentage of expenditures for instruction and academic support were increased. From 1975 through 1995, there was a shift in weighting of expenditures to focus more on research, or a *Season of Emphasis on Research*. Two periods (1965-1970 and 1995-2005) were marked by relatively stable expenditures for instruction and research (a *Season of Equilibrium*). Those four periods correspond to the same periods as the changes in percentages of revenue. Based on the empirical data, whether expenditures followed revenue or revenue followed expenditures was not evident; however, as noted earlier in Figures 4.15 and 4.16, total revenue and total expenditures paralleled one another.

The percentages of expenditures for General and Administrative (G&A) expenses and for Facilities Maintenance (FM) expenses were relatively consistent throughout the period, as noted in Figure 4.19.

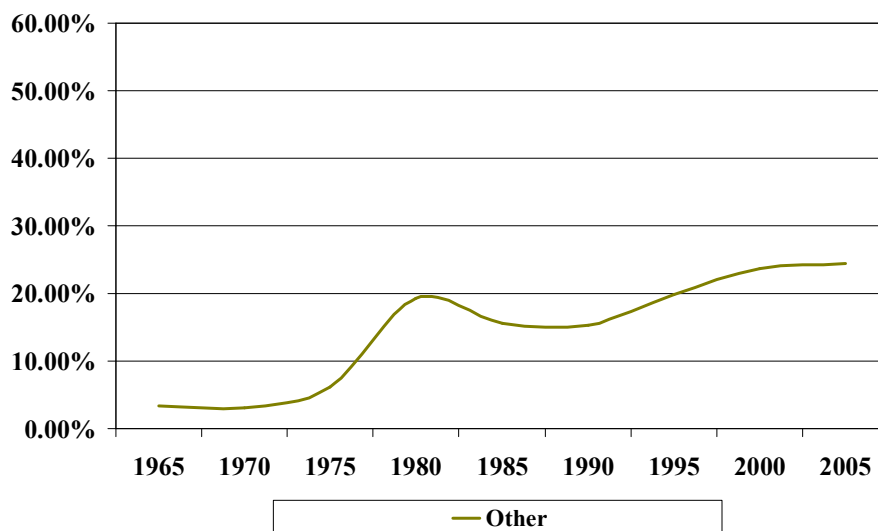
Figure 4.19 – Pilot Study - Expenditures for Facilities Maintenance and General & Administrative as a Percentage of Total Expenditures



G&A had a range of 6.81 percent to 8.61 percent with a mean of 7.82 percent. FM had a range of 6.98 percent to 10.58 percent with a mean of 8.51 percent. Neither of those categories varied enough to be of consequence when considering changes in cycles.

The remaining category, expenditures for Other, revealed interesting underlying characteristics. Recognizing that expenditures might not have been summarized consistently over the study period, there were marked increases in expenditures in 1975 and again in 1990 through 2000, as represented in Figure 4.20.

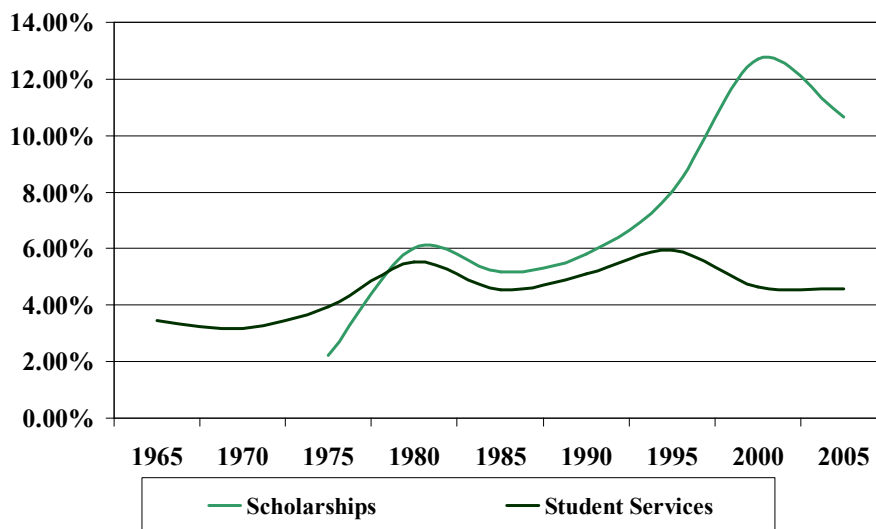
Figure 4.20 – Pilot Study - Expenditures for Other as a Percentage of Total Expenditures



The changes in expenditure levels for Other highlighted points of demarcation. At the point the institution entered a *Season of Constancy* (from 1975-1985 and again between 1989-1998), the percentage of expenditures being allocated to Other increased.

Further examination of the components of those expenditures revealed the most notable changes occurred in expenditures for student-related functions. Figure 4.21 portrays the pattern of expenditures for Scholarships and other Student Services.

Figure 4.21 – Pilot Study - Components of Expenditures for Other as a Percentage of Total Expenditures



Scholarships were first reported as a separate category of Other in 1975. A marked increase in Scholarships was noted between 1975 and 1980 and again from 1990 through 2000. Similarly, expenditures for Student Services increased between 1975 and 1980 and also from 1990 to 1995. After 1995, expenditures for Student Services declined but there was another notable increase in funding for Scholarships. Those periods where expenditures for student scholarships and services increased relative to other expenditures were defined as a *Season of Increasing Student Support*. The other time frames during the study period (1965-1975; 1980-1990; and 2000-2005) were marked by relatively stable

expenditures for student services and scholarships and were therefore defined as a *Season of Level Student Support*.

There was an apparent lag period between the increased funding level of financial support for students and any evidence of a new *Season of Growth*. The lag coincided with the notion of a revival period between maturity/stability and growth, as identified in the generalized model described in Chapter 2 (see Figure 2.1, p. 45). Because the intervening revival included this *Season of Increasing Student Support*, there appeared to be a relationship between the effect of increasing the level of funding for Scholarships and Student Services and the commencement of the next growth cycle for the institution; however, it took at least five years before the new *Season of Growth* began. One interpretation for that observation was that it takes time for the impact of changes in institutional policy (in this case, increasing student financial aid and support services) to be communicated to potential students and for the public to respond.

In the first instance, the renewed *Season of Growth* began after five years of increased funding for student support. In the second instance, enrollments were still flat after the five-year period. Funding levels then shifted from Student Services to Scholarships and the level of Scholarships was increased, as noted previously in Figure 4.21. That increase was large enough to evoke a response and after three years the next *Season of Growth* began. Once the *Season of Growth* had begun, the level of funding for student support dropped.

The quantitative aspects of this pilot study identified three primary cycles (*Season of Growth*, *Season of Constancy*, and *Season of Increasing Student Support*) and ten other sub-cycles (*Season of Diversity*, *Season of Variation*, *Season of Retrenchment*, *Season of*

*Fiscal Prosperity, Season of Fiscal Constraint, Season of Fiscal Stability, Season of Emphasis on Instruction, Season of Emphasis on Research, Season of Level Student Support, and Season of Equilibrium*). Qualitative work for the pilot study was then performed to confirm the nature of the seasons previously mentioned and to ascertain characteristics of other seasons that might be identifiable. In addition, the qualitative phase of the study was needed to consider the structural dimensions of the institution.

*Organizational structure.* Based on the age and stability of the pilot institution, the organizational structure did not change appreciably over the study period. With different administrations personnel changed, but the overall organization changed little. Changes in the level of formalization and centralization/decentralization as well as the number of reporting levels (vertical differentiation) across the institution were minimal. That characteristic would not necessarily be anticipated for all institutions; universities at earlier stages of institutional cycles likely would experience significant organizational changes as they sought mechanisms that were most effective and efficient.

The president of the pilot institution had the vice presidents responsible for academics, administration, and university relations reporting directly to him/her. In addition, certain staff and outreach functions also reported to the president, such as the office of general council, compliance and audit services, and intercollegiate athletics. When an additional college was created or an existing college was divided into two separate colleges, a new dean was appointed and the new dean would report to the vice president for academic affairs. Additional department chairs were added, but the levels of reporting were consistent.

Similarly, if other administrative or operational departments were created, the head of the newly organized function would report to an existing vice president or director. The overall structure and the degree of formalization, centralization, and differentiation were well established throughout the study period. An organization chart for this university is included in Appendix O (p. 299).

*Historical highlights.* After coding written histories for the pilot institution, several broad categories became evident. Not unexpectedly, a number of the categories coincided with the topics identified in the quantitative phase of the pilot study. Subjects covered in the histories included a timeline of the tenure of the university's presidents; references to student enrollment, academic programs, and origins of certain newly established colleges; funding levels; new facilities; and the political environment surrounding the institution. As a result of the axial coding and selective coding processes, three major themes emerged that supported identifying institutional cycles: political environment, diversity, and new facilities (see Appendix P (p. 301)). To maintain confidentiality of the study institution and individuals associated with that institution, direct citations for statements included have not been given (and the sources were not included in the References section because they would reveal the name of the institution); however, comments are attributed to the person or the role of a person being quoted from institutional histories.

Political environment. Kerr and Gade (1986) noted,

No time was ever better for the university and college president than the late 1950s and early 1960s, and no time was ever worse than the late 1960s and early 1970s. The best of times became the worst of times in almost no time at all (p. 82).

The decade of the 1960s began with seeming serenity and ended in complete chaos.

That scenario was evident in the pilot institution. An emeritus faculty member noted the early 1960s was a “period of collegiality and gentility both among the faculty and the students.” Speaking of the same period, another emeritus faculty member was impressed “by the spirit of excitement on the campus as it appeared that most everyone was busy at work but happy.” When he joined the faculty, there was a

collegial atmosphere where intellectual ferment was widespread and where the exchange of ideas was not limited to one’s own discipline but crossed lines of specialties. Almost all the faculty were committed to making [the university] a center for academic productivity and innovation.

By the mid-sixties, the campus stood at a dividing point as one historian noted.

With one foot in the traditional campus life of the past, 1965 saw [the university] and most American universities look toward a new and troubled era. Much of the trouble had already gripped the nation, but for [this university] racial tensions and the strife over the war in Vietnam were things of the future. Sitting in [the gym] listening to Peter, Paul and Mary sing “Blowin’ in the Wind,” you could feel that future moving ever closer.

A short few years later, a former student body president recalled 1968, the year he entered the university as a new freshman. He remarked,

The year I arrived on campus as a clueless freshman marked the dividing line between then and now in American history. It had a lasting – even chilling – effect on the world. And now I realize that it had a profound impact on me, shaping values and views I would carry into...student government: values and views I hold equally important now.



Another student from the late 1960s recalled a night when

in 1968 the war in Vietnam was raging. Students from across the country were rebelling against the war. The [state legislature], in protest of the protests, had just voted down a major educational bond issue that would have infused much-needed cash into the university system. Gallup announced a report that only 2% of college students were involved in campus unrest...I wanted to use the Gallup poll to change the public mindset that all students were rebelling against the war and were involved in administrative disruption and violence. I wanted to circulate a petition among the students, starting with those at [this university], that basically said, "We are the majority and we are not involved. We choose no longer to remain silent." I gave the movement a name, the Silent Majority.

In response to those of the "Silent Majority" who were not involved in anti-war protests, the bond issue was ultimately passed and an influx of funding for enhancing instruction was provided to the university. That event was a catalyst for opening the *Season of Fiscal Prosperity* for the university, as noted previously in Figure 4.17.

While those involved in protests were relatively small compared to the rest of the student body, by the spring of 1970 the campus was "in the grip of intense student unrest, unparalleled in the history of higher education." The late 1960s and early 1970s marked a *Season of Unrest*. A university historian cited,

*Vietnam, Cambodia, Kent State, moratorium, and demonstration* were words sweeping campus in the spring of 1970. An antiwar rally called for an "immediate and total withdrawal from Vietnam," and 350 students from [the university] marched on the state capitol. Over the next two days the demonstrations reached a crescendo. Fifteen hundred students ringed the ROTC building, causing minor conflicts with the police.

During the period from about 1969 to 1972 one former president recalled, "Activists on campus were intent on a symbolic closing of the university, as had been done at many other universities." A showdown occurred during a campus meeting to discuss the protesters' requests. The president noted, "I felt the protesters' real goal was to challenge

the administration's authority; any victory would have encouraged further efforts."

As the president entered the arena to call the meeting to order, a large Vietcong flag was hanging from the balcony. In a brief standoff, the president gave an ultimatum for the flag to be removed. After a few tense moments, the flag was rolled up and the meeting proceeded. The president stated, "No one can say what would have happened [had the flag not been removed as requested], but the incident stands out as the tensest moment during a tense period."

That same president's wife recalled a time when she and her husband left an official banquet early because a group of students were marching on the president's home. Shortly after they arrived, about forty students appeared. She noted,

Initially there was a lot of yelling and the situation seemed volatile, but after about thirty minutes with [the president] they departed without incident; however, the next morning we discovered that the bricks outlining a large flower bed across from the front porch were in disarray. [The police chief] told us that his men had seen students holding bricks behind their backs. We knew of situations on other campuses where bricks were thrown, fires started, etc., and so we were grateful that our students had behaved so well in response to [the president's] meeting with them.

Following the war, according to the university history, two new movements were evidenced. First, new-departure courses began in areas of Women's studies, African-American studies, photojournalism, the Hippie and society, chess, and astrology. The emphasis on these curriculum areas supported the notion of a *Season of Variation* noted earlier. Secondly, the administration announced the abolition of all curfews for women students and the end of *in loco parentis*.

The *Season of Unrest* was important historically, but based on the results of this pilot study it did not appear to have had a major impact on institutional cycles. As noted previously in the literature, student protests and periods of unrest have occurred throughout the history of higher education and could be evinced at various times in the life cycle of an institution. For example, in 2002 students again demonstrated on campus. Although the event was an isolated incident, not a full-scale organized protest involving large groups of students, it was indicative of the undercurrent of student unrest that could erupt on college campuses if the issues were compelling enough. In contrast to the confrontations of the Vietnam era, the history of this event noted, “Although [the president] disagreed with students...he welcomed their demonstrations and commitment to a cause beyond themselves.”

During the study period, campus unrest appeared to be the result of events external to the campus and not related directly to institutional cycles. Therefore, the *Season of Unrest* was classified as a sub-cycle not directly associated with major cycles.

Diversity. As noted in the statistics (see Table 4.1, p. 83), minority students represented only seventeen percent of the total student body by 1976. Minority enrollment started small and continued to expand throughout the study period. One administrator cited in the university history reported,

Until 1962, no black student had enrolled at [the university]. Many at the university knew it was time, and the opportunity presented itself...[The president] was determined that the academic program would proceed and that the black students would find the campus hospitable. Of course, none of us could predict how the black students would be received. Memories of the troubles in [another state] were fresh, and the apprehension of university officials was unmistakable.

An editorial in a local newspaper reporting on the advent of black students coming to the campus recounted, “It was time to proceed with education for students of all creeds and colors...students (who arrived over the weekend) were here for an education, not agitation.” The first black student enrolled at the university in 1962 and graduated cum laude in 1965; the first black Ph.D. student graduated in 1970. It was not until later, however, that a major emphasis was placed on recruiting minority students. One former president reported,

During the 1980s, colleges across the United States made unusual progress in the area of diversity, especially as it related to minorities and women, yet all the while battling major resistance. However, as the decade of the 90s began, [the university] assertively built a foundation for even greater diversity.

This historical note supported the timing of the *Season of Diversity* identified in the statistics previously cited in the analysis of the quantitative data.

New facilities. Another important aspect represented in the history was the importance of campus infrastructure. The period from 1960 to 1965 “marked the beginning of several new academic and extra-curricular programs. The ever-increasing number of students necessitated further campus expansion.” In the fall of 1965, a new building to house graduate students was dedicated. A new faculty member visiting the campus for the first time in the mid 1960s commented,

My impression of the campus was that they were putting up a building in the middle of the library, such was the movement in all directions on the campus. It was only a couple of years later that a building was put up at the end of the library!

During the late 1970s and early 1980s four major projects were undertaken: a new conference center for coordinating continuing education courses and other conferences and symposia, a major annex to the business building, a new building for the college of engineering, and a new science library. An emeritus faculty member commented about changes across the campus. He remarked, “Today the university has many more students than in the 1960s, and its faculty is much more research oriented. Both students and faculty can take advantage of an infrastructure that a sixties faculty member could not have imagined.”

Between 1994 and 2003, the university commenced or completed 126 significant capital projects with a total value of over \$887 million, adding 2.8 million square feet of space to the university’s inventory. Those projects involved new construction and renovation as well as the expansion or rehabilitation of the facilities and campus infrastructure.

Three distinct periods addressing expansion of campus facilities were referenced in the history: early 1960s, late 1970s and early 1980s, and mid 1990s to early 2000s. Periods of major investments in infrastructure were classified as a *Season of Renewal*. Each of those periods preceded *Seasons of Growth*.

Based on the apparent strength and stability of this institution, it did not appear to have an obvious period of decline. However, when the university reached a level of maturity/stability, it went through a period of revival in order to achieve another period of growth. Part of that revival was evidenced in the *Season of Renewal* as the campus infrastructure expanded to accommodate future growth in the number of students. A

model of how the relevant seasons related to institutional cycles is presented in the following section of this chapter.

*Summary of Seasons Identified*

Three different pictorial models were created to assist in envisioning how the various seasons related to one another. The first presented is a chronological timeline with the various seasons identified as they occurred relative to the pilot institution. The second relates relevant findings from the pilot to the generalized life-cycle model presented in Chapter 2 (see p. 45). The third model is a conceptual perspective (showing causal conditions, intervening conditions, general institutional cycles, factors associated with identifying cycles, and consequences as a result of identifying those cycles) that was used for considering all other institutions in this study.

Fifteen different periods were identified from data for the pilot institution. They are noted in Table 4.7, based on the source of data in identifying each season. The seasons that related primarily to institutional cycles were the *Season of Growth*, the *Season of Constancy*, the *Season of Increasing Student Support*, and the *Season of Renewal*. The *Season of Growth* and the *Season of Constancy* are each denoted as a primary season (p) in the table. The *Season of Increasing Student Support* and the *Season of Renewal* were considered primary sub-cycles, indicated with (ps) in the table. All other seasons were characteristic of secondary sub-cycles, designated by an (s) in the table, because they were evident during periods of growth and during periods of constancy.

Table 4.7 – Pilot Study - Seasons Identified from Characteristics of the Pilot Institution

| <b>Enrollment Data</b>                   | <b>Financial Data</b>     | <b>Other</b>            |
|--|---------------------------|-------------------------|
| <i>General Enrollment Patterns (n=3)</i> | <i>Revenue (n=3)</i>      | <i>Historical (n=2)</i> |
| 1 – Growth (p)                           | 6 – Stability (s)         | 14 – Renewal (ps)       |
| 2 – Constancy (p)                        | 7 – Prosperity (s)        | 15 – Unrest (s)         |
| 3 – Diversity (s)                        | 8 – Constraint (s)        |                         |
| <i>Enrollment by Major (n=2)</i>         | <i>Expenditures (n=3)</i> |                         |
| 4 – Variation (s)                        | 9 – Equilibrium (s)       |                         |
| 5 – Retrenchment (s)                     | 10 – Instruction (s)      |                         |
|  | 11 – Research (s)         |                         |
|  | <i>Other (n=2)</i>        |                         |
|  | 12 – Level (s)            |                         |
|  | 13 – Increasing (ps)      |                         |

The seasons are illustrated graphically in a chronological timeline in Figure 4.22. Each season is indicated (parenthetically) with the corresponding number from Table 4.7.

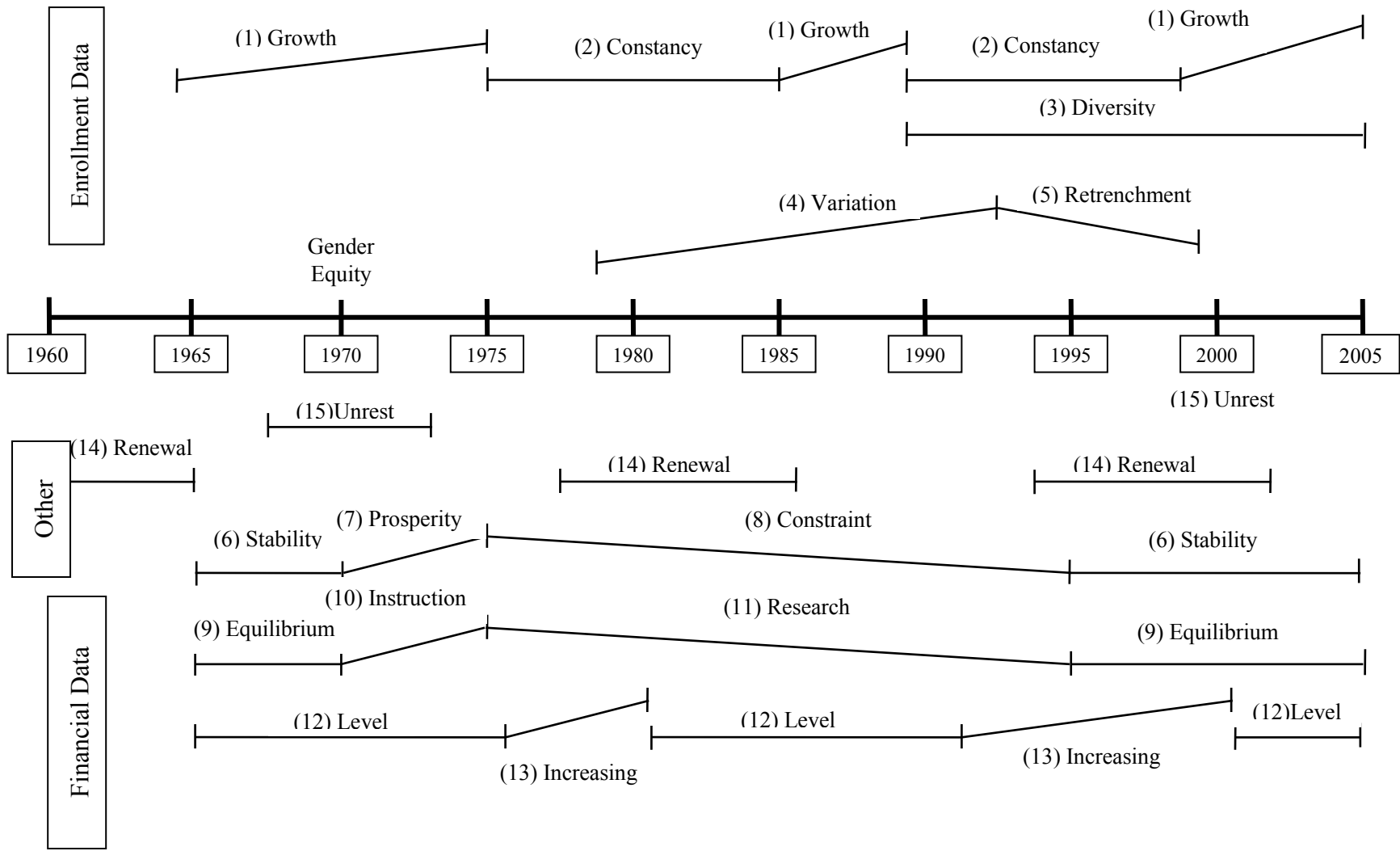


Figure 4.22 – Chronological Summary of Elements of Institutional Cycles from Pilot Study



The seasons presented in Figure 4.22 are in three sections identified by source of data used to detect each season: enrollment data, financial data, and other (historical data). General enrollment data showed three distinct *Seasons of Growth* (1965-1975; 1985-1989; and 1998-2005), and two *Seasons of Constancy* (1975-1985 and 1989-1998). Enrollment data by race/ethnicity showed the period of *Diversity* (1990-2005). The enrollment data by major area of study delineated periods of *Variation* (1979-1994), and *Retrenchment* (1994-1999).

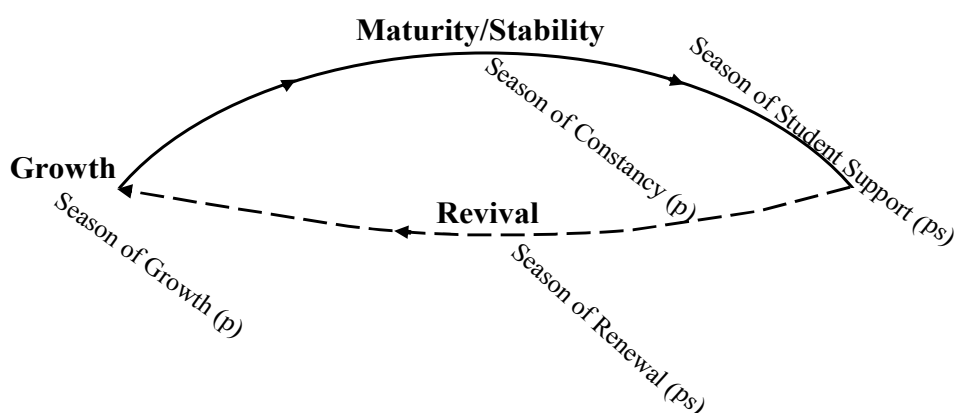
Financial data, shown at the bottom of the model, highlighted the parallel patterns for sources of revenue and expenditures of funds reflecting flat periods (*Stability* and *Equilibrium*, respectively) from 1965 to 1970 and again from 1995 through 2005; increasing periods (*Prosperity* and *Instruction*, respectively) from 1970 to 1975; and declining periods (*Constraint* and *Research*, respectively) from 1975 through 1995. Expenditures specifically for student scholarships and support services showed three *Seasons of Level Student Support* (1965-1975; 1980-1990; and 2000-2005), and two *Seasons of Increasing Student Support* (1975-1980 and 1990-2000).

Distinct periods identified from the qualitative data differing from those identified through the analysis of the quantitative data included *Seasons of Renewal* (1978-1986 and 1993-2003) and *Seasons of Unrest* (1968-1974 and again in 2000).

From the diagram it is evident the various sub-cycles were important parts of the overall environment of the institution; however, with the exception of the *Season of Increasing Student Support* and the *Season of Renewal*, the sub-cycles were either short-lived, were not repeated, and/or traversed the *Season of Growth* and the *Season of Constancy* without an apparent affect on those primary seasons, as noted previously.

The second model, represented in Figure 4.23, depicts the two primary seasons and the primary sub-cycles in relation to the generalized model of institutional cycles (refer to Figure 2.1, p. 45).

Figure 4.23 – Pilot Study - Components of Generalized Model of Institutional Cycles Applicable to the Pilot Institution



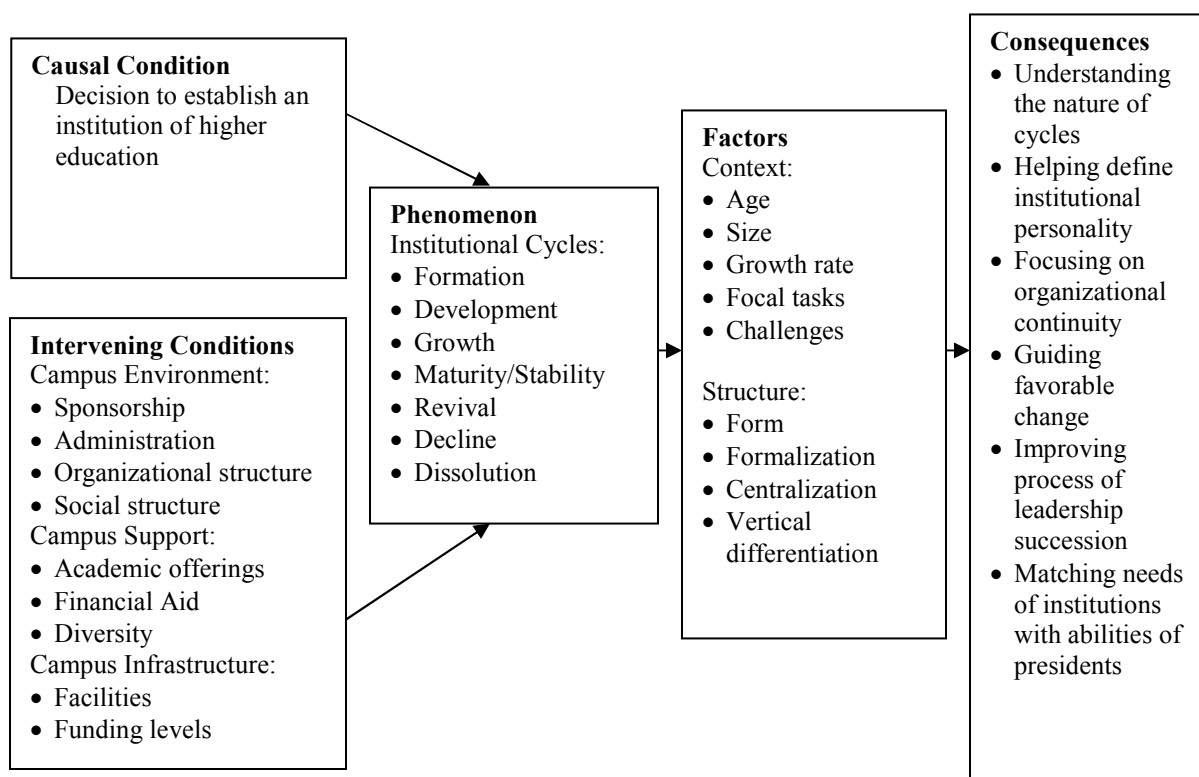
In this model, the relationship of the seasons identified and the phases of the life-cycle model are represented. The generalized cycles of growth, maturity/stability, and revival are identified in bold type; the *Season of Growth* and the *Season of Constancy* again are designated as primary (p), and the *Season of Increasing Student Support* and the *Season of Renewal* (increased investments in facilities and/or other infrastructure) are denoted as primary sub-cycles (ps). Data from the pilot tended to confirm the concepts conveyed by the generalized model: after the formation and early development of an

organization, mature organizations experienced growth followed by maturity/stability. Following a period of stability, the organization needed to undergo a period of revival in order to return to a new growth cycle. Consistent with that model, after the pilot institution experienced a *Season of Growth* and reached the maturity/stability cycle (*Season of Constancy*), specific efforts were initiated to move the university through a revival phase. For this institution, in each case over the forty-year period, those efforts were reflected in additional financial support for students and increased investments in facilities to accommodate more growth.

In addition to considering and confirming the overall nature of cycles and sub-cycles in other institutions, the remainder of this study focused also on the types of efforts taken during the revival phase to identify common characteristics, if any, that allowed other institutions to return to a growth cycle.

Based on the age and stability of the pilot institution, not all institutional cycles were evident. Figure 4.24 provides a conceptual model of the nature of institutional cycles that might be identified across all institutions.

Figure 4.24 – Conceptual Model of Institutional Life Cycles



The principal phenomenon considered by this study, and therefore central to the model, was the nature of institutional cycles. Using the metaphor of living organisms, all living things (and by extension, all institutions) experience a life cycle. Birth of the organism, or the establishment of an institution, is the causal condition which is the catalyst for initiating the cycle process. The box in the upper left corner of the model reflects that causal condition.

Several intervening conditions contribute to the health and vibrancy of an institution as it experiences those cycles. For purposes of this model, those intervening conditions have been categorized into three groups: campus environment, campus

support, and campus infrastructure. Some of the elements that create the campus environment might include (1) sponsorship of the institution (public, private, affiliation with another organization or group, etc.), (2) the nature of the administration of the institution, (3) the organizational structure of the institution, and (4) and the social organization and structure surrounding the institution. Campus support includes characteristics such as (1) academic programs and offerings provided by the institution, (2) the availability of financial aid, and (3) the composition and nature (diversity) of the student body and the ability of the institution to address that diversity. Components of campus infrastructure include (1) the availability and functionality of facilities, equipment, and technology to support the learning environment, and (2) the level of funding from the sponsoring organization (public or private), the size of the endowment, the capacity of the institution in attracting philanthropic gifts and other fund raising efforts, and tuition levels. The intervening conditions are represented in the box at the lower left of the model.

The generalized model included seven cycles (formation, development, growth, maturity/stability, revival, decline, and dissolution) represented in the center box. As noted previously, this study anticipated the possibility of identifying periods of development, growth, maturity/stability, decline, and revival; however, it was uncertain whether periods of formation or dissolution would be evident from the institutions selected. The study sought to identify characteristics of seasons for existing institutions within the context of those broader cycles.

The factors used to identify seasons within institutional cycles were derived from business models and included both contextual and structural dimensions of institutions. As noted previously, common contextual dimensions included age, size, growth rate, focal tasks, and challenges experienced by an institution at varying points throughout its history; common structural dimensions included the organizational form and the degree of formalization, centralization, and vertical differentiation across an institution. Those factors are listed in the box on the center right of the model.

The benefits and consequences of considering institutional cycles for academic leaders include (1) understanding the general nature of those cycles, (2) helping define institutional personality, (3) focusing on institutional continuity, (4) guiding favorable change, (5) improving the process of leadership succession, and (6) being able to match the needs of an institution with the abilities of presidential candidates. The consequences of the process are shown in the box on the far right of the model.

Central to the purposes of this study was gaining an understanding of the nature of institutional cycles, establishing a base-line for defining institutional cycles, and developing a model for higher education which then could be evaluated relative to various segments of higher education in general. Data from the pilot study provided material for developing the visual models just presented and described. Several lessons were learned that guided the remainder of the study. Those lessons are presented more fully in Chapter 5. Results for the remainder of the institutions in the study are presented in Chapter 6. Further discussion on the implications of life cycles across higher education is then presented in Chapter 7.

## CHAPTER 5

## Discussion of Pilot

*Lessons Learned from the Pilot Study*

The pilot study provided a general framework for understanding the nature of institutional cycles. The foundation for building that framework rested upon certain underlying assumptions: (1) that measurable characteristics of institutional cycles existed, (2) that patterns could be identified, and (3) that characteristics of those patterns could be described using contextual and structural dimensions. The benefits of both quantitative and qualitative research methods were useful in understanding those characteristics.

The first assumption was based on the concept of organizational cycles from business models. As noted previously from the literature, colleges and universities are mutable over time and likely would go through cycles of development and change similar to other organizations. Although writers differed on the names and numbers of phases in life cycles, the premise that life cycles were inherent in any organization was basic to their findings. Similarly, this study – seeking to identify institutional cycles in institutions of higher education – assumed *a priori* that cycles existed and the study was designed in such a way to identify those cycles.

Patterns denoting different aspects of cycles were identifiable at multiple levels: total enrollment, enrollment by gender, enrollment by race/ethnicity, enrollment by area of concentration of study, and also from sources and uses of university resources. In addition, confirmation of components of those patterns was evident in the histories of the institution. Characteristics of those patterns were notable and were describable using

contextual and structural dimensions of the institution; however, some distinctions became more apparent upon further consideration of the data.

- (1) Data needed to be segmented in order to identify which factors were dominant and which factors were less important in determining cycles.
- (2) General enrollment patterns revealed primary cycles or seasons of the institution; other enrollment data were indicative of sub-cycles.
- (3) There were fewer primary cycles and more sub-cycles than at first anticipated upon initiating this study.
- (4) Patterns may be predictable, and understanding which characteristics to be cognizant of could help identify the configuration of institutional cycles.
- (5) Mature, long-lived institutions were likely to be at the top of the generalized model previously described, moving through the cycles of growth, maturity/stability, and then through a revival to return to a new growth cycle.
- (6) The primary factors highlighting a revival cycle were student-focused. Increased funding in student financial aid and other student support, coupled with increased investment in campus infrastructure, created the catalyst to position the institution for another period of growth.
- (7) For an established institution, the structural dimension changed very little from one season to another.
- (8) Enrollment patterns for male and female students generally were parallel across all race/ethnicity groups. That effect raised several additional



research questions that were beyond the scope of the present study, but should be considered for further research.

In addition to those observations, there were other lessons learned from the pilot that helped to guide the remainder of the present study. Since the pilot institution was only one well-established university (over 100 years old) among 146 other large, public, doctoral-granting institutions, not all of the seasons of the life cycles were evident. Institutions founded during different periods likely would evince characteristics of other seasons not represented by the pilot institution. Looking at other institutions in the study, one factor considered was whether there were different patterns for seasons. Also of interest was whether those seasons varied based on age, size, or geographic region. In order to identify the seasons associated with colleges and universities in the study, emphasis was placed on primary cycles identified in the pilot and less attention paid to sub-cycles. Therefore, reporting on the data analysis for the additional institutions in this study focused primarily on general enrollment patterns rather than detailed analyses of enrollment by gender, by race/ethnicity, or by area of study, although enrollment data for all those components were gathered for each institution and are addressed briefly in Chapter 6. However, a key for the study was to confirm the nature of cycles and focus on the points of demarcation or change from one season to the next. Both quantitative and qualitative data contributed to identifying those defining points.

For organizational structure, minimal effort should be spent on evaluating structural changes for established institutions. Although universities at earlier stages of institutional cycles might have experienced some organizational changes as they sought

means to be more effective and efficient, the age of all the sample institutions in this study likely would not demonstrate significant changes in structure.

Among the challenges identified during the pilot were variances in the data reported. Multiple sources were used to confirm data validity (i.e. IPEDS, institutional websites, published reports from the institution, etc.). The process presented some problems in comparing data from different sources. As a result, data collection and analysis required substantial time and judgment to process. Also, data were not available for all years during the study period. Findings were limited by the availability, or lack thereof, of adequate historical data, by the consistency of the data, or by interpretation of data by the researcher. However, the pilot provided a basis for completing the balance of the study as efficiently as possible.

#### *Comments from Expert Panel*

Comments provided from the expert panel included a variety of valuable insights on content, structure, technical design, and style. As might be expected, however, using highly qualified individuals in the capacity of “experts” provided a number of differences in perspectives and preferences. For example, one member of the panel commented that the nature and number of elements used to identify cycles were all good indicators of changes in higher education environments; understanding the varying patterns in enrollment would bring clarity to a very complex culture. A second member of the panel suggested trimming away non-essential complexity and using a smaller set of elements, anticipating that a more selective set would bring more focus and perhaps reveal more comprehensible results and stronger conclusions.

Another example of differences between members of the panel was the perspectives on the value of using mixed-methods in research. One individual strongly supported the complimentary nature of both quantitative and qualitative methods together to provide both a broader and a deeper understanding of the data depicting the nature of cycles. Another individual implied that neither quantitative nor qualitative methodologies alone would have captured all the trends, but then added that neither would the use of mixed-methods adequately capture all the subtleties. That person suggested that the nature of higher educational environments was complex enough that any study would have inherent limitations.

A third example entailed the extended use of charts and tables to communicate results in the analysis. One individual indicated the graphics flowed logically, presented the points clearly, and were easy to understand. Another individual suggested there were too many tables and charts, which tended to homogenize the presentation. The collective mass of data tended to overwhelm the ability to focus on a few key points and grasp the main message from the analysis. The associated recommendation from that individual was to present fewer charts in the body of the study, with relevant explanation of the points to consider, and include more of the detail in an appropriate appendix.

Striking a proper balance in applying the suggestions from the panel, at the same time taking ownership of the content, was challenging; notwithstanding, there was great benefit from comments made by members of the panel. One member explored alternatives to selecting the sample institutions, but confirmed the basis chosen for stratified random sampling as a reasonable approach. Another provided technical comments to enhance the statistical analysis and presentation of the results. Another

suggested a better presentation and summarization of the themes developed in the qualitative analysis. Other comments ranged from simple suggestions to improve grammar and punctuation, while others probed the strength or adequacy of the work itself. A number of comments/questions added insights the researcher might have missed or not considered. Many comments required additional study and reflection to explain more clearly the intent of elements of the study or to present the results more completely. In sum, the contributions of the expert panel enhanced the overall work of this study.

Applying the lessons learned from the pilot study and incorporating the contributions from the expert panel produced a more comprehensive and efficient approach for completing the study. Evaluating the remainder of the institutions in the sample helped confirm typical institutional cycles for the types of colleges and universities studied and characteristics of those cycles. It also expanded understanding of issues that contributed to identifying characteristics of cycles as well as issues experienced by different institutions during different phases of institutional cycles. However, common causes for points of demarcation when transitioning from one cycle to the next were not evident in the approach taken for this study. Further research to identify those changes is needed. The results of the study with further discussion and implications are presented in Chapters 6 and 7.

## CHAPTER 6

## Results

*Overview*

Using a proportional stratified random sampling procedure, 59 institutions were selected for the quantitative phase of this study from among the 146 not-for-profit, doctoral-granting universities in the United States with enrollments exceeding 10,000. The 146 institutions in the population were divided into the six regions used for institutional accreditation: West, Northwest, North Central, Southern, Middle States, and New England. Table 6.1 shows the number of institutions used for the study by region.

Table 6.1 – Institutions Used for Quantitative Analysis

| <b>Region</b> | <b>Number of Institutions</b> | <b>Sample Size</b> | <b>Percentage</b> |
|---------------|-------------------------------|--------------------|-------------------|
| West          | 10                            | 4                  | 40.0%             |
| Northwest     | 13                            | 5                  | 38.5%             |
| North Central | 56                            | 23                 | 41.1%             |
| Southern      | 46                            | 19                 | 41.3%             |
| Middle States | 13                            | 5                  | 38.5%             |
| New England   | 8                             | 3                  | 37.5%             |
| <b>Total</b>  | <b>146</b>                    | <b>59</b>          | <b>40.4%</b>      |

Once the institutions were selected, the sample of 59 was listed in alphabetical order by the name of the university. Each university then was identified numerically, from 1 to 59, for further reference throughout the study. Enrollment and financial data available between 1965 and 2005 for each institution were gathered for selected detailed analysis.

For the qualitative analysis, six of the 59 institutions were selected purposefully based on five criteria: age, size, location, pre-2005 Carnegie classification, and status as a land-grant institution. One of those six was used for the pilot study; data garnered from the pilot were aggregated with the remaining five institutions for the qualitative analysis. Notably, appropriate UNL-IRB approval had been obtained prior to undertaking that pilot study. Published written histories, other available documents, institutional web sites, and researcher memos were used to assess respective institutional foci and pivotal issues faced by those six universities, during the study period (1965-2005).

The analysis presented in this chapter is divided into five sections: institutional demographics; quantitative analysis, including general enrollment patterns, other enrollment patterns, and financial characteristics; qualitative analysis, including political environments, diversity, new facilities, and presidential timelines; mixing quantitative and qualitative results; and responding to the research questions.

### *Institutional Demographics*

Each institution in the study has been identified numerically for reference in reporting results in the tables and figures, both within the text and in the applicable appendices. All institutions in the study were grouped by age, size, and geographic region. Three categories were selected to summarize institutions by age: those founded during the antebellum period (1790-1860), those founded between the Civil War and WW II (1861-1944), and those founded after WW II (1945-1965). The 59 institutions next were divided into three size categories (based on enrollments at the time the sample was selected): those with enrollments between 10,000 and 19,999, those with enrollments between 20,000 and 29,999, and those with enrollments of 30,000 and greater.

Geographic region was defined by the six regions used for institutional accreditation: West, Northwest, North Central, Southern, Middle States, and New England. Table 6.2 denotes the institutions by number in those three groupings. The number of cases in each group is noted in parentheses.

Table 6.2 – Institutional Demographics by Age, Size, and Geographic Region

|                                | <b>Age</b>  |                             | <b>Size</b>   |                            | <b>Region</b>   |
|--------------------------------|---|-----------------------------|---|----------------------------|---|
| Antebellum<br>Period<br>(N=15) | 1,7,12,14,16,<br>20,24,26,28,39,<br>42,43,51,53,56  | 10,000-<br>19,999<br>(N=27) | 2,4,5,6,9,11,13,<br>17,19,20,21,22,<br>24,25,28,30,32,<br>35,38,41,42,44,<br>46,48,49,50,55 | West (N=4)                 | 23,31,32,35   |
| Civil War to<br>WWII<br>(N=31) | 2,3,4,6,9,10,11,<br>13,17,18,22,23,<br>27,29,31,34,35,<br>37,38,40,41,44,<br>45,46,47,49,50,<br>54,55,58,59 | 20,000-<br>29,999<br>(N=21) | 1,3,8,10,12,15,<br>18,26,27,31,34,<br>36,40,43,45,47,<br>51,53,54,57,58                     | Northwest<br>(N=5)         | 11,21,50,56,58  |
| Post-WWII<br>(N=13)            | 5,8,15,19,21,25,<br>30,32,33,36,48,<br>52,57  | 30,000+<br>(N=11)           | 7,14,16,23,29,<br>33,37,39,52,<br>56,59   | North<br>Central<br>(N=23) | 2,3,5,12,13,14,<br>15,18,19,20,29,<br>30,34,36,37,43,<br>44,45,47,49,55,<br>57,59 |
|                                |   |                             |   | Southern<br>(N=19)         | 1,4,6,7,8,9,10,<br>16,17,27,28,33,<br>38,42,48,51,52,<br>53,54                    |
|                                |   |                             |   | Middle<br>States<br>(N=5)  | 22,24,25,26,39  |
|                                |   |                             |   | New<br>England<br>(N=3)    | 40,41,46  |

Table 6.3 shows all institutions divided by classification: doctoral extensive or doctoral intensive (using the pre-2005 Carnegie classification), and those identified as land-grant or non-land-grant institutions. The number of cases in each group is noted in a parenthesis.

Table 6.3 – Institutional Demographics by Classification

|                           | <b>Classification</b>  |                       | <b>Land-Grant or Not</b>  |
|---------------------------|--|-----------------------|---|
| Doctoral Extensive (N=39) | 1,4,7,9,10,14,16,17,18,20,24,25,26,27,28,29,31,32,34,35,36,37,39,40,42,43,45,46,47,50,51,52,53,54,55,56,57,58,59 | Non-Land-Grant (N=41) | 2,4,5,6,7,8,9,10,11,12,13,14,15,18,19,20,21,22,23,24,25,26,27,28,30,33,34,38,41,42,47,48,49,50,51,52,54,55,56,57,59 |
| Doctoral Intensive (N=20) | 2,3,5,6,8,11,12,13,15,19,21,22,23,30,33,38,41,44,48,49,  | Land-Grant (N=18)     | 1,3,16,17,29,31,32,35,36,37,39,40,43,44,45,46,53,58   |

As noted in Tables 6.2 and 6.3, all categories used for grouping the institutions, with the exception of geographic region, included a minimum of 11 cases (those with enrollments exceeding 30,000) and a maximum of 41 cases (non-land-grant institutions). The number of institutions by region was limited to the proportional representation of the total qualifying universities in each region. Regional categories ranged from 3 (New England) to 23 (North Central).

A decision tree was developed to select the six institutions used for the qualitative phase of the study, and it was based on a combination of those factors, reflecting representative characteristics of the 59 institutions. A table identifying the selected institutions resulting from that decision process is presented in the qualitative analysis section in this chapter.



### *Quantitative Analysis*

As a result of lessons learned from the pilot study and also feedback received from the expert panel, the quantitative analysis focused primarily on general enrollment patterns that might denote institutional cycles. The institutions then were segmented by age, size, and geographic region to determine whether different patterns were notable based on those attributes. In addition, enrollment by gender, by race/ethnicity, and by area of study was reviewed. Those findings are presented in subsequent paragraphs.

Identifying factors indicating points of demarcation of changes were considered helpful in differentiating cycles of an institution. Evaluating changes in sources and uses of financial resources provided supporting evidence of those transitions (cycles). Financial characteristics considered changes within each year as well as between years, for a given institution, by using percentages of total revenues and total expenditures. Marked patterns were sought to support claims of cyclical activity.

#### *General Enrollment Patterns*

Enrollment data for all institutions in the study (n=59) were collected for analysis. Not all of the institutions (N=32) in the sample were willing or able to provide historical data for years prior to 1980, and in some instances that information was not available online through IPEDS; therefore, data sets for some institutions do not represent the entire 40-year period of the study (1965-2005). However, multiple trend patterns were evident from the data that were available. (Trends in total enrollment for each institution are depicted graphically in Appendix Q (p. 307)) When looking for general patterns across all the institutions, five common configurations emerged.

Pattern #1 showed continued growth throughout the 40-year study period. That pattern was reflective of periods of formation, development, and growth.

Pattern #2 was flat, representing a season of constancy across the entire period the data were available. That pattern was viewed to mean an established, mature environment existed during a period of relative equilibrium at the maturity/stability phase.

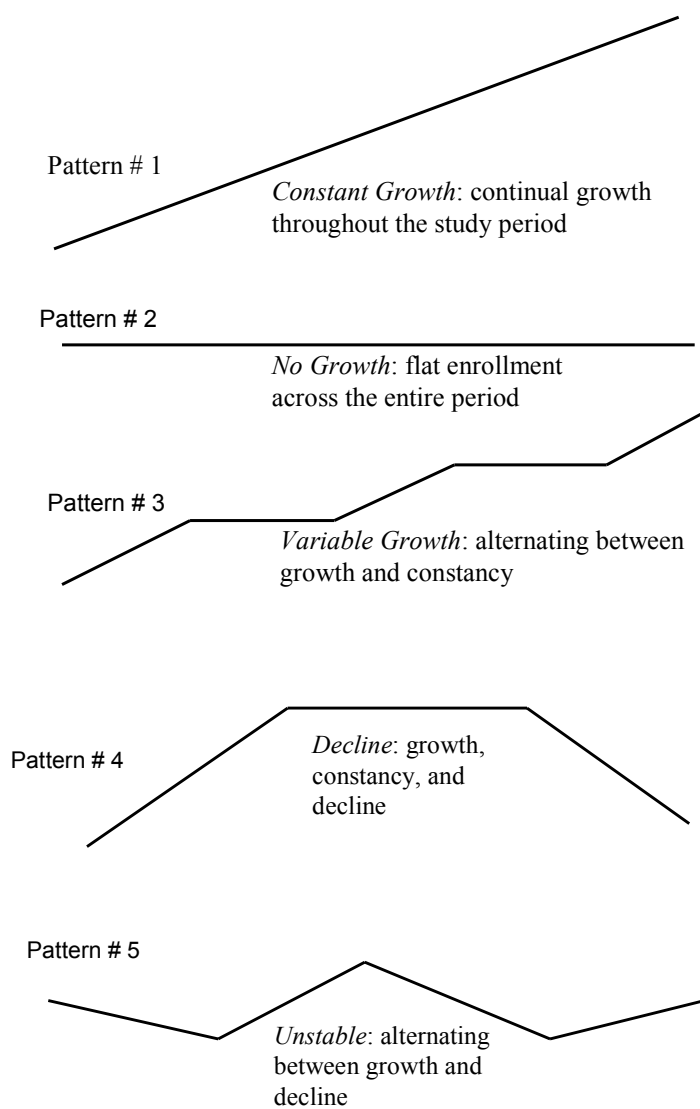
Pattern #3 had alternating seasons of growth and seasons of constancy. That pattern meant a period of revival was to be evident between the period of flat enrollment and the following growth period.

Pattern #4 showed a season of growth followed by a season of constancy, and then followed by a season of decline. That pattern meant the institution probably did not take appropriate actions to enter a period of revival.

Pattern #5 vacillated, alternating between growth and decline. It was interpreted as being related to institutions experiencing unstable environments.

For reference, the patterns are referred to in this study as *Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*, respectively. Each of those five patterns is shown in Figure 6.1.

Figure 6.1 – General Trends in Total Enrollment



The enrollment pattern for all 59 institutions was categorized into one of the five general patterns by the researcher and five other professional colleagues and associates with an inter-rater reliability, after discussion and reconciliation, of 90 percent. There was no agreement on six of the cases. The main difference in categorization for those six institutions was between the patterns for *Constant Growth* and *Variable Growth*. Three institutions (3, 8, and 10) were considered by three of the reviewers as representative of *Constant Growth*; the other three reviewers considered them as illustrative of *Variable Growth*. The reviewers could not reconcile their opinions on the patterns for those institutions.

The other three cases were individual instances where a reviewer believed strongly about the pattern he/she had identified and chose not to change the categorization. Table 6.4 summarizes the 59 institutions into five categories based upon the general pattern which coincided with the consensus of the reviewers. The researcher made an executive decision to include institutions 3, 8, and 10 in the *Variable Growth* category.

Table 6.4 – Summary of General Enrollment Patterns

| <b>Pattern</b>                      | <b>Institution</b>   |
|-------------------------------------|--|
| Pattern #1 – Constant Growth (N=2)  | 33, 52   |
| Pattern #2 – No Growth (N=4)        | 6, 13, 22, 53  |
| Pattern #3 – Variable Growth (N=28) | 1, 3, 4, 7, 8, 9, 10, 11, 14, 15, 17, 19, 21, 24, 25, 27, 29, 31, 32, 34, 36, 37, 38, 42, 47, 48, 49, 58 |
| Pattern #4 – Decline (N=7)          | 5, 12, 23, 40, 41, 45, 55  |
| Pattern #5 – Unstable (N=18)        | 2, 16, 18, 20, 26, 28, 30, 35, 39, 43, 44, 46, 50, 51, 54, 56, 57, 59                                    |

Based upon the general patterns, there were only two institutions (3.4% of the sample) that portrayed patterns of *Constant Growth* over the 40-year study period. Four institutions (6.8%) were identified as in a state of *No Growth* during the entire period. The largest group (N=28) was those institutions (47.4%) whose general pattern showed *Variable Growth*. Institutions in *Decline* (N=7) comprised 11.9 percent, and those that were *Unstable* (N=18) represented 30.5 percent of the sample institutions.

Next, the 59 institutions were grouped into categories to see if common patterns were evident based on age, size, and geographic region.

*Enrollment Patterns by Age.* All 59 institutions were arranged into three categories according to the age of an institution: those founded during the antebellum period (N=15), those founded between the Civil War and WW II (N=31), and those founded subsequent to WW II (N=13). Table 6.5 provides a matrix summarizing the general enrollment patterns and the age of the institutions categorized by the period each institution was founded.

Table 6.5 – General Enrollment Patterns by Institution’s Age: Antebellum = Period A, Civil War to WW II = Period B, and Post WW II = Period C

|                                     | <b>Period A (N=15)</b>            | <b>Period B (N=31)</b>   | <b>Period C (N=13)</b>           |
|-------------------------------------|-----------------------------------|--|----------------------------------|
| Pattern #1 – Constant Growth (N=2)  |                                   |  | 33, 52                           |
| Pattern #2 – No Growth (N=4)        | 53                                | 6, 13, 22,   |                                  |
| Pattern #3 – Variable Growth (N=28) | 1, 7, 14, 24, 42                  | 3, 4, 9, 10, 11,<br>17, 27, 29, 31,<br>34, 37, 38, 47,<br>49, 58 | 8, 15, 19, 21, 25,<br>32, 36, 48 |
| Pattern #4 – Decline (N=7)          | 12                                | 23, 40, 41, 45, 55   | 5                                |
| Pattern #5 – Unstable (N=18)        | 16, 20, 26, 28, 39,<br>43, 51, 56 | 2, 18, 35, 44, 46,<br>50, 54, 59                                 | 30, 57                           |

### *Period A*

Marked differences were noted for enrollment patterns by institutional age according to the three time periods. The 15 institutions from the antebellum period showed characteristics of four of the five general patterns, but none reflected enrollment patterns of *Constant Growth*. Of note, the pattern for *Unstable* enrollment was identified for eight (16, 20, 26, 28, 39, 43, 51, 56) of those fifteen (53%). *Variable Growth* was the second largest category with five (1, 7, 14, 24, and 42).

### *Period B*

Institutions (N=31) in the middle period (Civil War [1861] to WW II [1944]) revealed the same four general patterns as did the older institutions; but there was appreciable variability with regard to prominence of patterns and relative time of inception. To illustrate, the three (6, 13, 22) displaying *No Growth* were established between the early 1870s and 1910, and the 15 institutions (3, 4, 9, 10, 11, 17, 27, 29, 31, 34, 37, 38, 47, 49, 58) with *Variable Growth* were founded between 1866 and 1923.

Five institutions (16%), founded between 1867 and 1897, were classified as being in *Decline* (23, 40, 41, 45, 55). The eight institutions (26%) reflecting an *Unstable* pattern (2, 18, 35, 44, 46, 50, 54, 59) were founded between 1866 to 1933. Thus it was not possible to identify any key time frame as being more or less a contributory factor how an institution was classified.

### *Period C*

The 13 institutions founded after WW II also displayed characteristics of four patterns. The two institutions (33, 52) showing *Constant Growth* (characteristics of formation, development, and growth) were relatively established. Eight institutions (62%) were in the *Variable Growth* (8, 15, 19, 21, 25, 32, 36, and 48) category. One institution (5) was identified as being in *Decline*, and two (30, 57) were categorized as having an *Unstable* pattern.

The data were interpreted to mean institutional age was not a definitive factor when seeking to identify seasons of institutional cycles. Although the age of an institution might have contributed to its culture and character, commonalities in enrollment patterns were not apparent based on that specific index.

*Enrollment Patterns by Size.* The 59 sample institutions next were arranged into three categories according to size of the institution: enrollments exceeding 30,000 students (N=11), enrollments between 20,000 and 29,999 (N=21), and enrollments between 10,000 and 19,999 (N=27). Table 6.6 shows general enrollment patterns compared to the size of the institutions.

Table 6.6 – General Enrollment Patterns by Institution’s Size

|                                     | 30,000 +<br>(N=11) | 20,000-29,999<br>(N=21)                    | 10,000-19,999<br>(N=27)                                |
|-------------------------------------|--------------------|--|--|
| Pattern #1 – Constant Growth (N=2)  | 33, 52             |  |  |
| Pattern #2 – No Growth (N=4)        |                    | 53   | 6, 13, 22,   |
| Pattern #3 – Variable Growth (N=28) | 7, 14, 29, 37      | 1, 3, 8, 10, 15, 27, 31,<br>34, 36, 47, 58 | 4, 9, 11, 17, 19, 21,<br>24, 25, 32, 38, 42, 48,<br>49 |
| Pattern #4 – Decline (N=7)          | 23                 | 12, 40, 45,                                | 5, 41, 55  |
| Pattern #5 – Unstable (N=18)        | 16, 39, 56, 59     | 18, 26, 43, 51, 54, 57                     | 2, 20, 28, 30, 35, 44,<br>46, 50                       |

Institutions with enrollments exceeding 30,000 (N=11) showed characteristics of four of the five general patterns. The one pattern not observed for that size of institution was *No Growth*. Two (33, 52) were deemed to have had *Constant Growth*. Four (7, 14, 29, and 37) had *Variable Growth*. One institution (23) was in *Decline*, and four (16, 39, 56, and 59) were *Unstable*.

Similarly, institutions with enrollments between 20,000 and 29,999 (N=21) revealed four of the five general patterns. In this instance, the pattern not observed was *Constant Growth*. Only one of the institutions was viewed as having *No Growth* (53) while 11 institutions (1, 3, 8, 10, 15, 27, 31, 34, 36, 47, 58) exhibited *Variable Growth* patterns. Six (18, 26, 43, 51, 54, 57) were *Unstable*, and three (12, 40, 45) were viewed as being in *Decline*.

The third group of institutions, enrollments between 10,000 and 19,999 (N=27), also exhibited characteristics of four of the five patterns. The pattern not evident for this category also was *Constant Growth*. For that group of smaller institutions, 13 (4, 9, 11, 17, 19, 21, 24, 25, 32, 38, 42, 48, 49) exhibited patterns of *Variable Growth*, eight of the



27 (2, 20, 28, 30, 35, 44, 46, 50) were *Unstable*, and three were in each of the categories labeled as *No Growth* (6, 13, 22) and *Decline* (5, 41, 55).

The conclusion reached on the criterion of institutional size was the same as the one rendered for comparing enrollment patterns by category of institution age; the data were too inconclusive for claiming any evidence existed to warrant a clear statement of fact.

*Enrollment Patterns by Geographic Region.* The 59 sample institutions also were arranged according to the six geographic regions used for institutional accreditation; the West region (N=4), the Northwest region (N=5), the North Central region (N=23), the Southern region (N=19), the Middle States region (N=5), and the New England region (N=3). The purpose was to determine whether geopolitical influences might have affected institutions in similar or dissimilar ways. Table 6.7 shows the general enrollment patterns distributed by region with how the respective institutions aligned with those five patterns.

Table 6.7 – General Enrollment Patterns by Geographic Region

|                                     | <b>West<br/>(N=4)</b> | <b>Northwest<br/>(N=5)</b> | <b>North<br/>Central<br/>(N=23)</b>            | <b>Southern<br/>(N=19)</b>                     | <b>Middle<br/>States<br/>(N=5)</b> | <b>New<br/>England<br/>(N=3)</b> |
|-------------------------------------|-----------------------|----------------------------|--|--|------------------------------------|----------------------------------|
| Pattern #1 – Constant Growth (N=2)  |                       |                            |  | 33, 52   |                                    |                                  |
| Pattern #2 – No Growth (N=4)        |                       |                            | 13   | 6, 53  | 22                                 |                                  |
| Pattern #3 – Variable Growth (N=28) | 31, 32                | 11, 21, 58                 | 3, 14, 15,<br>19, 29, 34,<br>36, 37, 47,<br>49 | 1, 4, 7, 8,<br>9, 10, 17,<br>27, 38, 42,<br>48 | 24, 25                             |                                  |
| Pattern #4 – Decline (N=7)          | 23                    |                            | 5, 12, 45,<br>55                               |  |                                    | 40, 41                           |
| Pattern #5 – Unstable (N=18)        | 35                    | 50, 56                     | 2, 18, 20,<br>30, 43, 44,<br>57, 59            | 16, 28, 51,<br>54                              | 26, 39                             | 46                               |

The four institutions in the sample from the West exhibited three different patterns – *Variable Growth* (31, 32), *Decline* (23), and *Unstable* (35). The five institutions in the Northwest showed *Variable Growth* (11, 21, and 58) and *Unstable* (50, 56) enrollment patterns.

The North Central region had the greatest representation in the sample with 23 institutions and was represented in four of the five general patterns; *Constant Growth* was the only category without any representation. One (13) had a pattern of *No Growth*, 10 (3, 14, 15, 19, 29, 34, 36, 37, 47, 49) displayed *Variable Growth*, four (5, 12, 45, 55) were in *Decline*, and eight (2, 18, 20, 30, 43, 44, 57, 59) were considered to be *Unstable*.

The Southern region had 19 institutions and again four of the five general patterns were evident; no institution from that region was considered as having been in *Decline*. Two (33, 52) were deemed to have been in *Constant Growth*, two (6, 53) in a *No Growth* pattern, 11 (1, 4, 7, 8, 9, 10, 17, 27, 38, 42, 48) in a *Variable Growth* category, and four (16, 28, 51, 54) were considered to have been *Unstable*.

The Middle States region had five institutions and three general enrollment patterns. One institution (22) was categorized as having had *No Growth*, two (24, 25) had *Variable Growth*, and two (26, 39) were deemed to have been *Unstable*.

The New England region had only three institutions reflecting two general patterns. Two (40, 41) were in *Decline*, and one (46) was *Unstable*.

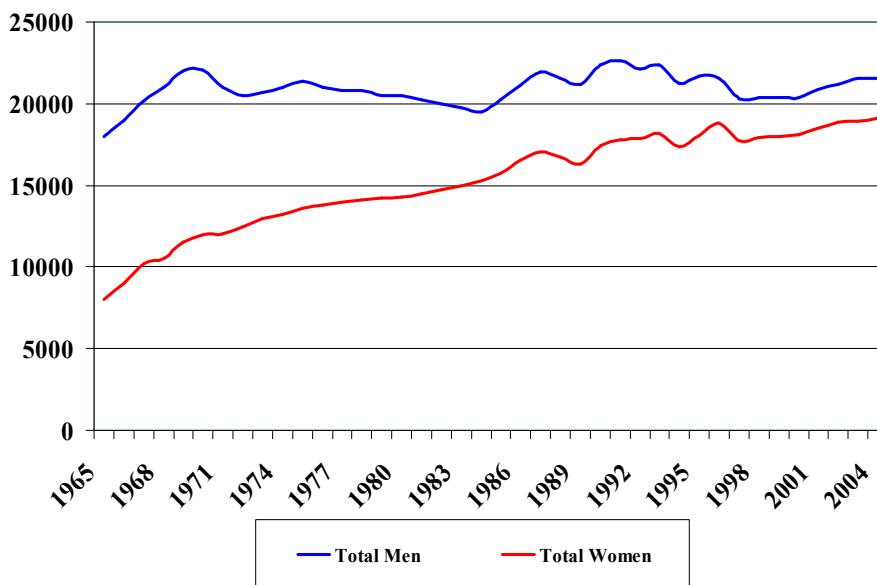
As with the factors of age and size, no distinctive distribution surfaced among the five general patterns according to regional differences. Instead, the only conclusion justified was that each institution appeared to operate in a singular environment.

*Other Enrollment Patterns*

Changes in enrollment patterns by gender, race/ethnicity, and by major area of academic study were other variables considered. Each of those three categories is described in the following paragraphs.

*Enrollment by gender.* Enrollment patterns by gender revealed trends consistent with the general enrollment pattern for each institution. Because general enrollment patterns were inconclusive for determining institutional cycles, analyzing enrollment by gender provided no additional supporting evidence. But data snooping in the enrollment patterns by gender revealed some characteristics of note. An illustration of that issue is shown below in Figure 6.2, using one institution (37).

Figure 6.2 – Enrollment by Gender-University #37



Enrollments for males (top line - blue) and females (bottom line - red) seemed to reach a point of mirroring each other by 1985, despite the notable difference in actual numbers. Prior to that year the number of women increased consistently, from a low of about 8,000 to about 15,000. In subsequent years the growth in female students continued with an upward slope, and the variability was strikingly similar to the pattern evidenced by the males, but women students reached a point of about 19,000 in 2005. The males, in contrast, began with about 18,000 students in 1965 and ended with about 21,500 in 2005.

The increase in male students of about 3,500 during the 40-year span amounted to a 19.4% increase. For the women, the increase was about 11,000 students, which translated into a growth of about 138%; a 314% growth over their male counterparts.

That finding occurred for women of nearly every ethnic group and for each institution. (Graphs reflecting male/female enrollments for all institutions are included for reference in Appendix R (see p. 328))

*Enrollment by race/ethnicity.* Enrollment data by ethnic group was not gathered for all institutions collectively until after 1980. Data compiled to compare enrollment changes by race/ethnicity comprised the period from 1980 to 2005. Enrollment patterns for race/ethnicity considered enrollment as a percentage of total enrollment by year.

The White-student population was the majority at all but one institution. At the beginning of the period (1980), the mean enrollment across all the study institutions for White students as a percentage of total enrollment was 85 percent. The range was from 33 to 98 percent. The mean enrollment for White students at the end of the period (2005) for all 59 study institutions was 67 percent, with a range of 22 to 90 percent. That difference did not mean fewer White students were attending those institutions. Instead, it was a reflection of marked increases in the presence of persons claiming to represent other ethnicities and races. Conceivably, the total enrollments of institutions might have increased to accommodate more students, and a greater number of those newer attendees were of a minority class.

There was one remarkable exception to the pattern of data regarding representation by minority groups. Asian students consistently were the majority at one institution with an average of 64 percent, and a range of 57 percent to 72 percent. When the White students were added into the Asian student enrollment data for that institution, they comprised 90 percent of the student body during the 25-year period (1980-2005).

Although general changes in enrollment by ethnic group were evidenced in the descriptive statistics, a statistical analysis was performed to determine if one of the underlying components was the most important. The chi-square statistic ( $\chi^2$ ) was calculated for each race/ethnic group for all 59 institutions. (The  $\chi^2$  values for each of the institutions are shown in Appendix S (p. 349)) Asymptotic significance levels less than .05 indicated changes in enrollment patterns were significant for those ethnic groups. Importantly, the race/ethnicity group having the greatest impact on changing patterns along this dimension varied from institution to institution. Table 6.8 summarizes the number of times changes in ethnic group enrollment was identified as being statistically significant ( $p < .05$ ).

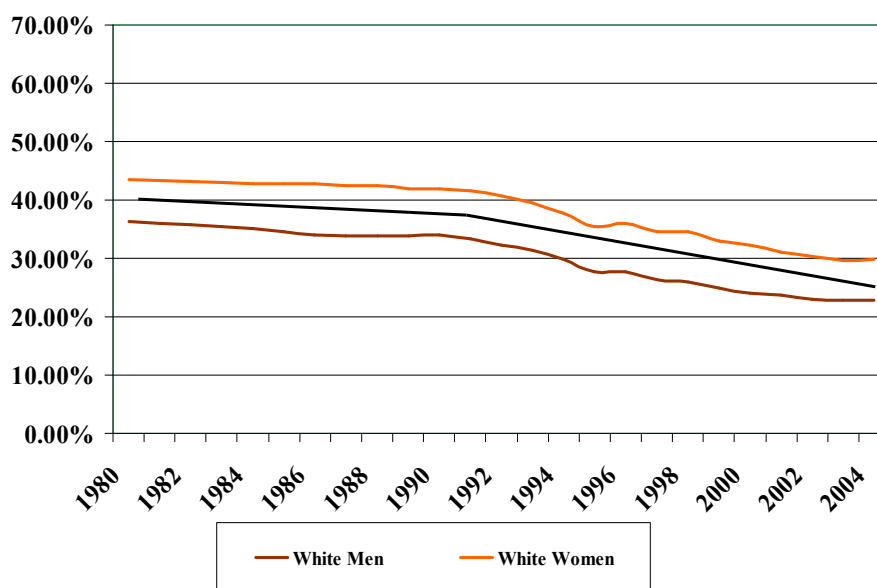
Table 6.8 – Incidents of Significance for Changes in Enrollment Patterns by Race/ethnicity

| <u>Ethnicity</u>   | <u>Number of occurrences</u> |
|--------------------|------------------------------|
| Asian              | 26                           |
| Black              | 26                           |
| Hispanic           | 15                           |
| Native American    | 3                            |
| Non-Resident Alien | 53                           |
| Unknown            | 14                           |
| White              | 55                           |

Groups having the greatest impact on changing enrollment patterns by race/ethnicity across all the institutions were Asians (N=26), Blacks (N=26), Non-resident Aliens (N=53), and Whites (N=55). Because of the dominance of White students at institutions of higher education, changes in enrollment as a percentage of total students for that group were most notable. The emergence of Non-resident Aliens as having the second highest incidence of influencing enrollment patterns was striking, especially since

it more than doubled the influence of Asian (26) and Black (26) students; presumably citizens of the United States. Figure 6.3 shows enrollment for White Men and White Women as a percentage of total enrollment for University #10 as representative of the trends reported above.

Figure 6.3 – Enrollment by Race-White Men and White Women for Institution #10



At the beginning of the period (1980), White female enrollment (top line - orange) was 44% of the total student population and White male students (bottom line - brown) comprised 36% of the total, for a combined 80%. By 2005, White Women were 30% of the total student body and White Men were 23%, for a total of 53%. That meant that 47% of the student enrollments in institution #10, being used here only as an illustration, were persons from so-called minority or Non-resident Alien classes.



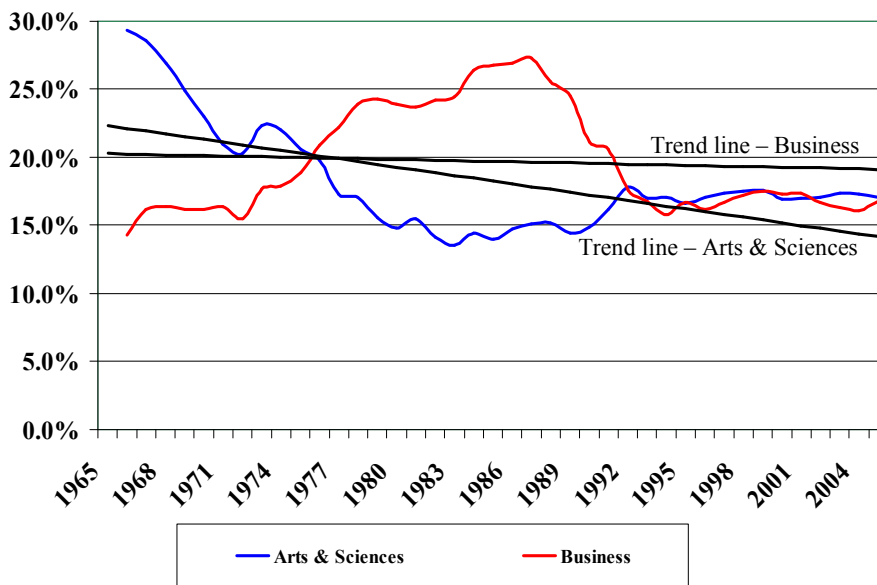
The middle line (black) shows a downward trend, but a more marked decline in the percentage of White students was notable starting in 1991. Parenthetically, it needs to be acknowledged that a similar shift was observed for almost all institutions, starting as early as 1982, but also as late as 1996; the ratio of White students as a percentage of total students declined at every institution. (Graphs showing changes in enrollment for White students at each institution are included for reference in Appendix T (p. 370))

Non-resident Aliens had the next highest frequency of statistically significant changes (see Table 6.8, p. 159). Enrollment patterns for students identified as Non-resident Aliens were variable and inconsistent. One possible cause for that variability could be inconsistency in reporting between that group and those identified in Race/ethnicity Unknown, which also reflected inconsistent changes from year to year. Fluctuations for Non-resident Alien students were attributed to those apparent inconsistencies in reporting data, plus the dramatic changes in those students subsequent to the events of 9/11. Therefore, Non-resident Aliens were not considered for further analysis, but their presence as a potent factor in enrollment data does need to be considered at a later date.

As the percentage of White students declined, the percentage of other race/ethnic groups increased, primarily for Asians and Blacks, as noted by the frequency of changes in those groups as identified in Table 6.8. The changing mix of students (declines in the majority student population with increases in other race/ethnic student populations) was defined as a *Season of Diversity*, and was evident at every one of the 59 institutions.

*Enrollment by major area of study.* The two areas of study with the largest enrollment for all the institutions in terms of numbers of students and as a percent of total enrollment were Arts and Sciences, and Business. Figure 6.4 shows a composite graph of enrollment by major area of academic study for all 59 institutions for those two areas.

Figure 6.4 – Enrollment by Major – Arts & Sciences and Business



Somewhat of an inverse relationship existed with enrollments between those two areas of study. During the period from 1965 to 1987, the percentage of enrollments in Business (red line) climbed while the percentage in Arts and Sciences (blue line) dropped. After 1987, the trend reversed and the percentage of students majoring in Business began to decline, and did so appreciably, while those majoring in Arts and Sciences increased, but to a modest level. From 1993 through 2005 enrollments for both

majors leveled out near the mean percentage (Arts and Sciences – 17.6%; Business – 18.3%) over the entire period (1965-2005).

Those fluctuations related to a *Season of Variation*, where student enrollments for preferences in areas of study, as represented in Arts and Sciences and Business, changed by 1% or more per year for three or more consecutive years; a *Season of Retrenchment* for the Business Colleges, and for the Arts and Sciences Colleges, because student enrollments by area of study reverted towards the mean. Changes in enrollment patterns for other major areas of academic study were not noteworthy to justify further analysis.

#### *Financial Characteristics*

The most challenging area to analyze for the selected 59 institutions was the financial trends. Data from publicly available sources covered only the last half of the study period (1984-2005). Upon request, not all institutions (N=35) were able or willing to provide financial data for the years needed to complete the full data sets. For consistency in evaluation, the financial analysis was based on the data for those years they were available for all institutions; 1984 onward.

Patterns for total revenue and total expenditures generally were parallel for each institution. Revenue came from four principal sources: State Appropriations, Student Tuition, Grants (Federal, State, and Private), and Other (primarily sales and services, investment income, and philanthropic gifts).

The trend for revenue from state, federal, and/or local appropriations showed decremental changes for all institutions during the 21-year period (1984-2005), with the exception of University #15. That institution reported a negative trend between 1984 and 1994, a positive trend between 1994 and 2000, and another negative period between 2000

and 2005. The increase between 1994 and 2000 produced a positive trend over the entire period, and likely would have conveyed a spurious impression had the annual fiscal analyses not been done for each institution. The reasons for the upward trend, between 1994 and 2000, were not apparent from the data. Of special note was that three other institutions in the sample, from the same state, had negative trends during that period (1994-2000). Within revenue categories, as Appropriations decreased Tuition and Grants increased.

Expenditures were summarized into five broad categories: Instruction and Academic Support; Research; General and Administrative; Facilities Maintenance; and Other (primarily scholarships, student services, and public services). The major categories of expenditures for all the sample institutions were for Instruction and Research, and were negatively correlated; as one increased the other decreased. General and Administrative, and Facilities Maintenance expenditures were relatively flat for all institutions across the study period (1984-2005) when comparable data were available. The types of expenditures that appeared to indicate a change in institutional cycles most, or at least indicated a potential point of demarcation of changing from one season to another, were within the Other category: Scholarships and Student Services. (For reference, graphs showing trends in major categories of revenues and expenses, including Scholarships and Student Services specifically, for each institution are included in Appendix U (p. 391))

The same five general patterns described for enrollment (*Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*) were evident among all 59 institutions for expenditures for Scholarships and Student Services. The pattern for *Constant Growth* showed continuing increases in expenditures from 1984 to 2005. *No Growth* was when expenditures were flat, and was indicative of level expenditures across the entire period the data were available. *Variable Growth* was when there were alternating periods of flat expenditures, followed by periods of increasing expenditures. The pattern for *Decline* was when there had been a period of increasing expenditures, followed by a period of flat expenditures, and it was followed by a period of declining expenditure levels. The *Unstable* pattern vacillated, alternating between increases and decreases in expenditure levels.

Expenditure patterns for each institution were categorized into one of the five general patterns by the researcher and five others with an inter-rater reliability, after discussion and reconciliation, of 95 percent. Table 6.9 summarizes all the institutions into the five categories based upon the appropriate general pattern coinciding with the consensus of the reviewers. The numbers on the right side of the table correspond to the identifying number of each institution.

Table 6.9 – Summary of Expenditure Patterns for Scholarships and Student Services

| <b>Category</b>                          | <b>Institution</b>   |
|--|--|
| Pattern #1 – Constant Growth (N=2; 3.4%) | 57, 58   |
| Pattern #2 – No Growth (N=3; 5.1%)       | 18, 22, 59   |
| Pattern #3 – Variable Growth (N=2; 3.4%) | 33, 37   |
| Pattern #4 – Decline (N=10; 17.0%)       | 3, 13, 16, 21, 26, 35, 38, 39, 42, 46  |
| Pattern #5 – Unstable (N=42; 71.1%)      | 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 19, 20, 23, 24, 25, 27, 28, 29, 30, 31, 32, 34, 36, 40, 41, 43, 44, 45, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56 |

Among the five general patterns, two institutions (57, 58) portrayed expenditure patterns of *Constant Growth* over the study period (1984-2005), three (18, 22, 59) were identified as having *No Growth*, two institutions (33, 37) showed *Variable Growth*, ten (3, 13, 16, 21, 26, 35, 38, 39, 42, 46) were categorized as in *Decline*, and the remaining 42 had an *Unstable* pattern.

Because the five general patterns for expenditures and enrollments were similar, the next step in the analysis compared expenditure patterns for each institution with its enrollment pattern: the premise being changing expenditure levels for Scholarships and Student Services would impact student enrollment. Table 6.10 compares patterns for enrollment and expenditures only for those 12 institutions where the pattern was identical.

Table 6.10 – Comparison of Enrollment Patterns and Expenditure Patterns

| <b>Expenditure Pattern</b>            | <b>Enrollment Pattern</b>                   |                                    |   |                                  |  |
|---------------------------------------|---|------------------------------------|---|----------------------------------|--|
|                                       | Pattern #1 –<br>Constant<br>Growth<br>(N=0) | Pattern #2 –<br>No Growth<br>(N=1) | Pattern #3 –<br>Variable<br>Growth<br>(N=1) | Pattern #4 –<br>Decline<br>(N=0) | Pattern #5 –<br>Unstable<br>(N=10)             |
| Pattern #1 – Constant<br>Growth (N=0) |   |                                    |   |                                  |  |
| Pattern #2 – No Growth<br>(N=1)       |   | 22                                 |   |                                  |  |
| Pattern #3 – Variable<br>Growth (N=1) |   |                                    | 37  |                                  |  |
| Pattern #4 – Decline (N=0)            |   |                                    |   |                                  |  |
| Pattern #5 – Unstable<br>(N=10)       |   |                                    |   |                                  | 2, 20, 28,<br>30, 43, 44,<br>50, 51, 54,<br>56 |

Expenditure patterns generally did not coincide with the enrollment patterns. Only 12 of the 59 institutions (20.3%) had the same general expenditure pattern as was identified for the general enrollment pattern. University #22 had a *No Growth* pattern for both expenditures and enrollments; University #37 had a *Variable Growth* pattern for both; and 10 other institutions (2, 20, 28, 30, 43, 44, 50, 51, 54, and 56) had an *Unstable* pattern for both expenditures and enrollments.

The lack of consistency between expenditures and enrollment patterns was interpreted to mean expenditures for Scholarships and Student Services were not good indicators for identifying seasons.

*Summary of Quantitative Analysis*

The quantitative analysis focused on general enrollment patterns, other enrollment patterns, and financial characteristics as identifiers for cycles in institutions of higher education. Five general enrollment patterns were detected across the sample institutions: *Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*. Those patterns were analyzed along three factors: by age of the institutions, by size based on total enrollment, and by geographical region. None of those three factors were predictors of the type of general enrollment patterns found for the universities within each category.

Enrollment patterns by gender, by race/ethnicity, and by major area of concentration of study allowed for identifying three additional characteristics: *Diversity*, *Variation*, and *Retrenchment*. The *Season of Diversity* was defined as a period where the percentage of students of the dominant ethnic group decreased and the percentage of student enrollment from other ethnic groups increased. Those changes occurred over periods of enrollment growth, periods of constancy, and periods of decline; therefore, *Diversity* was considered a sub-cycle to the general enrollment patterns.

The *Season of Variation* and the *Season of Retrenchment* were identified from enrollment patterns by major area of study. *Variation* was identified when enrollment patterns, as represented in Arts and Sciences and Business, changed by 1% or more per year for three or more consecutive years; *Retrenchment* was differentiated when student enrollment by area of study reverted towards the mean and stabilized at that level. Like the *Season of Diversity*, those two periods were considered sub-cycles because changes in areas of concentration of study also occurred over periods of enrollment growth, periods of flat enrollment, and periods of declining enrollment.



Another element of this study was to identify points of demarcation or change from one season to the next. Periods of increases or decreases in spending levels were examined to determine if expenditures for student-related services impacted changes in enrollment. General expenditure patterns for Scholarships and Student Services were similar to the general enrollment patterns (*Constant Growth, No Growth, Variable Growth, Decline, and Unstable*). Comparing expenditure patterns with enrollment patterns identified a lack of consistency between those two elements. That inconsistency was interpreted to mean expenditures for Scholarships and Student Services were not good indicators for identifying seasons or points of demarcation for change.

The results of the analysis of both enrollment data and selected financial data were interpreted to mean that cycles of *Constant Growth, No Growth, Variable Growth, Decline, and Unstable* patterns did exist for institutions of higher education. Those patterns could be identified and described. In addition, there were notable differences between primary cycles and sub-cycles: primary cycles were defined by general enrollment patterns and sub-cycles were identified with other enrollment data and financial data. However, financial data were not definitive in determining points of demarcation in transitioning from one cycle to another.

*Qualitative Analysis*

The six institutions purposefully selected for the qualitative phase of this study were identified from among the 59 institutions used for the quantitative phase. A decision tree was developed to select institutions proportionally representative of general characteristics of all the study institutions. Each of the 59 institutions was categorized into groups based on geographic region, size, age, pre-2005 Carnegie classification, and status as a land-grant institution. The process required multiple steps and was iterative.

First, candidate institutions were identified with one institution represented from each of the six geographic regions used for accreditation. (As explained earlier, the institution used for the pilot study was included as one of the six.)

Next, the institutions were considered based on size and the relative number of institutions in each size category – one with enrollment of 30,000 or more (N=11), two with enrollment of 20,000-29,999 (N=21), and three with enrollment of 10,000-19,999 (N=27). If one of the previously selected candidates did not meet the desired combination of location and size, another institution(s) was chosen to obtain the appropriate mix.

The third decision point was based on age – one institution was desired from the Antebellum period (1790-1860) (N=15), three founded between the Civil War and WW II (1861-1944) (N=31), and two founded after WW II (1945-1965) (N=13). If the institutions selected at this point did not meet all three factors, then another institution(s) was identified to satisfy the combined criteria of location, size, and age.

The fourth criterion was the pre-2005 Carnegie classification: doctoral extensive or doctoral intensive. To be representative of the sample, four institutions classified as doctoral extensive (N=39) and two identified as doctoral intensive (N=20) were needed.

Again, if the selected institutions did not collectively represent the combined criteria at this point, another institution(s) was chosen to obtain the appropriate combinations.

The final decision point for selection was status as a land-grant institution. Of the 59 institutions in the sample, one-third (N=18) were land-grant institutions, and two-thirds (N=41) were not. For the qualitative analysis, two institutions were needed from the land-grant group and four were to be included that were non-land-grant universities. As needed, additional institutions were substituted to achieve the combination of all five conditions being met. The six institutions meeting all requirements were 7, 21, 25, 31, 41, and 45.

Table 6.11 shows which institutions were included for each category. (The identifying number for the institutions is noted parenthetically.)

Table 6.11 – Criteria for Selecting Institutions for Qualitative Analysis

| <b>Location</b>                    | West<br>(N=4)<br>n=1<br>(31)                               | Northwest<br>(N=5)<br>n=1<br>(21)                                 | North<br>Central<br>(N=23)<br>n=1<br>(45)       | Southern<br>(N=19)<br>n=1<br>(7) | Middle<br>States<br>(N=5)<br>n=1<br>(25) | New<br>England<br>(N=3)<br>n=1<br>(41) |
|------------------------------------|--|---|---|----------------------------------|--|--|
| <b>Size</b>                        | 10,000-19,999<br>(N=27:46%)<br>n=3:50%<br>(21, 25, 41)     | 20,000-29,999<br>(N=21:36%)<br>n=2:33%<br>(31, 45)                | 30,000+<br>(N=11:18%)<br>n=1:17%<br>(7)         |                                  |  |  |
| <b>Age</b>                         | Antebellum<br>(N=15:25%)<br>n=1:17%<br>(7)                 | Civil War-<br>WW II<br>(N=31:53%)<br>n=3:50%<br>(31, 41, 45)      | Post-WW II<br>(N=13:22%)<br>n=2:33%<br>(21, 25) |                                  |  |  |
| <b>Carnegie<br/>Classification</b> | Doctoral<br>Intensive<br>(N=20:34%)<br>n=2:33%<br>(21, 41) | Doctoral<br>Extensive<br>(N=39:66%)<br>n=4:67%<br>(7, 25, 31, 45) |   |                                  |  |  |
| <b>Land-Grant<br/>Status</b>       | Land-Grant<br>(N=18:31%)<br>n=2:33%<br>(31, 45)            | Non-Land-<br>Grant<br>(N=41:69%)<br>n=4:67%<br>(7, 21, 25, 41)    |   |                                  |  |  |

Available written histories were obtained from the planning officer or university historian representing each of the six institutions. Each institutional account was written by a primary author, typically an historian for the institution. In each case, the author referenced internal sources and cited various people associated with a representative university when compiling the history. Those six histories, along with data from the institutions' web sites, and other historical information about the six institutions (some more extensive than others) provided a resource for understanding the personality of each university.

Written histories were arranged into the following major and sub categories, which were in agreement with the protocol culled from the pilot study:

- Political Environment
  - Student unrest
    - Vietnam era
    - Other
  - Faculty/human relations
    - Interdepartmental issues
    - Working with administrators
  - Legislative issues
    - Government/public relations
    - Funding levels
- Diversity
  - Enrollment
    - Enrollment levels
    - Race/ethnicity
  - Academic programs
    - Schools and colleges
    - Academic focus
- Facilities
  - New Construction
    - General
    - Academic buildings
    - Housing facilities
  - Facilities maintenance

Elements of the coding process for all six study institutions are illustrated in Appendix V (p. 422).

Two features became evident from the six histories: (1) every university was unique. Each had characteristics based on its distinctive location, size, and enrollment mix; and (2) each of the six institutions had a set of common experiences based on its educational mission (the nature of an institution). Local, state, national, and international economies, as well as local, regional, national, and international political events also were common influences affecting the institutions as they matured. Similar and idiosyncratic differences are described within the three major themes identified from the coding process: political environment, diversity, and new facilities.

To maintain confidentiality of the six institutions and individuals associated with each, as required by the UNL-IRB, direct citations for statements included in this section have not been given. Also, sources were not included in the References section because they would reveal the names of the institutions; however, comments have been attributed to the person or the role of a person being quoted, and the institutions were identified by number (7, 21, 25, 31, 41, and 45).

#### *Political Environment*

Three key concepts illuminating political environments for institutions emerged from the histories: student behavior and how students dealt with campus issues; the attitude and response of faculty and administrators towards the students' behavior; and the reaction of the public, governing boards, and governmental leaders towards both administrators and students from issues arising on college campuses.

The most pervasive event affecting the political environment across all six campuses, the Vietnam War (1960s and early 1970s), highlighted those relationships. That period generally represented a rapidly changing climate and a time of transition: old-time stability was colliding with significant social change. Baby-boomers entering college during that period pushed for changes: questioning and challenging assumptions about national values, and seeking to change the established order of higher education. Social change was not a popular cause for the majority of Americans at the time; parents, governmental leaders, and members of the general public lived by a different set of assumptions. Higher education administrators walked a fine line between alienating students and antagonizing legislators, governing boards, and the public.

In spite of those “cultural differences,” or the so-called “generation gap,” student attitudes and expectations had an impact on college and university environments and the way institutions were operated. As students began to have a greater voice in the administration of the different institutions, legislators, board members, alumni, and the general public took notice of student attitudes and demands.

For University #7, those involved in protests were relatively small compared to the rest of the student body. However, by the spring of 1970 the campus was “in the grip of intense student unrest.” One former president recalled, “Activists on campus were intent on a symbolic closing of the university, as had been done at many other universities.” A showdown occurred during a campus meeting to discuss the protesters’ requests. The president noted, “I felt the protesters’ real goal was to challenge the administration’s authority; any victory would have encouraged further efforts.” As the president entered the arena to call the meeting to order, a large Vietcong flag was hanging

from the balcony. In a brief standoff, the president gave an ultimatum for the flag to be removed. After a few tense moments, the flag was rolled up and the meeting proceeded. The president stated, “No one can say what would have happened [had the flag not been removed as requested], but the incident stands out as the tensest moment during a tense period.”

Following the war, according to the university history, two new movements were evidenced. First, new-departure courses began in areas of Women’s studies, African-American studies, photojournalism, the Hippie and society, chess, and astrology. The emphasis on these curriculum areas supported the notion of a *Season of Variation* noted earlier. Secondly, the administration announced the abolition of all curfews for women students and the end of *in loco parentis*.

University #21 was perhaps the most politically volatile of the six institutions during the Vietnam period. Through the end of the 1960s the university was relatively quiet compared to many larger institutions. However, the years 1970 through 1974 were “marked by an unprecedented outbreak of violence on the University campus.” During an antiwar protest, a motorist hit one of the students, breaking his leg. In response, the students and some faculty members constructed a series of barricades in the streets surrounding the campus out of park benches and other materials. To both students and community, the barricades “were symbols of defiance and, at worst, precursors of violent revolution.”

The university president attempted to defuse the situation, but a local government official, “wishing for a symbolic victory to appease angry constituents,” ordered the barricades dismantled. When the students locked arms in protest, the police were ordered

to take action. Students were attacked with “billy clubs,” and within two minutes “thirty strikers were beaten to the ground, and twenty-seven people admitted to [local] hospitals.”

The consequences of the police beatings were far-reaching. The historian noted, “The circumstances did probably more to create a sense of bitter reaction among students who had been hitherto uninvolved, than anything else that could have happened.”

Violence increased both on and off campus and the university community was divided in its response to student behavior. Some members of the public were calling for repressive measures against the students. The university president stated, “I have never believed, and I do not believe now, that force has any place in the academic community.” The conflict between the university and the community created “definite resentment against the University.” One of the consequences of that resentment was manifested in the lack of support for providing funding for the university.

At University #25 a third environment was evident. Students were active in selective causes, including protests over parietal rules, curfews for women, and requirements for students to be living on campus. But the hottest cause during that turbulent period was the antiwar movement. For the most part faculty, administrators, and other members of this campus community supported the antiwar movement and student protests. After an incident in 1970 where students were shot by the National Guard at another campus, the president of University #25 led students, faculty, and staff in a protest march. As a result of suspicion and mistrust of the activities on campus, the local community kept a close eye on “the university in its midst” and the university often was under the scrutiny of the local media.



A more tempered approach was taken by the administrators of University #31, although student involvement and activism resulted in changes to policies and institutional governance. The university had a tradition of open communication between the administration and the students. The history noted efforts were made to incorporate potential dissent into constructive action and to give students as much control over their activities as possible. The student body president of that institution, at the time, referred to the “extremely enlightened attitude” of the president.

However, from the president’s point of view, it was a demanding and challenging time. He and his staff developed a campus “intelligence network” to check the student mood and took pains to be both accessible and responsive to student concerns. He noted, “We started a lot of things, just trying to keep ahead...but it was a game of wits.”

Student representatives were added to thirteen committees of the Academic Senate and they became active in influencing areas of university policy, such as curriculum (e.g. identifying courses of interest, promoting a balance between teaching and research activities, etc.), grading, and housing.

Student activism, shifting politics, and an autocratic governor who was at war with the university took its toll on the president. He stated that after ten years of service, and trying everything he knew to defuse the growing tensions in the student body and with state politicians, his intention to retire at the end of June 1969.

At University #41, student activism also led to changes in college governance. Major issues facing the university during the 1960s included faculty rights and power in decision-making, student legal rights and freedoms on campus, minority hiring and minority students on campus, and general questioning of all authority. Many faculty and

students perceived the president of the institution as being autocratic and unresponsive to change. In reaction to a series of decisions by that university's administration, the campus was seized with crisis after crisis. As an example, the university's board of trustees, ostensibly oblivious to the emerging student discontent over Vietnam, voted in February 1968 to make R.O.T.C. mandatory for all freshmen beginning in 1969. Antiwar protests broke out and students, faculty, and administrators were at odds. Faculty offices were vandalized and students marched in protest rallies. A network of antiestablishment faculty formed to lend support to students who were increasingly unhappy with the decisions of the administration and with the rules and regulations that left them believing they were powerless. The history indicated student leaders presented,

a slate of issues demanding student power in the Institute: no un-Constitutional searches in the dorms, a student representative on the Board of Trustees and other committees making Institute policy, the abolition of mandatory class attendance and R.O.T.C., and a recognition that students are citizens with legal rights. Students also lobbied for a hearing process to deal with disciplinary problems.

A local politician questioned the right of students to assemble for political purposes on state property (the university campus), and the general public became restive. However, pressure from the students continued into 1969. As a result, the Faculty Senate was expanded to include student and administration representatives on a university-wide Senate. By the fall of 1969, in response to students' demands, the state governor championed the idea of student trustees and appointed student representatives to the board.

Notwithstanding accommodations to student demands, internal and external constituencies of the campus were deeply divided during that period. In the spring of 1970 a student referendum challenged the performances of administrators, department chairs, and faculty advisers, which ultimately led to a petition to the governor from senior leaders to find a new president. In 1971, the Governor and Legislature approved the merger of two institutions, which changed the atmosphere on the campus and led to the appointment of a new president when the merger culminated in 1975.

A different set of challenges arose at University #45. The historian noted, “Though the students in [this university] were slow to participate in national movements, by 1970 they were disturbed.” Student dissatisfaction with the status quo and the Vietnam War was reflected across the campus. The president and his wife appeared on campus at all hours making themselves available to talk to students. The president and vice president for student affairs invited students to their home frequently. Their aim was “to be available – whether in the Union or in one of the residence halls – either by invitation or on a drop-in basis, to communicate one thing: we are here and available [and we care].”

By being accessible to and understanding of students, the administration was caught between student restlessness and public resistance to change. People of the state showed their displeasure with what they thought they saw happening at the university. A newly elected governor and board of regents, unlike any other in the history of the university, frequently showed opposition toward the university: “the board and the university community saw the world from startlingly different perspectives.” Upon taking office, the regents immediately confronted the administration, the faculty, and the

students. The historian for the university observed, “Through the whole decade, the relationship with the board of regents and the faculty was at best uneven, and frequently hostile.”

Changing campus-community relations and the fluctuating economy of each state manifested itself in public sentiment for financial support for the universities. Several historical highlights mentioned challenges with funding levels for all six institutions.

University #7 noted that the legislature, in protest of the campus protests, voted down a major educational bond issue in the late 1960s. Reliance on external funding sources, primarily sponsored research grants and philanthropic gifts, were needed to strengthen and raise the expectations for the university. A major grant from the National Science Foundation helped establish a “center for excellence” in the science programs, and the president initiated a first-ever capital campaign, which raised more than twice the initial funding goal. Over time, external funding and tuition increases became common.

University #21 appeared to have more financial challenges than the other institutions included in the study. Discontent of taxpayers towards the university as well as the repeated downturns in the economy during the 1970s, 1980s, and 1990s was mentioned repeatedly. Budget reductions were required in 1971, 1973, 1981, 1983, 1991, and 1992. The last event required the formidable task of reducing the university budget by 20 percent. Additional years of strained finances were experienced in the late 1990s. In 2003, tax payers faced a stark choice: “raise taxes by five percent or reduce the overall state budget, including funding for higher education.” The state history noted, “Voters were hardly in the mood to let the state take a bigger bite of their paychecks, regardless of the consequences for higher education.” The 2005 state budget called for an additional

reduction for higher education of 11 percent. The historian for University #21 stated, “All of these crises reflected the parsimony of taxpayers in supporting public services, especially higher education.”

At various junctures in its history, the state board of University #21 declared financial exigency in order to eliminate faculty positions. The Faculty Senate discussed ways to reduce the budget and not terminate faculty. What the debate revealed was “senior faculty were unwilling to cut their own pay to save junior colleagues.” The environment was such that even when serious cutbacks were not implemented, stress and fear took a toll on morale and energy.

University #25 also experienced a series of financial challenges. The university historian stated, “Among the results of student disturbances of the sixties, and taxpayers’ reactions to them, was a statewide questioning about the amount of tax money being put into higher education.” In 1975, statewide budget cuts impacted higher education seriously. Again in the 1980s budgets were cut. Between 1990 and 1995 the university’s funding from the state decreased by fifteen percent. Over time (1987-2005), the percentage of the university’s operating budget provided by state support declined from 72 percent to 42 percent.

The historian for University #31 commented that the mood of the voters – who had almost routinely passed bond issues to support the university – had turned negative in the wake of student unrest. The university, having relied primarily on taxpayer funds, was forced by economic and political conditions to begin raising money for special projects, and even some basic operations. In the ten years between 1980 and 1990, the percentage of total operating budget derived from state funding dropped from over 50 percent to 30

percent. Declining state funding continued into the early 1990s. Fiscal year 1993 was termed “one of the bleakest budgetary times in university history.” By 1995 state funding began to increase and the 1998-99 state budget for the university was cited as “the best in nearly a decade.” Although funding levels had stabilized, state appropriations represented only 23 percent of total revenues for University #31 for the ten years between 1995 and 2005.

The history for University #41 showed there were budget problems during the 1970s, further problems during the 1980s as a result of a deep-rooted economic recession, and again in the 1990s “[the university] was buffeted with bad fiscal news.” The legislature turned away from higher education as it faced the reality of budget cuts resulting from declining state revenues.

University #45 also was challenged with periods of budget cuts. It suffered from state financial constraints in the early 1970s, and a governor who viewed the university critically. The university president expressed his concerns to the faculty stating, “In my judgment...this university currently faces its most difficult budgetary situation since the depression years of the ‘30s.” By the late 1970s and early 1980s, the university again was in “the worst financial crisis of its recent history.” State support for the university had dropped by 23 percent, and tuition and fees had increased by 42 percent over five years. State funding for University #45 continued to vacillate. By 1988, the financial future of the university looked “more promising than it had for at least a decade,” but by 1997 the university again faced budget troubles. Between 1997 and 2005, state funds appropriated to the university dropped from approximately 50 percent of total revenues to less than 40 percent.

Funding levels for universities appeared to be influenced by more than just economic events or standard allocation formulae; political environments and relationships of students, administrators, governing boards, legislators, and even public sentiment apparently impacted how much was made available for educational purposes.

### *Diversity*

Some of the changes resulting from the political environment of the 1960s impacting higher education included the Civil Rights Act of 1964 and the Higher Education Act of 1965, with its subsequent amendments and reauthorizations. Legislation, court decisions, and public sentiment moved universities to look at the enrollment mix of their institutions. Most institutions recognized, as was stated by the president of University #7 during that period, “It was time to proceed with education for students of all creeds and colors.” However, for more than a decade most struggled in making significant changes to diversity in enrollment.

Each of the six institutions in the qualitative sample implemented some form of outreach program to focus attention on underrepresented groups. University #21 reported it led the way among the state’s institutions in the quest for equality, but it did not provide comparative data. However, it did claim growing numbers of Hispanic, Native American, and international students matriculating during the late 1980s.

The history of University #25 noted that “in the mid-1970s the student body, as well as the faculty, was fairly homogeneous.” The president of University #25 stated, “Our goal is to nurture diversity, then we’ll become a more attractive institution for those who share that goal.” That institution began to recruit more vigorously among members of diverse racial and ethnic groups.

Success with minority recruitment and retention varied from institution to institution. For example, the history of University #25 indicated its efforts had increased campus diversity dramatically between 1975 and 1990; those identifying themselves as “minorities” increased from 5.5 percent to 16 percent.

In contrast, University #31 indicated by the late 1980s, the university “moved steadily toward the diversity it strove for in student admissions.” During the 1970s and early 1980s, University #31 indicated that it had limited success in getting minority students into the system. It described its affirmative action efforts as “less than fully satisfactory” after more than ten years. The history noted, “Minorities tended to perceive the campus as unwelcoming, situated as it was in a middle-class, predominantly white small town. Students from urban areas with substantial ethnic communities complained of culture shock.”

By the end of the 1990s, 49.7 percent of the student body was part of an ethnic minority. Although the trend of increased minority representation at University #31 was in line with the state’s population, there was “a striking rise in Asian students, but the numbers for underrepresented black and Hispanic students had declined.”

The history of University #41 identified that although the civil rights movement of the 1960s had focused attention on the treatment of black students, by 1973 “African-Americans were scarce on campus.”

University #45 did not highlight changes in race/ethnicity in its history. Perhaps one justification for not mentioning diversity efforts could be explained by the fact that in 2005, White students still represented 82% of the student body.



In addition to enrollment changes by race/ethnicity, some campuses noted changes in enrollments in terms of gender representation. University #7 indicated that during the 1980s and 1990s it had made unusual progress in terms of women students. In 1985, female enrollment had reached 53 percent of total students; in 1995, it had risen to 55 percent. By 2005, the number of females at University #7 was approaching 60 percent of the student body.

University #31 reported that by the mid-1990s, 55 percent of its undergraduate student body was female. Importantly, University #31 also indicated that new kinds of students were more apparent on the campus: many were part-time students, and some were older than the college norm for undergraduates.

Graphs representing trends in enrollment by race/ethnicity (see Appendix T, p. 370) showed a notable decline in the percentage of White students, especially between the mid-1980s and the mid-1990s. A corresponding increase in the percentage of minority students also was evident during that period. In addition, the ratio of female/male students at each institution increased during the study period (1965-2005).

Table 6.12 notes those trends by race/ethnicity and by gender as a percentage of total enrollments from 1985 to 2005 for the six institutions.

Table 6.12 – Enrollment Trends by Race/ethnicity and by Gender

|           | <b>1985</b> | <b>1995</b> | <b>2005</b> |
|-----------|-------------|-------------|-------------|
| White     | 82.7%       | 73.4%       | 67.1%       |
| Non-White | 17.3%       | 26.6%       | 32.9%       |
| Male      | 50.3%       | 47.9%       | 46.3%       |
| Female    | 49.7%       | 52.1%       | 53.7%       |

Overall, minority (non-White) enrollments climbed by 9.3 percent (increasing from 17.3% to 26.6%) between 1985 and 1995 and by 6.3 percent (moving from 26.6% to 32.9%) between 1995 and 2005. Female enrollments likewise increased from 49.7 percent in 1985 to 53.7 percent by 2005. Although the nature of each institution was distinctive, each experienced a *Season of Diversity*.

#### *New Facilities*

For all six institutions considered in the qualitative analysis, two periods were prominent in the construction of new facilities: the mid-to-late 1960s and the decade of the 1990s. Although some facilities were added at other times, they seemed to be more isolated instances rather than periods of general campus growth.

University #21, founded following WW II, was in an urban setting and had a master plan at the time of its founding that would allow for a student body of up to 27,500 students. The institution had limited capacity for expansion of its physical plant after that time. The other five universities cited changes in campus facilities as a significant piece of the transformation that occurred between 1965 and 2005.

University #7 experienced “tremendous growth, almost like an explosion, of campus building” during the 1960s. During that period, the history mentioned nine new academic buildings were constructed and a new fine arts building was opened in 1971. In addition, a new apartment-style dorm was built to house graduate students. A few significant projects were undertaken during the 1980s, but the next major construction period described was during the tenure of a president in the decade of the 1990s. There were 126 significant capital projects either commenced or completed with a total value of over \$887 million, which added 2.8 million square feet of space to the university.

The history of University #25 mentioned explosive growth in the 1960s, including a faculty office tower, a fine arts building, a classroom building, expansion of the administration building, and modification to several other academic facilities. It also mentioned the groundbreaking of a new multi-use academic complex in 1994 as the first major construction project in over a decade.

Similarly, “the skyline changed steadily as the building boom proceeded” on the campus of University #31 during the 1960s. Multiple facilities were completed for the physical sciences, the biological sciences, engineering, the law school, the fine arts, the library, and a new administration building. Following that period, “Few other academic facilities were added on campus between 1971 and 1987.” In 1989, a 20-year long-range development plan was completed, projecting new facilities and other improvements. Although work continued on projects that had been funded, major expansion of several academic buildings was deferred waiting for funding to be approved. In 1998, a bond measure was passed providing funding for new construction, and “By the year 2000, the campus was witnessing a virtual explosion of new building projects.”

For University #41, the mid-1960s witnessed “the administration fixated on satisfying students with new programs and facilities.” Although new facilities were added, the history recounted that on-campus housing did not keep pace with “explosive student growth.” Hundreds of students were on the housing waiting lists, but no new housing was built until the late 1980s.

University #45 history described its changing environment: “The massive growth in the 1960s transformed the university into the institution it is today.” When the institution’s president left office in 1969, the history recorded that “he left the university three times larger than he found it.” Classroom building, laboratories, and student housing dwarfed earlier campus structures. Although some construction continued over time, the 1990s was “the start of another building boom on campus” with the construction of additional large-scale facilities projects.

Major facilities projects coincided with growth in student enrollment for all six institutions during the 1960s; however, the relationship of expanded facilities and enrollment patterns varied by institution in later periods.

University #7 followed the classic model anticipated for a *Variable Growth* pattern: following a *Season of Constancy*, a *Season of Renewal* preceded each *Season of Growth*. On the other hand, University #21 added no additional facilities, yet enrollments grew starting in 2000 following a twenty-year *Season of Constancy*. The cause for the change was not evident from either qualitative or quantitative data.

Major projects for University #25 in the 1990s included new facilities for the School of Education and Human Development, the School of Management, the School of Nursing, and Undergraduate Admissions and Enrollment Services. The enrollment

pattern was flat from 1977 through 2005, indicating a *Season of Constancy* in spite of expanded facilities.

University #31 was similar to University #7: after new facilities were added, there appeared to be a corresponding increase in student enrollment. When construction of facilities slowed at the end of the 1960s, enrollments flattened out; when construction picked up, indicating a *Season of Renewal*, in the late 1980s and again in the late 1990s, enrollments exhibited a corresponding *Season of Growth*.

University #41 and University #45 had patterns different than the other four. Although additional facilities were added in the late 1980s and into the 1990s, both institutions had a *Season of Decline* from the late 1990s through 2005 rather than the anticipated *Season of Growth*.

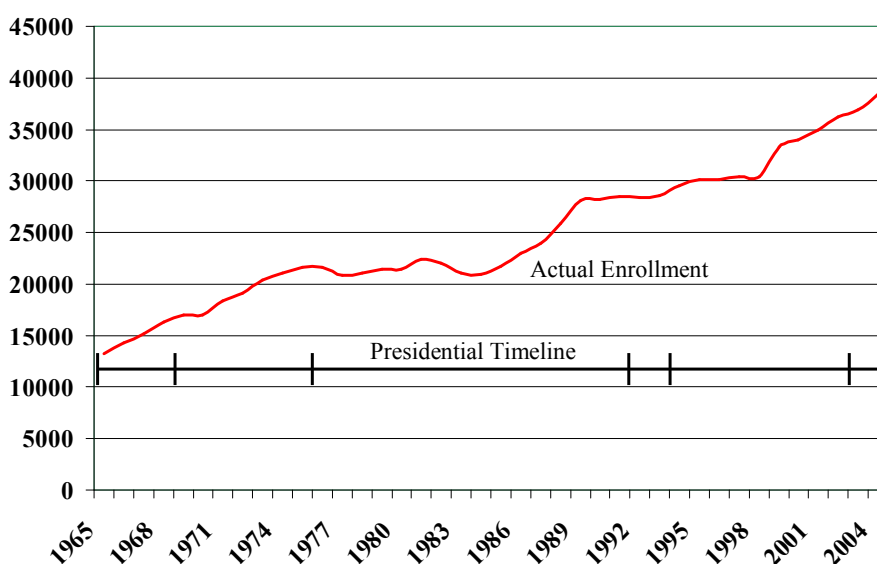
#### *Presidential Timelines*

Sample (2002) noted Thomas Carlyle's (1840) conviction that history was a reflection of the biography of great men. In Carlyle's view, able men directed the course of history and determined humanity's destiny. Extending that philosophy to colleges and universities, the personalities and abilities of presidents could be expected to influence how an institution developed. Additionally, Kerr and Gade (1986) observed that although institutions of higher education seldom were the "lengthened shadow of one man" (p. 4), a president casts more of a shadow than anyone else. Kerr and Gade noted the histories of institutions would be written about the contributions of their presidents as central characters in the ongoing dramas of time and circumstance.

Given those statements as a premise, the sequences of presidential service for the six institutions used for the qualitative portion of this study (7, 21, 25, 31, 41, and 45) were compared to changes in total enrollment to ascertain whether changes in seasons were impacted by the tenure of a president. Figures 6.5 through 6.10 show the timing for the period of service for each university's presidents juxtaposed with actual enrollment.

*University #7.* The enrollment pattern for University #7 reflected varying periods of growth and flat enrollment (*Variable Growth*) during the 40-year period of the study (1965-2005). Six presidents served in that time span.

Figure 6.5 – Presidential Service Compared to Actual Enrollment for University #7



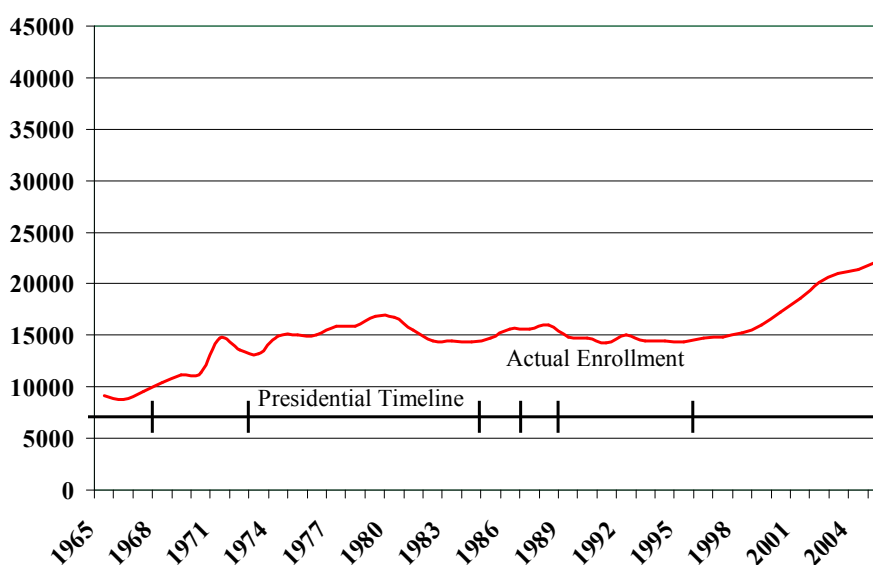
The first and second presidents served during periods of marked growth in enrollments. The third president served an extended period of time (1977-1991); his tenure covered periods of flat enrollment followed by increasing enrollment and then by

another period of flat enrollment. The fourth president served only a short time during a period of flat enrollment. In the case of the fifth president, his tenure covered a period of flat enrollment and then a period of markedly increasing enrollment. The sixth president began his tenure during a period of growth.

Historical institutional records interpreted qualitatively were not detailed enough to identify whether changes in enrollment resulted from policies and/or actions implemented by the presidents, or whether each president “merely rode the crests of historical waves...set in motion by myriad forces beyond the leaders’ control or comprehension” (Sample, 2002, p. 191).

*University #21*. The enrollment trends for University #21 (Figure 6.6) reflected a *Variable Growth* pattern: increasing generally during the first 15-year period (1965-1980) (*Season of Growth*), relatively flat during the next 15 years (1981-1995) (*Season of Constancy*), and increasing again over the last ten years (1996-2005) (another *Season of Growth*). That institution had seven presidents who served during the period of this study.

Figure 6.6 – Presidential Service Compared to Actual Enrollment for University #21



Presidents one and two served during periods of growth. During the first segment of service for president three, enrollments still were increasing but then turned downward after 1980. Enrollments were relatively flat for the next 15 years. The next two presidents served for relatively short periods; presidents four and five each served for two years. Those two administrations were replete with controversies ending in the resignation of each president. Although uncertainty and tumult tend to create instability, those factors were not explicitly evident in changes in enrollment patterns. President six served during

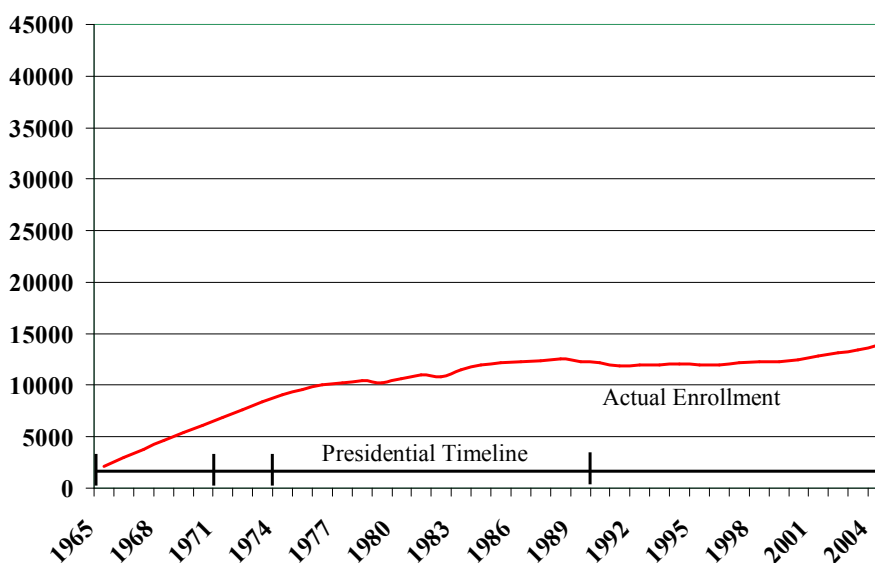


another period of relatively flat enrollment. President number seven started during a period of flat enrollment, but a *Season of Growth* followed.

The historical records were not detailed enough to determine whether institutional policies initiated by any of the seven presidents had any impact on changing the enrollment trends. The presidential timeline for that university did not allow for conjecturing that there was a relationship between presidential service and enrollment changes.

*University #25*. Enrollment at *University #25* increased from 1965 through 1975 and then was relatively flat through 2001. From 2001 to 2005, enrollments started to turn upwards. The general pattern was one of *Variable Growth*. *University #25* had four presidents in the 40 years.

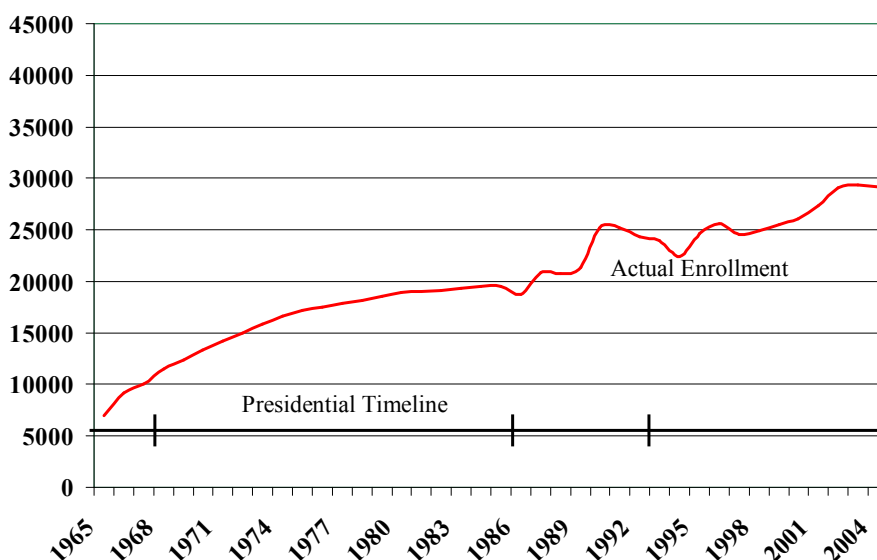
Figure 6.7 – Presidential Service Compared to Actual Enrollment for *University #25*



The first two presidents served during growth periods during the 1960s and 1970s; each resigned to assume the presidency of a larger institution. The last two each served for over fifteen years. During that 30-year period, specific actions by a president to affect directional changes in institutional cycles should have been evident; however, enrollment levels remained relatively flat over that entire period. The role of the president was not evident in having an impact on changing the student enrollment patterns for the university.

*University #31*. The enrollment pattern for University #31 was considered one of *Variable Growth*. Enrollment increased from 1965 to 1980 and then leveled out until 1985. Between 1985 and 1995, enrollment vacillated upwards. From 1995 until 2002 enrollments increased and then flattened out from 2002 to 2005. Four presidents served at University #31 during the 40-year study period.

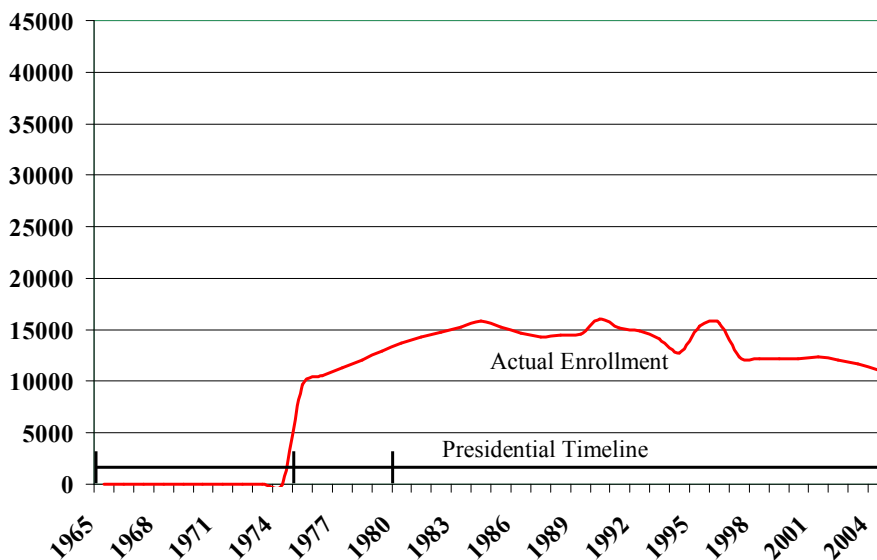
Figure 6.8 – Presidential Service Compared to Actual Enrollment for University #31



Presidents one and two served during periods of growing enrollment. The third president had the shortest tenure (7 years), which coincided with the era of greatest changes in enrollment. President four began to serve in 1993 when enrollments were declining, but continued to preside through 2005 during another period of growth for the university. The cause for enrollment levels to flatten after 2002 was not evident in the history.

*University #41*. The history of University #41 revealed a merger in 1975 of two smaller institutions. Total enrollment for each of those institutions was not available prior to 1975, so Figure 6.9 reflects enrollment changes subsequent to the merger. The general enrollment pattern for University #41 was considered in *Decline*: enrollments increased from 1975 to 1985, varied through a flat range from 1985 until 1992, vacillated more notably from 1993 through 1997, and then dropped to a lower level with a downward trend from 2001 through 2005. Two presidents served at University #41 from 1975 to 2005.

Figure 6.9 – Presidential Service Compared to Actual Enrollment for University #41

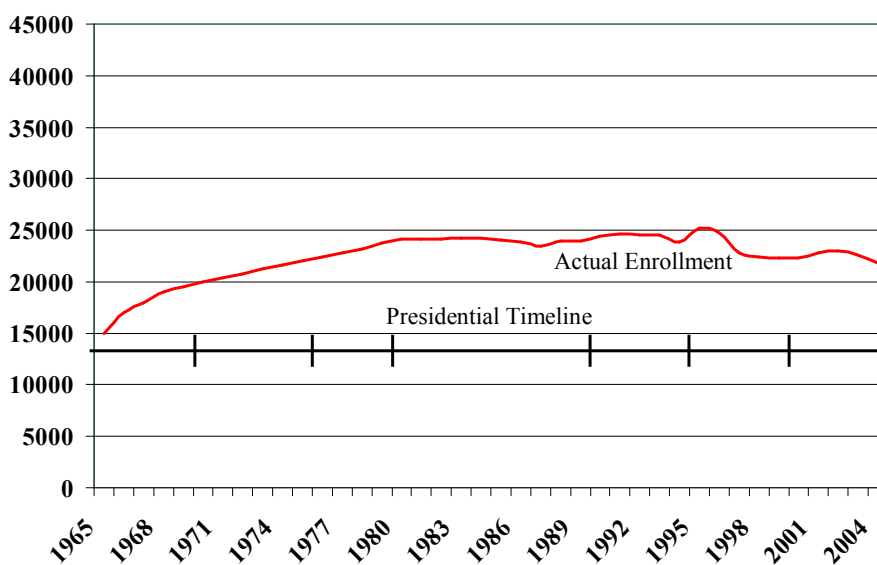


A new president was appointed at the time the institutions were merged and served during the initial five-years of growth. The second president was appointed in 1981 and served for the next 25 years.

*University #45.* University #45 had an enrollment pattern identified as *Decline*.

Enrollment increased from 1965 through 1980 and then leveled off until 1996. After 1996, enrollment levels moved downward with a declining trend from 2003 through 2005. Seven presidents served between 1965 and 2005.

Figure 6.10– Presidential Service Compared to Actual Enrollment for University #45



The first three presidents served during a 16-year period of enrollment growth. President four had the longest tenure (1981-1991) and presided over the university when enrollments leveled out. Similarly, the fifth president served during a time of flat enrollment. During the service of the sixth president, enrollments began to decline, particularly from 1996 to 1998. When the seventh president took office, enrollments were stabilizing, but were trending downward from 2003 through 2005.

*Summary.* In looking at these six institutions collectively, it appeared that the role of the president might have been a contributing factor in changes in enrollment patterns, but was not a primary cause of the changes. In sum, as Hofstede (2001) stated, cultural context is complex and institutional culture is more than an extended shadow of the person who leads the university.

*Summary of Qualitative Analysis*

Six institutions were purposefully selected for the qualitative phase of the study. The qualitative analysis identified four universal areas that emerged from the histories of those institutions: political environments, diversity, facilities, and timelines of presidential service. There were some commonalities noted, as well as uniquely individual characteristics, across the institutions.

The three key concepts regarding political environments identified from the histories were: student behavior and how students dealt with campus issues; the attitude and response of faculty and administrators towards the students' behavior; and the reaction of the public, governing boards, and governmental leaders towards both administrators and students from issues arising on the campuses. The most common reaction to controversies and conflicts on campuses impacted the amount of funding made available for educational purposes. Public sentiment and economic conditions caused the level of state appropriations being allocated to universities to be reduced over time.

Legislation, court decisions, and public sentiment also moved universities to look at the enrollment mix of their institutions. The histories of all six institutions in this phase of the study referenced changes in enrollment patterns: the percentage of White students declined and a corresponding increase in the percentage of minority students was evident. In addition, the ratio of female/male students at each institution increased. Another shift in enrollment patterns was noted by the historian at University #31. That institution reported new kinds of students became more apparent on the campus: many were part-time students, and some were older than the college norm for undergraduates.

For all six institutions considered in the qualitative analysis, two periods were prominent in the construction of new facilities: the mid-to-late 1960s and the decade of the 1990s. Although some facilities were added at other times, they seemed to be more isolated occurrences rather than periods of general campus growth. Major facilities projects coincided with growth in student enrollment for all six institutions during the 1960s; however, the relationship of expanded facilities and enrollment patterns varied by institution in later periods.

In looking at the timing for changes in presidents with changes in enrollment patterns at all six of these institutions, it appeared that the role of the president might have been a contributing factor, but was not a primary cause of changes in enrollment.

The qualitative analysis appeared to support some aspects of institutional cycles noted in the quantitative phase of the study, as well as adding some dimensions not identifiable through quantitative analysis alone. Combining the results of both phases of the study, as presented in the next section, gave an added platform to identify and to corroborate facets of cycles for higher educational institutions.

*Mixing Quantitative and Qualitative Results*

Triangulating results of the analysis identified from both quantitative and qualitative phases of the study provided a format to evaluate which components were corroborated by both phases and the ones unique to a given research method. Table 6.13 summarizes the relationship of quantitative and qualitative results.

Table 6.13 – Mixing Quantitative and Qualitative Results

| <b>Qualitative Results</b>                 | <b>Quantitative Results</b> |        |                |       |          |              |
|--|-----------------------------|--------|----------------|-------|----------|--------------|
|  | Enrollment                  |        |                |       | Finances |              |
|  | General                     | Gender | Race/ethnicity | Major | Revenue  | Expenditures |
| Political Environment:<br>- Funding levels |                             |        |                |       | X        |              |
| Diversity:<br>- Enrollment Levels          | X                           | X      |                |       |          |              |
| - Race/ethnicity                           |                             |        | X              |       |          |              |
| - Academic Programs                        |                             |        |                | X     |          |              |
| Facilities:<br>- Maintenance               |                             |        |                |       |          | X            |

Aspects of the quantitative results for both enrollment (general enrollment levels; and enrollment by gender, race/ethnicity, and major) and finances (revenue and expenditures) were mentioned in the histories of the six institutions studied qualitatively, and those facts were deemed to be important for consideration. In addition, the qualitative analysis provided institutional dimensions not apparent from the quantitative data alone in understanding context and structure. Table 6.14 identifies those aspects deemed noteworthy.



Table 6.14 – Additional Elements of Institutional Characteristics

| <b>Qualitative Results</b>    | <b>Context</b> | <b>Structure</b> |
|-------------------------------|----------------|------------------|
| Political environment:        |                |                  |
| - student unrest              | X              |                  |
| - faculty/human relations     | X              |                  |
| - government/public relations | X              | X                |
| Diversity:                    |                |                  |
| - Schools and colleges        |                | X                |
| Facilities:                   |                |                  |
| - New construction            | X              |                  |
| Presidential timelines        | X              |                  |

Both institutional context and structure were identified as important in understanding cycles. Based on the histories of the six institutions used in the qualitative analysis, subsets of political environments, diversity, facilities, and presidential timelines provided data relative to context and structure. However, after analyzing all elements of quantitative and qualitative data, those deemed salient for developing a model for institutional cycles in higher education related to enrollment patterns, sources of expenditures, and investments in new facilities and infrastructure.

General enrollment patterns represented a common point of reference for all institutions when considering size and growth rate, and how those might be reflective of institutional cycles. Sources of expenditures were identified as possible indicators for marking points of transition from one cycle to another. Investments in new facilities provided a basis for considering campus renewal, and its affect on changing enrollment patterns. A model integrating those elements is presented in Chapter 7. All the other elements, although interesting in understanding context, did not appear to relate directly to identifying cycles.

### *Responding to Research Questions*

Central to the purposes of this study was gaining an understanding of the nature of institutional cycles, establishing a base-line for defining institutional cycles, and developing a model for higher education which then could be evaluated relative to various types of higher educational institutions. The key research question guiding this study was: What are typical institutional cycles for colleges and universities?

The founding of any institution would be the catalyst for initiating the life-cycle process. One generalized model for life cycles (Adizes, 1988, p. 88) included seven periods: “formation, development, growth, maturity/stability, revival, decline, and dissolution.” Data for the selected institutions in this study reflected periods of development, growth, maturity/stability, decline, and revival. Both quantitative and qualitative data were used to help identify those periods. Each contributed individually and collectively towards understanding the nature of cycles. Results related to each of the sub-questions are summarized in this section.

#### *Quantitative Sub-questions*

The first step of the process for defining institutional cycles was identifying characteristics of those cycles. Five general enrollment patterns were identified: *Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*. All institutions in the study could be categorized into one of those patterns. Although general enrollment patterns could be identified, factors of age, size, and geographic region did not have an apparent direct effect in determining which pattern would be evident. Each institution appeared to operate in a singular environment.

The next question addressed how cycles would be defined. Using enrollment patterns as the primary factor for defining cycles, there were various periods, or seasons, that were consistent across institutions: *Seasons of Growth*, *Seasons of Constancy*, *Seasons of Decline*, *Seasons of Diversity*, *Seasons of Variation*, and *Seasons of Retrenchment*.

The *Season of Growth* was defined as a period of at least three consecutive years when enrollments increased by approximately 5% per year over previous periods. Four of the five general enrollment patterns identified (*Constant Growth*, *Variable Growth*, *Decline*, and *Unstable*) had at least one period where a *Season of Growth* was evident. The exception was the pattern for *No Growth*, which indicated enrollment was flat throughout the study period (1965-2005).

The *Season of Constancy* was defined as a period of at least three consecutive years when enrollments remained relatively unchanged over previous periods. Three of the five general patterns (*No Growth*, *Variable Growth*, *Decline*) exhibited periods of flat enrollment. The pattern for *Constant Growth* showed continued growth in enrollment with no periods that were level; the *Unstable* pattern vacillated between growth and decline without any periods that had flat enrollments.

The *Season of Decline* was the antithesis of the *Season of Growth*: it was defined as a period of at least three consecutive years where enrollments decrease by approximately 5% per year over previous periods. The two patterns that showed this characteristic were the *Decline* and *Unstable* patterns.

The *Season of Diversity* was a period of at least three consecutive years where the percentage of students from the dominant ethnic group decreased approximately 1% per year, and with a corresponding increase in the percentage of student enrollment from other ethnic groups. Changes in enrollment mix were evident at all of the 59 study institutions, and were noted during periods of increasing enrollment, flat enrollment, and declining enrollment. As a result, the *Season of Diversity* was interpreted to be a sub-cycle.

The *Season of Variation* was defined as a period of at least three consecutive years when enrollments by preferences in areas of study changed by 1% per year over previous periods, and the *Season of Retrenchment* was a period of at least three years when enrollment reverted towards the mean for a particular area of study and then flattened out at that level. Like the *Season of Diversity*, changes by areas of study occurred during periods of increasing, flat, and decreasing enrollment. Therefore, those two periods were also interpreted to be sub-cycles.

The third quantitative question considered points of demarcation when transitioning from one cycle to another. Financial data were used to identify changes in cycles; however, they were not definitive in determining transitioning points from one cycle to another.

#### *Qualitative Sub-questions*

The first question addressed by the qualitative analysis was identifying issues universities experienced during different phases of institutional cycles. Major themes identified across the six institutions in the qualitative phase included: political environments, diversity, new facilities, and timelines for presidential service.

Next was how those issues contributed to identifying characteristics of institutional cycles. The three key concepts regarding political environments identified from the histories were: student behavior and how students dealt with campus issues; the attitude and response of faculty and administrators towards the students' behavior; and the reaction of the public, governing boards, and governmental leaders towards both administrators and students from issues arising on the campuses. The most common reaction to controversies and conflicts on campuses led to reductions in the amount of funding made available for educational purposes. Public sentiment and economic conditions caused the level of state appropriations being allocated to universities to be reduced over time.

Legislation, court decisions, and public sentiment also moved universities to look at the enrollment mix of their institutions. The histories of all six institutions in this qualitative phase of the study referenced changes in enrollment patterns: the percentage of White students declined and a corresponding increase in the percentage of minority students was evident. In addition, the ratio of female/male students at each institution increased. Another shift in enrollment patterns was noted by the historian at University #31. That institution reported new kinds of students became more apparent on the campus: many were part-time students, and some were older than the college norm for undergraduates.

For all six institutions considered in the qualitative analysis, two periods were prominent in the construction of new facilities: the mid-to-late 1960s and the decade of the 1990s. Although some facilities were added at other times, they seemed to be more isolated occurrences rather than periods of general campus growth. Major facilities

projects coincided with growth in student enrollment for all six institutions during the 1960s; however, the relationship of expanded facilities and enrollment patterns varied by institution in later periods.

In looking at the timing for changes in presidents with changes in enrollment patterns at these six institutions, it appeared that the role of the president might have been a contributing factor, but was not a primary cause of changes in enrollment.

### *Summary*

Based on their study of life-cycles in business entities, Miller and Friesen (1984) concluded that although stages of life cycles were internally coherent they did not necessarily follow a specific sequence. They postulated there was no common corporate life cycle, but there were common life-cycle stages that differed distinctly and consistently from one another. Similarly, in this study, it was evident that typical institutional cycles for colleges and universities could be identified and defined, that characteristics of those periods could be described, and that issues faced by institutions during different periods contributed to identifying cycles. Although various aspects of other enrollment data, financial data, and historical data provided evidence of various seasons (or sub-cycles), no clear connection between any combinations of seasons identified the points of demarcation in transitioning from one cycle to another.

## CHAPTER 7

## Discussion

*Overview*

The opening sentence of this study noted that universities were among the most complex of organizations. Additionally, as noted by one member of the expert panel, neither quantitative nor qualitative methodologies, even viewed together, would adequately capture all the subtleties of higher educational environments. Those statements were verified as this study developed. As the selected data for each institution were evaluated, it became evident that the history, environment, and characteristics of each university differed. However, patterns emerged, which allowed for claiming some common aspects of higher education institutions were identifiable.

The most apparent was the cycle for general enrollment patterns. Across all 59 institutions in the study, five general enrollment patterns were identified showing: continuous growth, no growth, variable growth, declining enrollment, or unstable fluctuations. Those five patterns were configured into four institutional cycles: a *Season of Growth*, a *Season of Constancy*, *Season of Decline*, and a *Season of Renewal*. Models depicting those institutional cycles are presented in this chapter.

The chapter is divided into eight sections: institutional demographics; quantitative analysis, including general enrollment patterns, other enrollment patterns, and financial characteristics; qualitative analysis, including political environments, diversity, new facilities, and presidential timelines; mixing quantitative and qualitative results; responding to the research questions; visual models of institutional cycles; listing of conclusion; and ideas for future research.

*Institutional Demographics*

The conclusions drawn from this study were based on the analysis of 59 selected institutions using a stratified random sampling procedure. One challenge associated with sample selection is whether the sample is representative of the population from which it was selected. Because of the finite size of the population (N=146), it was relatively easy to compare general characteristics of the sample to the overall population of not-for-profit, doctoral-granting institutions within the United States with enrollments exceeding 10,000.

The stratification was based on geographic region (based on the regional accrediting associations). The number of institutions selected by region represented approximately 40 percent (37.5% - 41.3%) of the institutions within each region. Table 7.1 compares the sample institutions with the total population in the categories of age, size, pre-2005 Carnegie classification, and status as a land-grant institution.



Table 7.1 – Institutional Demographics for Study Institutions Compared to the Population

|                            | Age                        |                                    |                            |
|----------------------------|----------------------------|------------------------------------|----------------------------|
|                            | Antebellum<br>(N=39; n=15) | Civil War to WW II<br>(N=80; n=31) | Post-WW II<br>(N=27; n=13) |
| Total Population (N=146)   | 26.8%                      | 54.9%                              | 18.3%                      |
| Sample Institutions (n=59) | 25.4%                      | 52.5%                              | 22.1%                      |

|                            | Size                          |                               |                         |
|----------------------------|-------------------------------|-------------------------------|-------------------------|
|                            | 10,000-19,999<br>(N=68; n=27) | 20,000-29,999<br>(N=49; n=21) | 30,000+<br>(N=29; n=11) |
| Total Population (N=146)   | 46.5%                         | 33.8%                         | 19.7%                   |
| Sample Institutions (n=59) | 45.8%                         | 35.6%                         | 18.6%                   |

|                            | Pre-2005 Carnegie Classification   |                                    |
|----------------------------|------------------------------------|------------------------------------|
|                            | Doctoral Extensive<br>(N=90; n=39) | Doctoral Intensive<br>(N=56; n=20) |
| Total Population (N=146)   | 61.7%                              | 38.3%                              |
| Sample Institutions (n=59) | 66.1%                              | 33.9%                              |

|                            | Status as a Land-Grant Institution |                                |
|----------------------------|------------------------------------|--------------------------------|
|                            | Land-Grant<br>(N=58; n=18)         | Non-Land-Grant<br>(N=88; n=41) |
| Total Population (N=146)   | 39.7%                              | 60.3%                          |
| Sample Institutions (n=59) | 30.5%                              | 69.5%                          |

Based on the comparative statistics, the sample institutions appeared to be a reasonable representation of the total population along those characteristics. As a result, conclusions of the study plausibly could be extended to the population.

### *Quantitative Analysis*

Key measures for the contextual dimension of an organization were size and growth rate. For businesses, size and growth rates typically are measured in terms of revenue and/or market share, based on the line of business. For institutions of higher education, the principal line of business is educating students. Student enrollment was a common characteristic for all institutions for measuring size and growth rate. Enrollment patterns focused on general enrollment, as well as enrollment by gender, by

race/ethnicity, and by major area of concentration of study. Those enrollment patterns reinforced the notion of seasons in the life cycle of a university.

### *General Enrollment Patterns*

The study included three initial assumptions: that measurable characteristics of institutional cycles existed, that patterns could be identified, and that characteristics from those patterns could be described. Although each institution had its own enrollment history, common patterns for student enrollment were evident for all the study institutions. That finding guided much of the balance of the study.

To help identify general enrollment patterns, the researcher prepared graphs of the enrollment history for each institution. Based on those graphs, five general patterns were identified: *Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*, respectively. The researcher gave a diagram of the five general patterns and copies of the enrollment graphs, listed in numerical order, to five other people; minimal instruction was given for differentiating the patterns. A total of six people, including the researcher, categorized the graphs according to the pattern most similar to one of the five general patterns.

Initially, there were variances in how each person classified some of the institutions. Some reviewers focused on the prominent pattern for the longest amount of time over the 40-year study period. Others tended to consider the most recent history (the last half of the study period) as more significant. After discussion and clarification – the pattern was to be considered in context of the entire time frame – there was an inter-rater reliability of 90 percent. For those institutions where there were differences, the researcher categorized the institutions in the pattern where there was agreement among a

majority of the reviewers. In the three cases where the reviewers were evenly divided between *Constant Growth* and *Variable Growth*, all three were included in the *Variable Growth* category, based on the personal judgment of the researcher.

It was evident that typical enrollment patterns for colleges and universities could be identified and defined, and characteristics of those patterns could be described. However, when the institutions were arranged into categories by age, size, and geographic region to compare enrollment patterns along those characteristics, the results proved to be inconclusive.

#### *Other Enrollment Patterns*

Enrollment patterns by gender revealed an interesting phenomenon that proved to be more than merely an anomaly. The relationship between male and female enrollment generally was parallel over time for all races and ethnic groups, and for all institutions. Whether that phenomenon was a conscious effort of the admissions process, was in response to overarching legislation requiring gender equity, or was influenced by other sociological effects raised several additional research questions beyond the scope of the present study. But there were marked differences between the genders in terms of percentage of enrollments, with females evidencing substantially greater growth in that area.

Enrollment by race/ethnicity illuminated increasing diversity in the student body across all institutions. The timing for observing marked changes was unusual, however. The Civil Rights Movement during the 1960s influenced, at least in part, the passage of various legislative acts that obligated colleges and universities to modify their admissions processes to admit students without regard to race, gender, religion, age, national origin,

or disability (protected classes under the law). Distinct changes in enrollment by race/ethnicity were not evinced generally, however, until nearly two decades later. A notable shift for the sample institutions did not occur until some time during the period between 1982 and 1996 (identified by Fincher (2001) as a period of *pluralism and diversity*), marking a *Season of Diversity* for all those campuses. The cause for the timing of the changes was not evident in the quantitative data. Those changes were pronounced with regard to a decline in White students with a concomitant increase in persons of so-called protected classes.

Changing patterns of student enrollment by major areas of study varied notably from the average enrollment for some areas, most notably Arts and Sciences, and Business, defined as a *Season of Variation*. Over time, enrollment levels reverted towards a mean (a *Season of Retrenchment*) for all areas of study at all institutions. Student preferences for courses offered varied at different times over the study period. Following the Vietnam War, students enrolled in an increasing number of courses addressing topics such as Women's studies, African-American studies, the Hippie and society, etc. Course offerings differed from institution to institution depending on the nature, size, mission, and location of the institution (e.g. marine biology). Following the 1970s, the rise in the percentage of students enrolling in business-related fields was interpreted to be associated with student preference for educational studies tied to job opportunities.

Changing enrollment patterns by gender, by race/ethnicity, and for preferences by students for areas of study revealed interesting trends, but were not a major factor in determining institutional life cycles.

### *Financial Characteristics*

Using financial data for this study was based on the assumption sources and uses of funds would provide additional confirmatory data for considering points of demarcation when moving from one cycle to the next. Sources and uses of funds illustrated various patterns that were common across all institutions.

The correlation between appropriations, and tuition and grants highlighted the balance between funding from the supporting organization (for the institutions in this study, the state where the institution was located) and funding from student tuition (or other external funding sources – i.e. grants and contracts). Although similar seasons were evident (a *Season of Fiscal Prosperity*, a *Season of Fiscal Constraint*, or a *Season of Fiscal Stability*), funding levels were not primary indicators of changes in general enrollment patterns.

Similarly, expenditure patterns for instruction and research exhibited changes in institutional emphasis, but a *Season of Emphasis on Instruction*, or a *Season of Emphasis on Research*, or a *Season of Equilibrium* did not impact the nature of institutional cycles.

Expenditures for student financial aid and student support were evaluated more closely expecting there would be some notable impact on enrollment patterns (when funding for student-related support increased, enrollment levels were anticipated to increase; if funding levels for student-related services or financial aid decreased, enrollment levels were expected to drop). Comparing general expenditure patterns for student support with general enrollment patterns led to the conclusion expenditures for Scholarships or Student Services were not explicit factors in measuring changes in institutional cycles.

*Summary of Quantitative Analysis*

Business models for identifying life cycles have focused on two dimensions of organizations: context and structure. Common elements noted for the contextual dimension included age, size, and growth rate of the organization; common elements of the structural dimension encompassed the overall organizational structure, including number of organizational levels and the degree of centralization or decentralization of management.

Selected data were chosen to gain a perspective of the nature of higher education institutions. Age was determined from the date the institution was founded to the period being examined throughout this study (1965-2005). Size and growth rates were evaluated from data supplied by the institutions to IPEDS or from other general data repositories. Those two characteristics included multiple factors over time: total enrollment, levels of male and female enrollment, changes in enrollment of minority groups, and shifts in enrollments by academic areas of study. Although differences were apparent for all institutions in the study, common characteristics emerged along general enrollment patterns indicating some similarities were identifiable.

In addition, anticipated changes in sources of funds (state appropriations; student tuition; and grants and contracts) and uses of relative financial resources allocated to mission-related activities (instruction, research, and student services) was expected to provide insight into the development and configurations of institutional cycles of higher education organizations. Looking at sources and uses of funds, and expenditures for student-related services particularly, did not appear to have a detectable impact on institutional cycles.

### *Qualitative Analysis*

As Hofstede (2001) observed, the campus community (students, faculty, administration, and governing boards) comprised and perpetuated campus culture. The sociological impact of human relations, organizational policies, or community and/or national economic circumstances may be as important in understanding institutional cycles as the quantitative data portrayed. For example, the relationship and interaction of governing boards and university administrations might result in implementing (or deferring) decisions that affect campus culture. Available histories were not detailed enough to explore all facets of campus culture; however, reviewing institutional histories confirmed the existence of additional sub-cycles and provided an added dimension for understanding the nature and context of the institutions included in the qualitative portion of this study.

After coding each of the histories, major themes that emerged included political environments, diversity, and campus facilities. Relationships among students, faculty, administrators, governing boards, and governmental officials also helped define the culture and character of an institution. In addition, local, state, and national politics and economies influenced events and activities on campuses.

#### *Political Environment*

Three key concepts emerging from institutional histories helped define the political environments: student behavior and how students dealt with campus issues; the attitude and response of faculty and administrators towards the students' behavior; and the reaction of the public, governing boards, and governmental leaders towards both administrators and students from issues arising on college campuses. The abilities and

personalities of administrators, faculty, students, and members of governing boards and legislatures influenced how an institution developed and adapted to the broader context of its existence.

Kerr and Gade (1986) noted, “No time was ever better for the university and college president than the late 1950s and early 1960s, and no time was ever worse than the late 1960s and early 1970s” (p. 82). They also observed that an institutional president was responsible for maintaining a moving equilibrium. Presidents of the six study institutions reportedly had to balance maintaining equilibrium on campus (not alienating faculty and students) and maintaining equilibrium with the community (not antagonizing legislators, governing boards, and the public). One critical element in that balance, impacting the institutions fundamentally, was how the public perceived an institution. Public perception frequently resulted in how much funding was allocated to higher education.

Although each state experienced economic fluctuations, funding levels for universities appeared to be influenced by more than just economic events. Political environments and relationships of students, administrators, governing boards, legislators, and even public sentiment apparently impacted how much was made available for educational purposes.

In the twenty-first century, themes of accessibility, affordability, and accountability have received continuing attention. The recently issued report, “A Test of Leadership: Charting the Future of U.S. Higher Education” (The Spellings Commission Report) again emphasized the need for higher education to be more responsive to the perceived needs of the various stakeholders in American higher education (U.S.



Department of Education, 2006). Institutional response to various stakeholders may affect its future enrollment patterns and funding levels.

### *Diversity*

Although movement towards greater diversity on college campuses began in the 1960s, changes were not notable generally until the 1980s. Affirmative action efforts had varying levels of success. Diversity objectives may have been addressed in different ways by each institution, but recent decisions by the U.S. Supreme Court (*Gratz v Bollinger*, 2003; *Grutter v Bollinger*, 2003) caused all institutions to evaluate carefully their policies regarding diversity and how special admissions cases were handled (Laird, 2003).

The question of affirmative action was before the Supreme Court again in 2007 in two cases involving public school districts (*Meredith v Jefferson County Board of Education*, 2007; *Parents Involved in Community Schools v Seattle School District No. 1*, 2007). The two cases were combined into one 5 to 4 ruling, which left in tact the precedent set by the Court in its 2003 ruling involving institutions of higher education (Schmidt, 2007).

In *Grutter v. Bollinger*, the Court held that using race as a criterion for considering underrepresented minorities in educational programs was permitted in order to create a “critical mass” of minority students within the student body (Grutter, 2003). The Court left the term “critical mass” undefined and open to interpretation. In the case of *Gratz v. Bollinger*, however, the Court noted using a point system that virtually guaranteed admission to underrepresented minority groups was discriminatory (Gratz, 2003). Although the questions before the Court addressed affirmative action policies, the decisions ostensibly would apply to any criteria that treated all members of a given group

exactly the same, such as geographic area, socioeconomic status, country of origin, religion, gender, etc. (Laird, 2003).

Ada Maloy, general counsel for the American Council on Education, was cited as stating the majority's ruling recognized the interest in diversity that existed in higher education. At the same time, however, the ruling made clear that colleges needed to make sure their consideration of race and ethnicity were narrowly tailored to advancing their educational missions (Schmidt, 2007).

### *New Facilities*

Although all six institutions experienced growing enrollments during the 1960s, when building of new facilities was evident at each of the campuses, later periods of construction and campus growth were not always associated with enrollment growth.

Construction of new facilities was integral to the growth of the 1960s. College enrollments exploded as the post-WW II baby boomers began arriving on campuses. The infrastructure at most universities did not accommodate the number of matriculating students. Significant growth in the numbers of buildings to match the growth in enrollment was inevitable.

The next period of marked increases in investment for facilities was in the decade of the 1990s; facilities built in the 1960s at that point were 30 to 40-years old. Many buildings had become outdated, costly to maintain, and less efficient to operate. On many campuses, the decision to replace rather than to maintain likely influenced the amount of new construction needed.

Changes in institutional cycles anticipated the transition from a *Season of Constancy* or a *Season of Decline* being occasioned by a *Season of Renewal* (a period

marked by major investments in facilities and/or other infrastructure). During the second major period of construction on most campuses, the decade of the 1990s, enrollment at the six study institutions increased, remained constant, or decreased. At University #21, enrollments increased annually between 2000 and 2005 with no additional investment in new facilities. As a result, it was not evident whether construction of new facilities resulted in increasing enrollment, or increasing enrollment necessitated more facilities, or alternatively whether new facilities had no effect on changes in enrollment.

### *Presidential Timelines*

Kerr and Gade (1986) noted that following the unrest of the 1960s and 1970s, the presidency in most institutions was diminished and became less influential just at a time when greater influence was needed: to defend institutional autonomy, to manage conflict, to integrate separatist forces, to offset small group efforts to inefficiencies and exploitations, and to advance programs over attempted special interest vetoes. University presidents may not have been the most influential person at an institution, but they seemed to have been the most visible. Historical institutional records for each university included in the qualitative analysis described events in relation to periods of service of each of its presidents.

Over the 40-year study period (1965-2005), relationships with government officials, governing boards, faculty, and students were described in relationship to a president's tenure as a point of reference. Sporting events, fund-raising activities, and construction of new facilities were covered in context of a president's years of service. However, the historical records were not detailed enough to determine whether institutional policies initiated by any of the presidents had any impact on changing the

enrollment trends. Whatever affected student enrollment patterns as might be related to presidential service was not detailed in the available history.

*Summary of Qualitative Analysis*

Reviewing institutional histories provided a glimpse into the complexity of campus culture for a university, but many details were undisclosed. Without actually experiencing the events and circumstances creating the culture and knowing the people and circumstances involved, a written account provided only an overview from the historical writer's point of view.

Although enrollment levels were noted in the histories, no specific evidence was provided to support changes in enrollment. Several issues were identified that might have been contributing factors in changing enrollment patterns, but none appeared to be primary causes of those changes. For example, the political environment internal to each campus and how the people involved (legislators, governing boards, campus administration, faculty, and students) responded to that environment influenced funding levels made available for higher education. In addition, economic environments external to the campus contributed to how much funding was made available. With state and federal funding came increasing demand for greater accountability for both inputs and outputs: inputs meaning students who have access to higher education and the composition of the student body, and outputs meaning the ability to measure and report the learning outcomes of those enrolled at higher education institutions.

Access to higher education, and its associated programs, has been a matter of continued discussion. As part of the political dialogue over the reauthorization of the higher education act, a Commission on Opportunity in Athletics (Title IX Commission)

was appointed under the Bush administration to consider applicability and enforceability of Title IX of the Education Amendments of 1972. The Spellings Commission Report, also under the Bush administration, focused on accessibility, affordability, and accountability, particularly for underrepresented groups. Recent Supreme Court decisions (Gratz v Bollinger, 2003; Grutter v Bollinger, 2003; Parents Involved in Community Schools v Seattle School District No. 1, 2007) have reemphasized the importance of diversity as fundamental to the mission of higher education. That aspect of the mission appears to be safeguarded under those decisions.

Construction of new facilities was integral to the growth of the 1960s, but less so in the decade of the 1990s. Although campus construction creates an environment of renewal, new facilities were not associated with enrollment growth in all cases.

Presidential timelines did not allow for conjecturing that there was a relationship between presidential service and enrollment changes, either. The role of the president was not evident in having a direct impact on changing the student enrollment patterns for any of the universities.

#### *Mixing Quantitative and Qualitative Results*

Using a mixed-methods approach for this study provided both a quantitative foundation and a qualitative component contributing to a preliminary model for institutional cycles in higher education. Quantitative data helped identify general patterns for enrollment, and for sources of revenues and expenditures of funds. Using a sample representing 40 percent of not-for-profit, doctoral granting universities with enrollments over 10,000 allowed for concluding the general patterns likely would be identifiable for all institutions. Qualitative data supported the idea that each institution was unique, and

understanding the context of an institution was not simple. It also contributed supporting evidence for some aspects of institutional cycles.

### *Responding to Research Questions*

Much of the conceptual literature (Adizes, 1988; Galbraith, 1982; Quinn & Cameron, 1983; Smith, et al., 1985, Kazanjian, 1988) assumed a sequential progression through different stages as organizational changes occurred. Concepts from life-cycle models for business were adapted to this study to ascertain measurable characteristics of institutional cycles. Underlying premises of the present study were that measurable characteristics existed, that patterns could be identified, and that characteristics from those patterns could be described. Research questions were formulated to affirm that view.

First, what characteristics do institutional cycles have? The most apparent common aspect for higher educational institutions was found in general enrollment patterns. Five general patterns were identified: *Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*. Other enrollment patterns also were considered, such as enrollment by gender, by race/ethnicity, and by major areas of study. Interesting characteristics were noted in those enrollment categories, but none were definitive in supporting the notion of institutional cycles.

The next question was how are cycles defined? The five general enrollment patterns (*Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*) constituted a basis for conceptualizing a model integrating growth, constancy, decline and renewal. A visual model of institutional cycles is presented in the next section of this chapter.

The third quantitative question was what determined points of demarcation when transitioning from one cycle to another? Miller and Friesen (1984) claimed that many organizations appeared to follow sequential evolutionary patterns; however, there were a number of exceptions – actual patterns could traverse a variety of transitional paths. Financial data were used primarily to determine whether changes in enrollment patterns could be associated with the economic viability of an organization. The initial assumption was when resources were plentiful and expenditures for scholarships and student-related services were increasing, enrollment levels would increase. Conversely, when resources were limited and expenditures for student-related support diminished, enrollments were expected to decline.

Patterns of expenditures for student services were similar to those noted with general enrollment patterns: *Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*. However, there was no apparent correlation between enrollment and expenditures – only 12 of the 59 institutions (20.3%) had the same general expenditure pattern as was identified for the general enrollment pattern. Those data were interpreted to mean financial data were not definitive in determining transition points from one cycle to another.

The related qualitative questions considered whether institutions experienced similar issues during different phases of institutional cycles, and whether those issues contributed to identifying characteristics of institutional cycles? The histories of the six purposefully selected institutions used in the qualitative phase of the analysis revealed many similar issues at each institution, presumably associated with the nature and mission of educational institutions. Those issues involved the political environment and

human relations among students, faculty, administrators, members of governing boards, and governmental leaders. Other notable issues included diversity in enrollment and also in academic offerings. Another frequently-noted issue addressed changes in campus facilities and infrastructure. Finally, changes in presidents were commonly mentioned events in the history of an institution.

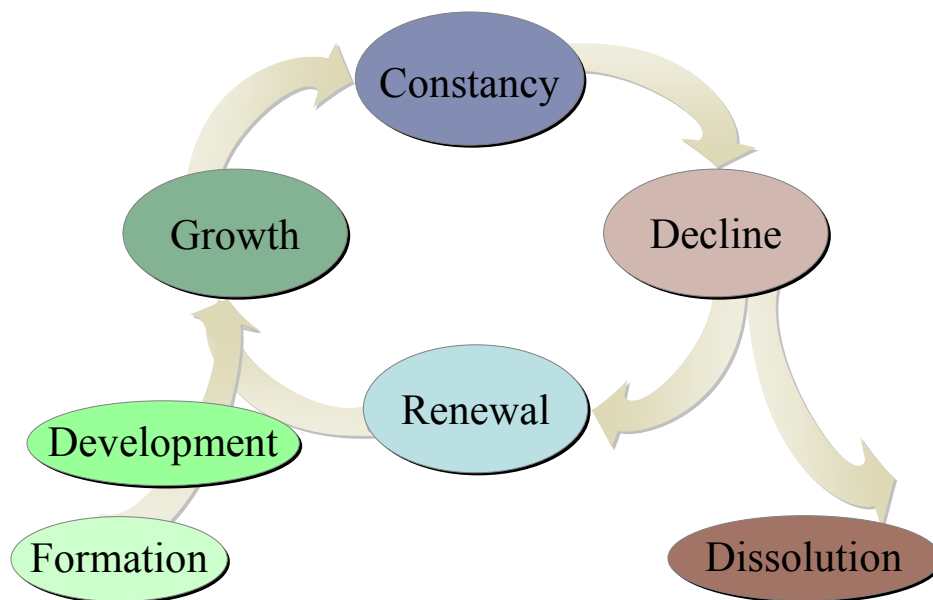
The histories of the six institutions used in the qualitative analysis provided data relative to context and structure of institutions. They also contributed towards understanding characteristics of cycles within an institution. However, after analyzing common elements identified through the coding process, none provided a clear connection between specific phases of institutional cycles, or evidence of transitions from one cycle to the next.

#### *Visual Model*

The visual model created for this study was an attempt to capture the overarching concepts garnered through the study of institutional characteristics. A general model characterizing institutional cycles should represent all potential phases of a life cycle – from initial formation to the possible dissolution of an organization. The model in Figure 7.1 portrays seven distinct periods over an institution's life cycle: (1) formation, (2) development, (3) growth, (4) constancy, (5) decline, (6) renewal, and (7) dissolution. Institutions included in this study were founded prior to the beginning of the study period (1965) and all still existed at the end of the study period (2005); therefore, formation, early development, and dissolution were not fully explored as part of the study. However, those seasons are represented in the model for reference.



Figure 7.1 – Institutional Cycles: A Visual Model



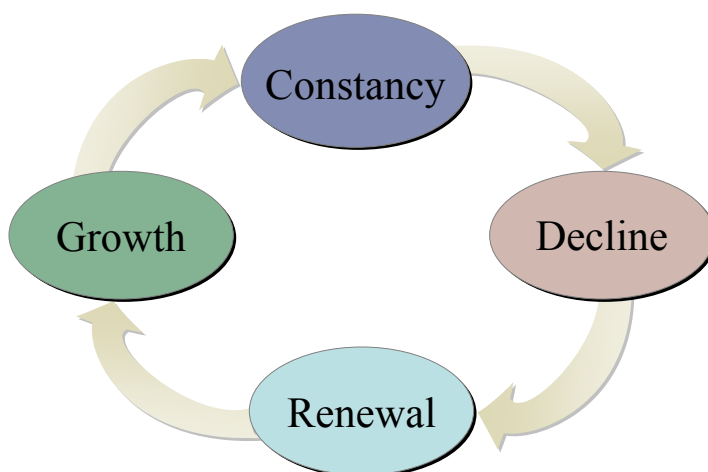
As depicted, a typical institution would experience all seven cycles over its history: following formation, it would go through a developmental period, exhibit a period of growth, reach maturity and experience a period of constancy, show a decline, and then go through a renewal before experiencing another period of growth. If circumstances prevented an institution from attaining renewal, it would eventually go toward dissolution.

Developing a prototype for the formation and development stages, including issues to address when considering the creation of a new college or university, would be an interesting area for study, but was beyond the scope of the present work. Likewise, understanding major challenges and concerns when considering the closure of an

institution, such as is being considered for Antioch College in Ohio (Fain, 2007), would be beneficial for those engaged in that process.

Because of the longevity experienced by most institutions of higher education (Casper, 1995), they appeared to cycle primarily through the four central periods of the model: growth, constancy, decline, and renewal, as noted by the institutions identified with this study. A modified model with only those four periods is presented in Figure 7.2

Figure 7.2 – Institutional Cycles: A Modified Visual Model

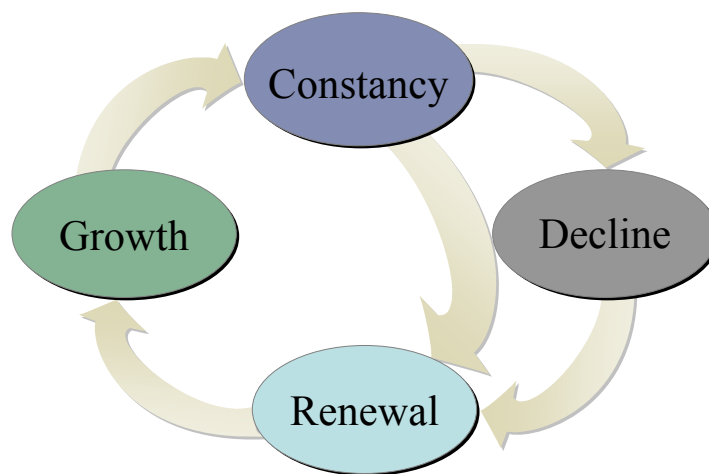


Depending on individual circumstances and influences, the length of each season may vary from institution to institution. For example, two institutions (33, 52) were categorized as being within the *Season of Growth* over the 40-year study period. Similarly, four other institutions (6, 13, 22, and 53) were identified as characterizing the *Season of Constancy* for the entire period. Institutions 5, 12, 23, 40, 41, 45, and 55 all

exhibited *Seasons of Growth, Constancy, and Decline* across the study period. Following the normal cycle, each of those institutions would eventually complete the cycle, experiencing a renewal and another period of growth.

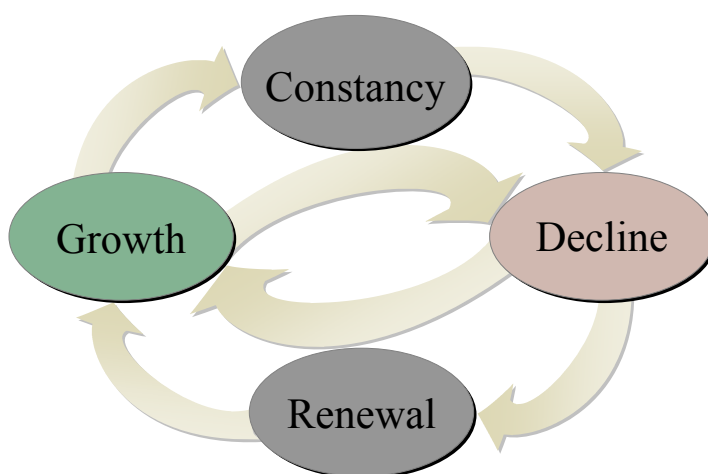
As noted by Miller and Friesen (1984), many organizations appeared to follow sequential evolutionary patterns; however, there were a number of exceptions – actual patterns could traverse a variety of transitional paths. Such was the case for those institutions that exhibited a *Variable Growth* pattern for enrollment. Those institutions appeared to bypass the *Season of Decline* and go from *Constancy* to *Renewal* and then back to *Growth*, as shown in Figure 7.3.

Figure 7.3 – Institutional Cycles: A Modified(2) Visual Model



Similarly, those institutions that had *Unstable* fluctuations appeared to vacillate between *Growth* and *Decline* without experiencing *Constancy* or *Renewal*, as represented in Figure 7.4.

Figure 7.4 – Institutional Cycles: A Modified(3) Visual Model



Conceivably, other patterns through the different seasons might be possible, but none were evidenced among those institutions selected for this study.

Considering the history of colleges and universities, it was apparent they were mutable and experienced different institutional cycles. The typical pattern anticipated a sequential process, after formation and development, through recurring cycles of growth, constancy, decline, and renewal. Actual enrollment patterns identified, however, supported the idea of multiple transitional paths through the various cycles.

*Listing of Conclusions*

This study highlighted a variety of interesting aspects contributing to a theory about institutional cycles in higher education:

- (1) General enrollment patterns revealed characteristics common to all the study institutions. Although each institution had unique characteristics, patterns were identifiable, and enrollment patterns could be summarized into one of five overall patterns.
- (2) Those patterns supported the concept of institutional cycles representing a *Season of Growth*, a *Season of Constancy*, a *Season of Decline*, and a *Season of Renewal*. Although many institutions likely would evince a sequential progression through the various seasons, the data were interpreted to mean that multiple paths were possible.
- (3) Analysis of other enrollment data, financial data, and historical data allowed for concluding there were sub-cycles, such as *Seasons of Diversity*, *Variation*, *Retrenchment*, *Fiscal Prosperity*, *Fiscal Constraint*, *Emphasis on Instruction*, *Emphasis on Research*, etc. Although sub-cycles may be important in understanding the context of an institution, there was not direct evidence of sub-cycles predicting primary seasons for institutional cycles.
- (4) Enrollment patterns for male and female students were generally parallel across all race/ethnicity groups, but the ratio of the genders changed dramatically during the 40-years of the study. That effect raised several

questions that were beyond the scope of the present study, but should be considered for further research.

### *Future Research*

This study addressed multiple aspects of institutional characteristics resulting in a preliminary model of institutional cycles. It also left a number of questions unanswered. In order to confirm the model, and address additional questions, further research is necessary.

Conclusions for the study were grounded in changes in enrollment patterns.

Additional questions that could be considered include:

- (1) Are there other common characteristics that would be better indicators of institutional cycles?
- (2) Are there better indicators to identify transitions from one cycle to another?
- (3) Do institutional policies place constraints on enrollment patterns?
- (4) How significant are local, state, and national demographic patterns in influencing college enrollment?
- (5) What impact do economic factors (i.e. availability of grants and loans, general job markets, local economic conditions, tuition savings plans, etc.) have on enrollment?
- (6) Are enrollment patterns and cycles identified in this study consistent for other segments of higher educational institutions (i.e. smaller institutions, private institutions, two-year community colleges, for-profit colleges, etc.)?
- (7) Would the conclusions be the same if institutions were tracked through the entire cycle from formation to eventual dissolution?

Those questions and others lead to possible future studies on the notion of institutional cycles:

- (1) Replicate the study with a different set of institutions to confirm the nature of enrollment patterns as indicators for institutional cycles in higher education.
- (2) Do a collective case study on a selected group of institutions (based on a criterion such as size, age, geographic region, etc.) to identify commonalities in patterns.
- (3) Extend the study over a longer period of time for selected institutions to confirm the recurring nature of cycles.
- (4) Identify institutions that have been closed and identify periods representing cycles throughout the history of those institutions.
- (5) Develop a qualitative study looking at institutional policies, academic programs, and organizational structure and their effect on enrollment patterns.
- (6) Compare changing enrollment patterns with demographic studies to ascertain whether institutional cycles are a reflection of broader population trends.
- (7) Do a detailed analysis on availability of student financial aid and its impact on the ability of students to pursue postsecondary education.

These examples for future studies provide alternative approaches to consider institutional cycles in higher education. Given the premise higher education is important in preparing students for a future full of opportunities and uncertainties, and strengthening leadership of higher educational institutions is an urgent concern, as suggested by Kerr (1985), then understanding institutional cycles will give better focus to

comprehending the context of time and place when selecting a president to lead one of these complex organizations.



## CHAPTER 8

### Summary

#### *Life Cycles in Higher Education*

This study provided a framework for understanding the nature of institutional cycles for colleges and universities. That framework was based upon certain underlying assumptions: that measurable characteristics of institutional cycles existed, that patterns could be identified, and that characteristics of those patterns could be described. The general life-cycle model for higher education institutions emerging from the study included seven periods: (1) formation, (2) development, (3) growth, (4) constancy, (5) decline, (6) renewal, and (7) dissolution. Because most colleges and universities in the United States have existed for long periods, they likely would experience repeating periods of growth, constancy, decline, and renewal, as was manifested in identifiable enrollment patterns for the institutions in this study.

#### *Study Design*

This mixed-methods sequential explanatory study was conducted to identify characteristics of cycles, thus contributing to a theory for institutional cycles in higher education. Although discussions of life-cycle theory were not found in education literature, it has been described extensively in business literature. This study was adapted from twelve studies (Adizes, 1988; Churchill & Lewis, 1983; Flamholtz, 1986; Galbraith, 1982; Greiner, 1972; Hanks, Watson, Jansen, & Chandler, 1994; Kazanjian, 1988; McMahon, 2001; Miller & Friesen, 1984; Quinn & Cameron, 1983; Scott & Bruce, 1987; Smith, Mitchell, & Summer, 1985) addressing life cycle models from business. Those studies identified cycles in terms of organizational context and structure.

The first (quantitative) phase of the study analyzed enrollment data and financial data to identify characteristics of institutional cycles. The research questions focused on the nature of institutional cycles, how those cycles were defined, and points of demarcation in transitioning from one cycle to another. The second (qualitative) phase explored the histories of six purposefully selected institutions from among those included in the first phase to expand the understanding of contextual and structural dimensions of institutional cycles.

Emphasis was given to the quantitative phase of the study because it revealed five general enrollment patterns applicable to all institutions included in the study. Enrollment patterns were developed from an in-depth analysis of archival data from the study institutions. The quantitative and qualitative methods were connected during the selection process of the six institutions used for the second phase of the study. Both financial and historical data were used to identify possible points of demarcation when enrollment data indicated changes from one cycle to another. The results were integrated when considering the context of colleges and universities and in developing the model for institutional cycles.

### *Quantitative Phase*

#### *Data Collection*

Fifty-nine institutions were selected, using a stratified random sampling process, from among the not-for-profit, doctoral granting institutions in the United States with enrollments in excess of 10,000 at the time the sample was selected.

The 59 institutions were arranged into five categories: age, size, geographic region, pre-2005 Carnegie classification, and status as a land-grant institution. Three

categories were selected to summarize institutions by age: those founded during the antebellum period (N=15), those founded between the Civil War and WW II (N=31), and those founded after WW II (N=13). Institutions were divided next into three size categories (based on enrollments at the time the sample was selected): those with enrollments between 10,000 and 19,999 (N=27), those with enrollments between 20,000 and 29,999 (N=21), and those with enrollments of 30,000 and greater (N=11).

Geographic region was defined by the six regions used for institutional accreditation: West (N=4), Northwest (N=5), North Central (N=23), Southern (N=19), Middle States (N=5), and New England (N=3). The pre-2005 Carnegie classification included two groups: doctoral extensive (N=39) and doctoral intensive (N=20). The final category considered status as a land-grant (N=18) or a non-land-grant (N=41) institution.

Most of the quantitative data were collected from archival sources (IPEDS and similar general data repositories). In some cases, individualized requests were created requesting specific data from the subject institutions. Not all were willing or able to provide data prior to the period (1980) data were available from IPEDS. In addition, enrollment statistics by race/ethnicity were not collected from all institutions until after 1980, so some of the analysis covered only the period from 1980 through 2005.

### *Data Analysis*

Descriptive statistics and graphs, representing enrollment trends for total enrollments, male and female enrollments, minority group enrollments, and shifts in areas of academic study, were prepared for each institution individually. Five general enrollment patterns were identified: *Constant Growth*, *No Growth*, *Variable Growth*,

*Decline*, and *Unstable*. Those five patterns were configured into four institutional cycles: a *Season of Growth*, a *Season of Constancy*, *Season of Decline*, and a *Season of Renewal*.

Enrollment patterns by race/ethnicity revealed a notable change in enrollment mix (declining enrollment in the majority student population with increases in other race/ethnic group populations). That change was defined as a *Season of Diversity*, which was evident at each institution, but was not a primary factor for developing the model for institutional cycles.

Revenue sources such as tuition; state appropriations; state, federal, and private grants; and other general revenue sources were analyzed to consider significant fluctuations in funding sources for institutional operations. Also, resources allocated to instruction, research, and student services were analyzed to consider changes in emphasis among mission-related activities.

The types of expenditures that appeared to indicate a change in institutional cycles most, or indicated a potential point of demarcation when changing from one season to another, were Scholarships and Student Services. The same five general patterns described for enrollment (*Constant Growth*, *No Growth*, *Variable Growth*, *Decline*, and *Unstable*) were evident for expenditures for Scholarships and Student Services.

Expenditure patterns generally did not coincide with the enrollment patterns. Only 12 of the 59 institutions (20.3%) had the same general expenditure pattern as was identified for the general enrollment pattern. The lack of consistency between expenditures and enrollment patterns was interpreted to mean expenditures for Scholarships and Student Services were not exact predictors for identifying seasons.

## *Qualitative Phase*

### *Data Collection*

In the second (qualitative) phase of the study, six purposefully selected institutions were identified from among the 59 institutions used for the quantitative phase based on: location, size, age, pre-2005 Carnegie classification, and status as a land-grant institution. A decision tree was developed to select institutions representative of general characteristics of all the study institutions.

Available written histories were obtained from the planning officer or university historian for each of the institutions. Institutional histories, along with data from institutional web sites, and other historical information about the six institutions provided a resource for understanding the context of each university.

### *Data Analysis*

The qualitative data were coded based initially on topics identified from the quantitative portion of the study. In addition, other themes emerged from the data highlighting institutional focus and issues faced by the universities during the study period. Categories and frames of analysis were ascertained using open coding, axial coding, and selective coding procedures. Selected data excerpts were included to support the central themes presented. The themes either supported the seasons previously identified or indicated characteristics of possible additional cycles.

Three major themes were identified in the coding process: political environments, diversity, and new facilities. Additionally, the periods of presidential service were compared to general enrollment patterns to detect any possible connection with the influence of presidential leadership on changes in enrollment patterns.

### *Findings*

Based on their study of life-cycles in business entities, Miller and Friesen (1984) concluded that although stages of life cycles were internally coherent they did not necessarily follow a specific sequence. They postulated there was no common corporate life cycle, but there were common life-cycle stages that differed distinctly and consistently from one another.

Similarly in this study, it was evident that typical institutional cycles for colleges and universities could be identified and defined, that characteristics of those periods could be described, and that issues faced by institutions during different periods contributed to identifying cycles. However, there was more than one pathway through institutional cycles, indicating changes from one cycle to another were not sequential.

Although various aspects of other enrollment data, financial data, and historical data provided evidence of various seasons, no clear connection between any combinations of seasons identified the points of demarcation in transitioning from one cycle to another.

#### *Model Contributing to a Theory on Institutional Cycles*

Colleges and universities experienced cycles of development and change over time, similar to other organizations. Based on the findings of this study, a preliminary model was developed representing various periods of institutional cycles. Depending on individual circumstances and influences, movement from one cycle to another may not be sequential, and the length of each season may vary from institution to institution.

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APPENDICES

**Appendix A**

Institutional Review Board (IRB) Application



|                     |
|---------------------|
| FOR OFFICE USE ONLY |
| PROTOCOL:           |
| DATE APPROVED:      |

## UNL IRB PROTOCOL TEMPLATE

### **1. Describe the significance of the project.**

Studying various aspects of higher education leadership is particularly useful when considered over extended periods of an institution's history. A transition in leadership provides an opportunity for governing boards to consider past, present, and future circumstances of an institution and decide what kind of leader would best serve the institution as it moves forward. Neff and Leondar (1992) stated deriving criteria for selecting a new president based on an appraisal of an institution's present condition and future prospects is conventional wisdom in theory and largely ignored in practice. Kerr (1985) also observed the first step in the search for a new president should be, but seldom is, a search for the future of the institution. Various writers have suggested that understanding institutional cycles was important relative to changes in institutional leadership; however, a definitive characterization or description of what the cycles are does not exist in the literature.

The purpose of this mixed-methods study will be to develop a model which will extend the theory of institutional cycles for colleges and universities by exploring and defining characteristics of these cycles. Understanding institutional characteristics is one element in identifying the type of leader needed for a specific time and purpose.

### **2. Describe the methods and procedures.**

The population for this study is the set of public doctoral-granting colleges and universities with enrollments exceeding 10,000. Data from the subject institutions will be analyzed over a forty year time period, from 1965 through 2005, in order to develop a life-cycle model for colleges and universities.

**Data Collection:** Gathering data for this study will involve multiple steps. The first step will involve a pilot study to test the construct validity of the data elements. The pilot study for this project will include two phases: first, an expert panel will be used to review and critique the number and types of elements selected by the researcher to measure trends in institutional cycles. Data elements will include several factors such as total enrollments, male enrollments, female enrollments, enrollments by academic program, organizational data, and financial data. As a result of feedback received from the expert panel, the data elements will be modified to consider appropriate aspects of institutional cycles for measurement. Second, data will be gathered for one of the 59 institutions in the

sample frame to confirm availability of the data from the anticipated sources. These data will be compiled from IPEDS, its predecessor public reporting sources such as the Higher Education General Information Survey (HEGIS) or other general data repositories, institutional websites, financial statements, and other publicly available records.

If for some reason data are not available for an institution for one or more of the years during the study period, it may necessitate individualized questionnaires being created for requesting specific data from the subject institutions. Since these questionnaires will not be typical of conventional survey research and each questionnaire may be adapted to cover different years for individual institutions, multiple steps will be used to achieve the needed responses.

The first contact will be a personal telephone call to the officer in charge of institutional assessment, the person typically responsible for providing data to IPEDS. The researcher will explain the nature of the study, the type and source of the data accumulated, and the elements of institutional data still needed to complete the data sets. The individual responsible for institutional assessment may be able to provide an electronic source for completing the data gathering for the institution. If the data can only be obtained directly from the institution, an initial commitment will be obtained to respond to the questionnaire. (A sample of such a questionnaire is attached.) Time to complete the questionnaire form itself will take less than 30 minutes if the data is readily available at the institution. Gathering the data may take varying amounts of time from institution to institution.

The second contact will be mailing the actual questionnaire. This will include the cover letter, a copy of the questionnaire, an informed consent letter, and a self-addressed stamped return envelope to facilitate return of the survey and the informed consent letter. (Copies of the cover letter and the informed consent letter are attached.)

The third contact will be a thank you postcard (email) timed to arrive approximately ten days to two weeks following the initial mailing of the questionnaire. (A copy of the postcard (email) is attached.)

The fourth contact will be limited to those few cases where the original questionnaire has not been received within three to four weeks of the original mailing. This communication will contain a revised cover letter, replacement questionnaires, another informed consent letter, and another self-addressed stamped envelope. (A copy of the revised cover letter is attached.)

The fifth contact will apply to those situations where an institution has not responded after previous contacts or if additional clarification of research information is needed. A telephone contact is most appropriate in these cases.

Data Analysis: Developing a model for life cycles in higher education will consider both contextual and structural dimensions of the sample institutions. The process will include multiple aspects of data analysis. The first component is to analyze the contextual dimension, which will include elements of both quantitative and qualitative traditions. Enrollment data from each of the subject institutions will be evaluated using a statistical analysis program such as SPSS. Changes in enrollment trends in total enrollments, male and female enrollments, minority group enrollments, and shifts in areas of academic study will be measured for each institution individually and for all institutions in the sample collectively. Similarly, an analysis of selected financial data will also be performed. The level of resources being allocated to instruction, research, and service will be analyzed using the same statistical program to consider changes in emphasis among mission-related activities.

The second element of the contextual dimension includes understanding the institutional focus or challenges faced during given periods. The data analysis for this study will follow inductive analysis characteristic of grounded theory studies. The main sources of data for analysis will be published histories, other institutional documents, individual web sites, field notes, and researcher memos. Analysis of the data will include the following steps:

- Each history will be coded identifying categories and frames of analysis using an open coding approach, wherein the researcher forms initial categories about the phenomenon being studied and segments the data into these categories.
- Codes and sub-codes will be identified and categorized at the parent, child, and grandchild levels.
- Axial coding will be used to identify the central themes and other intervening conditions that emerge from the categories.
- Selective coding, building a theory about institutional focus and challenges faced based on the results presented by the data, will be part of the foundation for contextual dimension of each institution.
- Selected data excerpts from these histories will be included to support the central themes presented.

The structural dimension of institutions will be evaluated based on the number of schools, colleges, and departments as well as the leadership organization to manage the institution over time. These data will be primarily quantitative in nature; however, the analysis will be descriptive in nature – the numbers and sizes of the organizations as well as the number of people in the organizational structure.

### **3. Describe participants.**

Institutions will be selected for this study from among the 146 qualifying universities using a proportional stratified random sampling procedure based on four criteria: location, size, sponsorship, and Carnegie classification. The sample size for this study will be fifty-nine (59) individual institutions. The sample size represents 3.8 percent of all

the public institutions of higher education and 40.4 percent of all the institutions meeting the selection criteria in the sampling frame.

For stratification purposes, the six geographic accrediting regions will be used – West, Northwest, North Central, Southern, Middle States, and New England. A proportional number of institutions will be selected from each region as follows: (1) doctoral-granting institutions with enrollments over 10,000 will be identified using the IPEDS peer analysis website (<http://nces.ed.gov/ipeds/pas/dct/index.asp>), (2) all of the institutions will be listed alphabetically according to the geographic region where they are located, (3) each institution will be assigned a unique sequential number from 1 through 146, and (4) individual numbers will be selected, using a random number generator, within the parameters of the number of institutions per region until the appropriate sample size is identified.

#### **4. Describe Benefits and Risks.**

**Benefits:** There are no direct benefits to the subject institutions. Indirectly, defining institutional life cycles is an important element of understanding the context of higher education leadership. This study is intended to identify cycles in the history of institutions as well as characteristics that can be identified and anticipated for future cycles. Such a study is intended to help in identifying the kind of leader needed to guide complex and diverse institutions of higher education within a given context.

**Risks:** There are no known risks to any participant or to others.

#### **5. Describe recruiting procedures.**

As noted above, participants will be selected using a proportional stratified random sampling procedure. Once the subject institutions are identified, additional data and contact information, if needed, will be obtained from each institution's web site.

#### **6. Describe Compensation.**

Will compensation be provided to participants? Yes \_\_\_ No X

#### **7. Informed Consent**

As noted in the data collection procedures, if there is a need to contact a subject institution to request additional data, a verbal commitment to participate will be obtained via an initial telephone contact. Subsequently, an informed consent letter will be mailed for signature. (A copy of an informed consent letter to be used is attached.)

**8. Describe how confidentiality will be maintained.**

Individual electronic databases will be created for each of the selected institutions. Data will be accumulated by institution and by year. Electronic files will be maintained on the researcher's computers, which are password protected, accessible only by the researcher or an authorized administrative assistant.

A separate file will also be created for each institution and kept in the office of the researcher in a locked file cabinet, again accessible only by the researcher, for additional institutional data such as written histories, financial statements, other records or survey data that may be gathered for this study.

If individual institutions are contacted for additional information, participants will be notified of the study and confidentiality procedures will be explained verbally and in the informed consent letter.

Any data that needs to be transcribed will be done by the researcher personally or by an authorized administrative assistant. If done by the administrative assistant, a confidentiality agreement will be required. (A copy of the confidentiality letter is attached.)

Results of the study will be summarized and reported in the aggregate without identification of the subject institutions individually.

Data will be retained for one year following approval of this study by the University of Nebraska Institutional Review Board. After that time, all records will be destroyed or deleted.

**9. Copies of questionnaires, survey, or testing instruments.**

If additional data is requested of an individual institution, a customized questionnaire will be prepared. (A sample of the questionnaire to be used is attached.)



## **Appendix B**

### Institutional Review Board (IRB) Approval



HUMAN RESEARCH PROTECTIONS  
Institutional Review Board

April 6, 2006

Roger Christensen  
Dr. Sheldon Stick  
Church Educational System  
The Church of Jesus Christ of Latter-day Saints  
9<sup>th</sup> Floor, 50 East North Temple Street  
Salt Lake City, UT 84150-2600

IRB # 2006-03-310 EP

TITLE OF PROJECT: **Seasons of Presidential Leadership: A Mixed-Method Study Contributing to a Theory on Institutional Cycles in Higher Education**

Dear Roger:

This letter is to officially notify you of the approval of your project by the Institutional Review Board (IRB) for the Protection of Human Subjects. It is the Board's opinion that you have provided adequate safeguards for the rights and welfare of the participants in this study. Your proposal seems to be in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

Date of EP Review: **04/05/06.**

You are authorized to implement this study as of the Date of Final Approval: 04/06/06. This approval is Valid Until: 04/05/07.

1. Enclosed is the IRB approved Informed Consent form for this project. Please use this form when making copies to distribute to your participants. If it is necessary to create a new informed consent form, please send us your original so that we may approve and stamp it before it is distributed to participants.

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

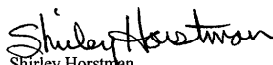
- Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

For projects which continue beyond one year from the starting date, the IRB will request continuing review and update of the research project. Your study will be due for continuing review as indicated above. The investigator must also advise the Board when this study is finished or discontinued by completing the enclosed Protocol Final Report form and returning it to the Institutional Review Board.

If you have any questions, please contact Shirley Horstman, IRB Administrator, at 472-9417 or email [shorstman1@unl.edu](mailto:shorstman1@unl.edu).

Sincerely,

  
Dan R. Hoyt, Chair  
for the IRB

  
Shirley Horstman  
IRB Administrator

cc; Faculty Advisor



HUMAN RESEARCH PROTECTION  
Institutional Review Board

February 23, 2007

Roger Christensen  
Dr. Sheldon Stick  
Church of the Educational System  
The Church of Jesus Christ of Latter-Day Saints  
9<sup>th</sup> Floor, 50 East North Temple Street  
Salt Lake City, UT 84150-2600

IRB# 2006-03-310 EP

TITLE OF PROJECT: **Seasons of Presidential Leadership: A Mixed-Methods Study Contributing to  
A Theory on Institutional Cycles in Higher Education**

Dear Roger:

This is to officially notify you of the approval of your project's Continuing Review by the Institutional Review Board for the Protection of Human Subjects. It is the committee's opinion that you have provided adequate safeguards for the rights and welfare of the subjects in this study. Your proposal seems to be in compliance with DHHS Regulations for the Protection of Human Subjects (45 CFR 46).

1. Please include the assigned and approved IRB number on the informed consent form. Please return one copy of the form, with the number included, for our records.

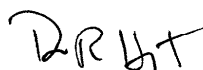
We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

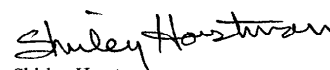
- Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
- Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
- Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
- Any breach in confidentiality or compromise in data privacy related to the subject or others; or
- Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

It is the responsibility of the principal investigator to provide the Board with a review and update of the research project each year the project is in effect. This approval is valid until **April 5, 2008**.

If you have any questions, please contact Shirley Horstman, IRB Administrator, at 472-9417 or email at [shorstman1@unl.edu](mailto:shorstman1@unl.edu).

Sincerely,

  
Dan R. Hoyt, Chair  
For the IRB

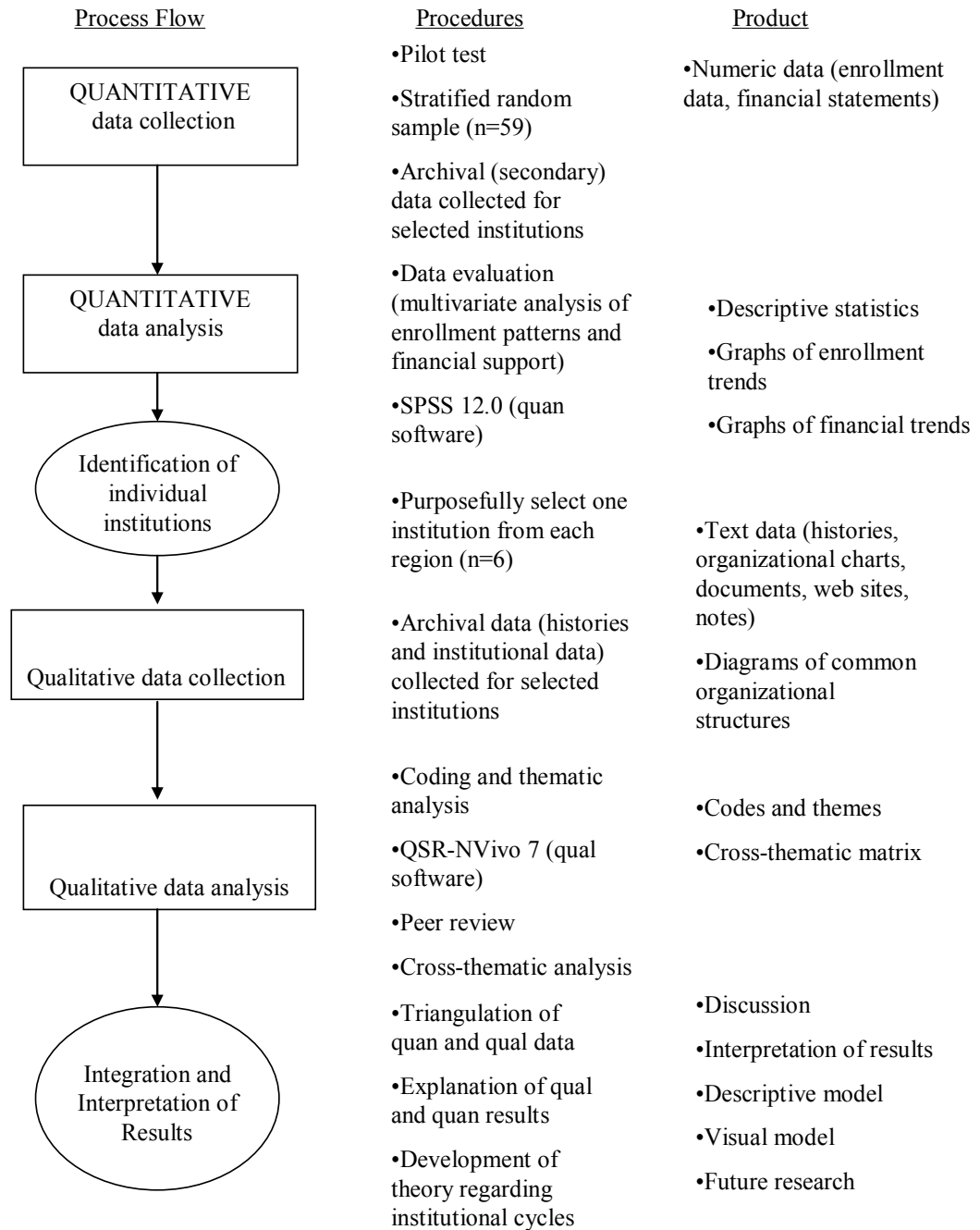
  
Shirley Horstman  
IRB Administrator

## **Appendix C**

### Sequential Explanatory Design Procedures: A Visual Model

## Sequential Explanatory Design Procedures:

### A Visual Model



Adapted from Ivankova, Creswell, and Stick, 2006, p. 16

## **Appendix D**

### List of Public Universities by Region with Enrollments in Excess of 10,000

**List of Public Universities by Region with  
Enrollments in Excess of 10,000**

| Number                      | Institution                                       | State |
|-----------------------------|---|-------|
| <b>West Region</b>          |   |       |
| 1                           | San Diego State University                        | CA    |
| 2                           | University of California-Berkeley                 | CA    |
| 3                           | University of California-Davis                    | CA    |
| 4                           | University of California-Irvine                   | CA    |
| 5                           | University of California-Los Angeles              | CA    |
| 6                           | University of California-Riverside                | CA    |
| 7                           | University of California-San Diego                | CA    |
| 8                           | University of California-Santa Barbara            | CA    |
| 9                           | University of California-Santa Cruz               | CA    |
| 10                          | University of Hawaii at Manoa                     | HI    |
| <b>Northwest Region</b>     |   |       |
| 11                          | Idaho State University                            | ID    |
| 12                          | Montana State University-Bozeman                  | MT    |
| 13                          | Oregon State University                           | OR    |
| 14                          | Portland State University                         | OR    |
| 15                          | The University of Montana-Missoula                | MT    |
| 16                          | University of Idaho                               | ID    |
| 17                          | University of Nevada-Las Vegas                    | NV    |
| 18                          | University of Nevada-Reno                         | NV    |
| 19                          | University of Oregon                              | OR    |
| 20                          | University of Utah                                | UT    |
| 21                          | University of Washington-Seattle Campus           | WA    |
| 22                          | Utah State University                             | UT    |
| 23                          | Washington State University                       | WA    |
| <b>North Central Region</b> |   |       |
| 24                          | Arizona State University-Main Campus              | AZ    |
| 25                          | Ball State University                             | IN    |
| 26                          | Bowling Green State University-Main Campus        | OH    |
| 27                          | Central Michigan University                       | MI    |
| 28                          | Cleveland State University                        | OH    |
| 29                          | Colorado State University                         | CO    |
| 30                          | Illinois State University                         | IL    |
| 31                          | Indiana State University                          | IN    |
| 32                          | Indiana University-Bloomington                    | IN    |
| 33                          | Indiana University-Purdue University-Indianapolis | IN    |
| 34                          | Iowa State University                             | IA    |
| 35                          | Kansas State University                           | KS    |

|    |  |    |
|----|--|----|
| 36 | Kent State University-Main Campus          | OH |
| 37 | Miami University-Oxford                    | OH |
| 38 | Michigan State University                  | MI |
| 39 | New Mexico State University-Main Campus    | NM |
| 40 | North Dakota State University-Main Campus  | ND |
| 41 | Northern Arizona University                | AZ |
| 42 | Northern Illinois University               | IL |
| 43 | Oakland University                         | MI |
| 44 | Ohio State University-Main Campus          | OH |
| 45 | Ohio University-Main Campus                | OH |
| 46 | Oklahoma State University-Main Campus      | OK |
| 47 | Purdue University-Main Campus              | IN |
| 48 | South Dakota State University              | SD |
| 49 | Southern Illinois University-Carbondale    | IL |
| 50 | University of Akron-Main Campus            | OH |
| 51 | University of Arizona                      | AZ |
| 52 | University of Arkansas at Little Rock      | AR |
| 53 | University of Arkansas-Main Campus         | AR |
| 54 | University of Cincinnati-Main Campus       | OH |
| 55 | University of Colorado at Boulder          | CO |
| 56 | University of Colorado at Denver           | CO |
| 57 | University of Illinois at Chicago          | IL |
| 58 | University of Illinois at Urbana-Champaign | IL |
| 59 | University of Iowa                         | IA |
| 60 | University of Kansas-Main Campus           | KS |
| 61 | University of Michigan-Ann Arbor           | MI |
| 62 | University of Minnesota-Twin Cities        | MN |
| 63 | University of Missouri-Columbia            | MO |
| 64 | University of Missouri-Kansas City         | MO |
| 65 | University of Missouri-St Louis            | MO |
| 66 | University of Nebraska-Lincoln             | NE |
| 67 | University of New Mexico-Main Campus       | NM |
| 68 | University of North Dakota-Main Campus     | ND |
| 69 | University of Northern Colorado            | CO |
| 70 | University of Oklahoma-Norman Campus       | OK |
| 71 | University of Toledo                       | OH |
| 72 | University of Wisconsin-Madison            | WI |
| 73 | University of Wisconsin-Milwaukee          | WI |
| 74 | University of Wyoming                      | WY |
| 75 | Wayne State University                     | MI |
| 76 | Western Michigan University                | MI |
| 77 | Wichita State University                   | KS |
| 78 | Wright State University-Main Campus        | OH |
| 79 | West Virginia University                   | WV |



**Southern Region**

|     |   |    |
|-----|---|----|
| 80  | Auburn University-Main Campus               | AL |
| 81  | Clemson University                          | SC |
| 82  | East Carolina University                    | NC |
| 83  | East Tennessee State University             | TN |
| 84  | Florida Atlantic University-Boca Raton      | FL |
| 85  | Florida International University            | FL |
| 86  | Florida State University                    | FL |
| 87  | George Mason University                     | VA |
| 88  | Georgia Institute of Technology-Main Campus | GA |
| 89  | Georgia State University                    | GA |
| 90  | Louisiana State University                  | LA |
| 91  | Louisiana Tech University                   | LA |
| 92  | Middle Tennessee State University           | TN |
| 93  | Mississippi State University                | MS |
| 94  | North Carolina State University at Raleigh  | NC |
| 95  | Old Dominion University                     | VA |
| 96  | Texas A & M University                      | TX |
| 97  | Texas Southern University                   | TX |
| 98  | Texas Tech University                       | TX |
| 99  | The University of Tennessee                 | TN |
| 100 | The University of Texas at Arlington        | TX |
| 101 | The University of Texas at Austin           | TX |
| 102 | The University of Texas at Dallas           | TX |
| 103 | The University of Texas at El Paso          | TX |
| 104 | University of Alabama                       | AL |
| 105 | University of Alabama at Birmingham         | AL |
| 106 | University of Central Florida               | FL |
| 107 | University of Florida                       | FL |
| 108 | University of Georgia                       | GA |
| 109 | University of Houston-University Park       | TX |
| 110 | University of Kentucky                      | KY |
| 111 | University of Louisiana at Lafayette        | LA |
| 112 | University of Louisville                    | KY |
| 113 | University of Memphis                       | TN |
| 114 | University of Mississippi-Main Campus       | MS |
| 115 | University of New Orleans                   | LA |
| 116 | University of North Carolina at Chapel Hill | NC |
| 117 | University of North Carolina at Greensboro  | NC |
| 118 | University of North Texas                   | TX |
| 119 | University of South Alabama                 | AL |
| 120 | University of South Carolina at Columbia    | SC |
| 121 | University of South Florida                 | FL |
| 122 | University of Southern Mississippi          | MS |
| 123 | University of Virginia-Main Campus          | VA |

|     |                                  |    |
|-----|----------------------------------|----|
| 124 | Virginia Commonwealth University | VA |
| 125 | Virginia Polytechnic Institute   | VA |

**Middle States Region**

|     |  |    |
|-----|--|----|
| 126 | Indiana University of Pennsylvania-Main Campus | PA |
| 127 | Pennsylvania State University-Main Campus      | PA |
| 128 | Rutgers University-New Brunswick               | NJ |
| 129 | Rutgers University-Newark                      | NJ |
| 130 | SUNY at Albany                                 | NY |
| 131 | SUNY at Binghamton                             | NY |
| 132 | SUNY at Buffalo                                | NY |
| 133 | SUNY at Stony Brook                            | NY |
| 134 | Temple University                              | PA |
| 135 | University of Delaware                         | DE |
| 136 | University of Maryland-Baltimore County        | MD |
| 137 | University of Maryland-College Park            | MD |
| 138 | University of Pittsburgh-Main Campus           | PA |

**New England Region**

|     |   |    |
|-----|---|----|
| 139 | University of Connecticut               | CT |
| 140 | University of Maine                     | ME |
| 141 | University of Massachusetts-Amherst     | MA |
| 142 | University of Massachusetts-Boston      | MA |
| 143 | University of Massachusetts-Lowell      | MA |
| 144 | University of New Hampshire-Main Campus | NH |
| 145 | University of Rhode Island              | RI |
| 146 | University of Vermont                   | VT |

## **Appendix E**

### Curriculum Vitae of Expert Panel

## Curriculum Vitae of Expert Panel

### Dr. Kim S. Cameron

#### Academic Positions and Recognitions:

Professor of Management and Organizations, University of Michigan  
Business School

Professor of Higher Education, University of Michigan School of  
Education

Former Dean: Weatherhead School of Management, Case Western  
Reserve University

Former Associate Dean: Marriott School of Management, Brigham Young  
University

Elected Fellow, Academy of Management

Member, National Research Council

Fulbright Distinguished Scholar, Brazil

#### Area of Discipline/Professional Expertise:

Organizational effectiveness and positive organizational scholarship

Organizational change and transformational leadership

Diagnosing and changing organizational culture,

Management skills, organizational quality culture, and downsizing

#### Editorial Boards:

Academy of Management Learning and Education Journal

Journal of Applied Behavioral Sciences

Journal of Leadership and Organizational Studies

Journal of Management Education

#### Education:

Ph.D, Yale University, 1978

M.A., Yale University, 1976

M.S., Brigham Young University, 1971

B.S., Brigham Young University, 1970

Complete resume available online at

<http://www.bus.umich.edu/FacultyBios/CV/cameronk.pdf>

**Dr. Gerrit W. Gong**

## Academic and Professional Positions and Recognitions:

Assistant to the President, Brigham Young University

Professor of Political Science and International Relations, Brigham Young University

Professor/Instructor of International Studies, Oxford University, Johns Hopkins University, and Georgetown University

U.S. Department of Education, National Advisory Council for Institutional Quality and Integrity

U.S. State Department, China Chair and Asia Director at the Center for Strategic and International Studies

Assistant to two U.S. Ambassadors, Beijing, China

Personal advisor to President George H. Bush and Chief Justice William H. Rehnquist on their respective visits to China

## Area of Discipline/Professional Expertise:

International relations, U.S./China relations

Higher education administration

University assessment

## Education:

D.Phil, Oxford University, 1980

M.Phil, Oxford University, 1978 (Rhodes Scholar)

B.A., Brigham Young University, 1976 (Presidential Scholar)

**Dr. Steven J. Hite**

## Academic Positions and Recognitions:

Professor, Educational Research Theory and Methodology, Brigham  
Young University

Fulbright Distinguished Chair, National College of Ireland

Council of Consultant Fellows

Associate, Office of Planning and Assessment, Brigham Young University

GIS Specialist and EMIS Team Member, United Nations Educational,  
Scientific, and Cultural Organization/International Institute for  
Educational Planning

## Area of Discipline/Professional Expertise:

Research; design, methodology and evaluation

Extensive research in the United States and several international countries  
focusing on improving educational quality, efficiency, and  
effectiveness for disadvantaged individuals, families and  
communities in developing countries.

## Education:

Ed.D., Harvard University, 1985

M.S., Brigham Young University, 1982

B.S., Brigham Young University, 1980

Complete resume available online at

<https://facultyprofile.byu.edu/PublicFacultyProfile/employee.cfm?emp=sjh6>

**Dr. Nataliya V. Ivankova**

## Academic Positions and Recognitions:

Assistant Professor, Department of Human Studies, School of Education,  
University of Alabama at Birmingham

Instructor, Educational Administration, University of Nebraska-Lincoln

Dean of Admissions, Izmail State Pedagogical Institute, Ukraine

Associate Professor, Department of Foreign Languages, Izmail State  
Pedagogical Institute, Ukraine

Phi Delta Kappa International, Outstanding Dissertation Award 2004

Eclipse Award “Great Women of the 21<sup>st</sup> Century,” American  
Biographical Institute

E. Muskie/Freedom Support Act Fellowship, U.S. Information  
Agency/Open Society Institute

## Area of Discipline/Professional Expertise:

Research Design and Methodology – Qualitative Research; Mixed-  
Methods Research; Survey Research; Qualitative Research  
Software

Leadership in Higher Education

Distance Education and Online Teaching

## Editorial Boards:

American Journal of Health Behavior

Field Methods

International Journal of Emerging Technologies in Learning

International Journal of Mixed Methods Research

International Journal of Qualitative Methods

John Wiley & Sons Publishing

McGraw-Hill Publishing Company

SAGE Publications

The Online Journal of Distance Learning Administration

## Education:

Ph.D., University of Nebraska-Lincoln, 2004 (Presidential Fellow)

Ph.D., Odessa State University, 1988

M.A., University of Nebraska-Lincoln, 2002

M.S., University of Nebraska-Omaha, 1998

**Appendix F**

Interview Protocol



## Seasons of Presidential Leadership: A Mixed-Methods Study Contributing to a Theory on Institutional Cycles in Higher Education

Name: \_\_\_\_\_ Date: \_\_\_\_\_  
 Organization: \_\_\_\_\_ Location: \_\_\_\_\_  
 Title: \_\_\_\_\_ Interviewer: \_\_\_\_\_

I want to thank you for taking time to talk with me today. My name is Roger Christensen and I am a doctoral student at the University of Nebraska. I am doing a research study looking at trends in institutional cycles by examining changes in enrollment patterns, allocation of financial resources, and the evaluating the general institutional environment, including challenges faced, over a period of time at multiple institutions. «University Name» was one of fifty-nine institutions selected for this research based on a random sample because of its size, geographic location, and Carnegie classification. Results of the study will be summarized and reported in a dissertation in the aggregate without identification of institutions individually or of any specific individuals involved in providing information. Findings from this study may also be summarized and published in academic journals or presented at professional conferences in conjunction with the overall data.

I have been able to obtain most of the data I need for this research from archival information your institution has provided to IPEDS, its predecessor organizations, or other general data repositories. However, after reviewing the data available, I am missing certain data from «University Name» to complete the data sets needed for the study. You are invited to provide additional data about your institution based on your role at «University Name». Your participation in this study will be valuable in helping to evaluate characteristics of both context and organizational structure of higher educational institutions. Your specific responses will be kept confidential; your participation in this study is completely voluntary.

Let me describe the information I still need from «University Name».

|   |  |
|---|--|
| <p>1. Student enrollment and demographics.</p> <ul style="list-style-type: none"> <li>• Years needs           <ul style="list-style-type: none"> <li>◦ 19XX</li> <li>◦ 19XY</li> <li>◦ 19XZ</li> </ul> </li> <li>• Data required           <ul style="list-style-type: none"> <li>◦ total enrollment</li> <li>◦ number of males students</li> <li>◦ number of female students</li> <li>◦ number of minority students</li> </ul> </li> </ul> |  |
|---|--|

|  |  |
|--|--|
| <p>2. Student enrollment by academic area.</p> <ul style="list-style-type: none"> <li>• Years needs <ul style="list-style-type: none"> <li>◦ 19XX</li> <li>◦ 19XY</li> <li>◦ 19XZ</li> </ul> </li> <li>• Data required – students enrolled in: <ul style="list-style-type: none"> <li>◦ humanities</li> <li>◦ social sciences</li> <li>◦ physical sciences</li> <li>◦ biological sciences</li> <li>◦ engineering</li> <li>◦ education</li> <li>◦ business</li> </ul> </li> </ul>   |  |
| <p>3. Budget allocated to mission-related (teaching, research, service) priorities.</p> <ul style="list-style-type: none"> <li>• Years needs <ul style="list-style-type: none"> <li>◦ 19XX</li> <li>◦ 19XY</li> <li>◦ 19XZ</li> </ul> </li> <li>• Percentage of budget allocated to: <ul style="list-style-type: none"> <li>◦ teaching</li> <li>◦ research</li> <li>◦ service</li> </ul> </li> </ul>   |  |
| <p>4. Challenges faced</p> <ul style="list-style-type: none"> <li>• Student activism <ul style="list-style-type: none"> <li>◦ period of time</li> <li>◦ nature of issues causing activism</li> <li>◦ campus disruption resulting from activism</li> <li>◦ actions taken to restore campus environment</li> </ul> </li> <li>• Budget constraints <ul style="list-style-type: none"> <li>◦ period of time</li> <li>◦ causes of budgets challenges</li> <li>◦ actions taken to address budget concerns</li> </ul> </li> </ul> |  |

If I were to send a questionnaire explaining the specific data and periods needed, would you be willing/able to provide that additional data for «University Name»? Yes\_\_ No\_\_

If Yes: I will mail to your address tomorrow the following information:

- A. Cover letter
- B. Copy of the actual request
- C. An informed consent letter
- D. A self-addressed stamped return envelope to return of the request and the informed consent letter

May I confirm your name and mailing address?

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **Appendix G**

### **Informed Consent Letter**



## INFORMED CONSENT FORM

**Identification of Project:** Seasons of Presidential Leadership: A Mixed-Methods Study Contributing to a Theory on Institutional Cycles in Higher Education

**Purpose of the Research:** The purpose of this mixed-methods study will be to develop a model which will extend the theory of institutional cycles by defining life cycles for colleges and universities. Data from fifty-nine (59) public, doctoral-granting universities with enrollments exceeding 10,000 will be analyzed over a forty year time period, from 1965 through 2005. «University Name» was selected for this research based on a random sample because of its size, geographic location, and Carnegie classification. You are invited to participate in this research by providing additional data about your institution based on your role at «University Name». The data will be compared with other similar institutions.

**Procedures:** Completing the enclosed questionnaire will require approximately twenty minutes of your time to complete based on availability of institutional data. This data will be added to other data compiled from available sources as provided by «University Name» to IPEDS or other publicly accessible data repositories.

**Risks and/or Discomforts:** There are no known risks or discomforts to any participant associated with this study.

**Benefits:** Defining institutional life cycles is an important element of understanding the context of higher education leadership. This study is intended to identify cycles in the history of institutions as well as characteristics that can be identified and anticipated for future cycles. Such a study is intended to help governing boards in identifying the kind of leader needed to guide complex and diverse institutions of higher education within a given context.

**Confidentiality:** Electronic databases will be created for each of the selected institutions. Electronic files will be maintained on the researcher's computers, which are password protected, accessible only by the researcher or an authorized administrative assistant. A separate file will also be created for institutional data such as written histories, financial statements, other records, survey data or individual responses that may be gathered for this study and kept in the office of the researcher in a locked file cabinet, again accessible only by the researcher. Information you provide will be kept confidential and only be attributed to you if you provide written approval.

Any data that needs to be transcribed will be done by the researcher personally or by an authorized administrative assistant. If done by the administrative assistant, a confidentiality agreement will be required.

Results of the study will be summarized and reported in a dissertation in the aggregate without identification of the subject institutions individually or of any specific individuals involved in providing information. Findings from this study may also be summarized and published in academic journals or presented at professional conferences in conjunction with the overall data.

Copies of all surveys, data, records, reports, and notes will be retained for one year following approval of this study by the University of Nebraska-Lincoln Institutional Review Board. They will then be erased or destroyed.

**Compensation:** Participants will not receive any direct compensation for participating in this study.

**Opportunity to Ask Questions:** If you have any questions concerning this research or would like to have questions answered before agreeing to participate, please do not hesitate to contact me at any time. My toll-free number is 1-800-453-3860, extension 2-2163. If you have questions concerning your rights as a research subject that have not been answered by the investigator or to report any concerns about the study, you may contact the University of Nebraska-Lincoln Institutional Review Board by telephone at (402) 472-6965.

**Freedom to Withdraw:** You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with the investigators, the University of Nebraska-Lincoln, or your own institution. Your decision will not result in any loss of benefits to which you are otherwise entitled.

**Consent, Right to Receive a Copy:** You are voluntarily making a decision whether or not to participate in this research study. Your signature certifies that you have decided to participate having read and understood the information presented. You will be given a copy of this consent form to keep.

**Signature of Participant:**

---

*Signature of Research Participant*

---

*Date*

IRB#2006-03-310 EP  
Date Approved: 04/06/06  
Valid Until: 04/05/07

279

*Name and Phone number of investigator(s):*

Roger G. Christensen  
Principal Investigator

Office: 1-800-453-3860  
extension 2-2163

Dr. Sheldon L. Stick  
Secondary Investigator

Office: (402) 472-0973

## **Appendix H**

Data Questionnaire Transmittal Letter





July 27, 2007

Dr./Mr./Ms. «Full Name»  
«AddressBlock»

Dear Dr./Mr./Ms. «Last Name»:

As part of my dissertation research, I am studying institutional cycles by defining the context and structure of selected universities in the United States between 1965 and 2005. Defining institutional life cycles is an important element of understanding the context of higher education leadership. This study is intended to identify cycles in the history of institutions as well as characteristics that can be identified and anticipated for future cycles. Such a study is intended to help governing boards in identifying the kind of leader needed to guide complex and diverse institutions of higher education within a given context.

I have included «University Name» for this research because of its size, geographic location, and Carnegie classification. The data will be compared with other similar institutions. Your participation in this study will be valuable in helping to evaluate characteristics of both context and organizational structure of higher educational institutions.

Your specific responses to this survey will be kept confidential; findings will be summarized and reported in conjunction with overall data gathered for this study. Your participation in this study is completely voluntary. However, I do need to monitor which universities have chosen to participate. If for some reason you choose not to respond, please return the blank questionnaire in the enclosed self-addressed, stamped envelop.

If you should have any questions or comments about this study, I would be happy to visit with you or your designated representative. My toll-free number is 1-800-453-3860, extension 2-2163, or you could write to me at the address noted above on the letterhead.

Thank you very much for helping with this important study.

Sincerely,

Roger G. Christensen  
Principle Investigator  
University of Nebraska - Lincoln

## **Appendix I**

Follow-up Postcard (email)

Postcard (email)

July 27, 2007

Approximately one week ago you received a questionnaire about the context and structure of institutional cycles. Public institutions in the United States with enrollment exceeding 10,000 are limited in number; your response is very important to this study.

If you have already completed and returned the questionnaire, please accept my sincere thanks for your time to contribute to this research. If you have not completed the survey, please do so today. Your participation is vitally important in understanding how context and organizational structure contribute identifying institutional cycles during different seasons of an institution's history.

If you did not receive the questionnaire, or if it has been misplaced, please call toll-free at 1-800-453-3860, extension 2-2163, and I will send you another one in the mail today.

Roger G. Christensen  
Principle Investigator  
University of Nebraska - Lincoln

**Appendix J**

Second Transmittal Cover Letter



July 27, 2007

Dr./Mr./Ms. «Full Name»  
«AddressBlock»

Dear Dr./Mr./Ms. «Last Name»:

About three weeks ago I sent a questionnaire regarding the context and structure of institutional cycles at selected universities in the United States between 1965 and 2005. I have not received a response yet from «University Name».

Your participation in this study is an important component in the overall results in helping to evaluate characteristics of cycles in the history of institutions as well as characteristics that can be identified and anticipated for future cycles. Others who have responded from similar institutions have shared valuable insights.

I am writing again because the information from «University Name» is such an important part of the study. Since public institutions in the United States with enrollment exceeding 10,000 are limited, your timely response is crucial.

The survey procedures will assure your specific responses will be kept confidential; findings will be summarized and reported in conjunction with overall data gathered for this study. If you are interested in the results of the final study, I will be happy to make a copy available to you.

I hope you will take the time to fill out and return the questionnaire soon; however, if for some reason you now prefer not to respond, please return the blank questionnaire in the enclosed self-addressed, stamped envelop.

Sincerely,

Roger G. Christensen  
Principle Investigator  
University of Nebraska, Lincoln

P. S. If you have any questions, please do not hesitate to contact me. My toll-free number is 1-800-453-3860, extension 2-2163.

**Appendix K**

Confidentiality Letter



**Identification of Project:** Seasons of Presidential Leadership: A Mixed-Methods Study Contributing to a Theory on Institutional Cycles in Higher Education

**Purpose of the Research:** The purpose of this mixed-methods study will be to develop a model which will extend the theory of institutional cycles by defining life cycles for colleges and universities. Data from fifty-nine (59) public, doctoral-granting universities with enrollments exceeding 10,000 will be analyzed over a forty year time period, from 1965 through 2005.

**Confidentiality:** You understand that the purpose of the data being compiled is for a specific research project; all records, data, transcriptions or other materials associated with this research are inherently to be kept confidential and not shared with any individual(s) or organization(s) other than the researcher. Any data you may have access to will be conveyed to the researcher in a timely fashion. You also understand that copies of all surveys, data, records, reports, and notes are to be retained for one year following approval of this study by the University of Nebraska-Lincoln Institutional Review Board. At that time, all records will be erased or destroyed.

**Consent and Acknowledgement:** Your signature certifies that you understand the information presented and agree to participate in a limited fashion in helping compile data as requested. You will be given a copy of this consent form to keep.

**Signature of Transcriber:**

\_\_\_\_\_  
*Signature of Transcriber*

\_\_\_\_\_  
*Date*

**Name and Phone number of investigator(s):**

Roger G. Christensen  
Principal Investigator

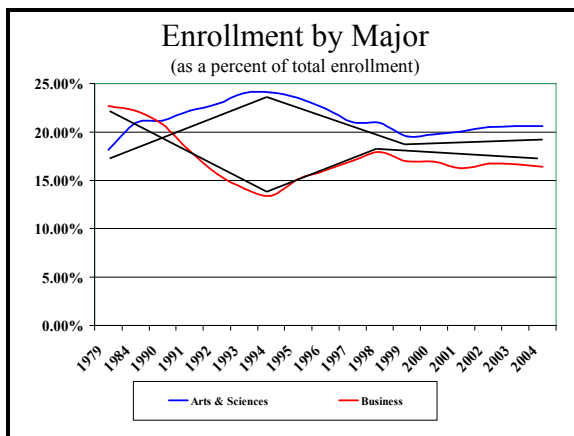
Office: 1-800-453-3860  
extension 2-2163



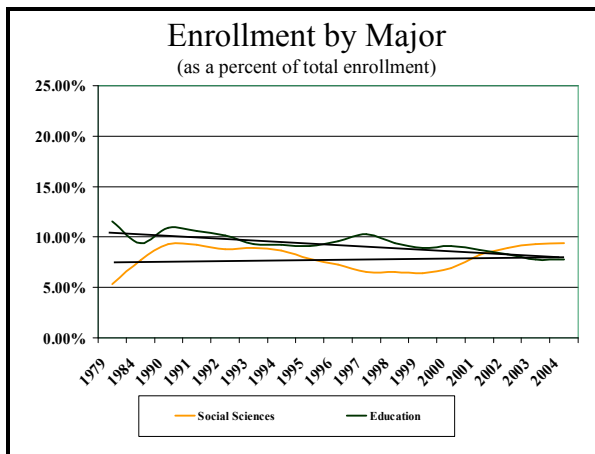
**Appendix L**

Pilot Study - Enrollment by Area of Concentration

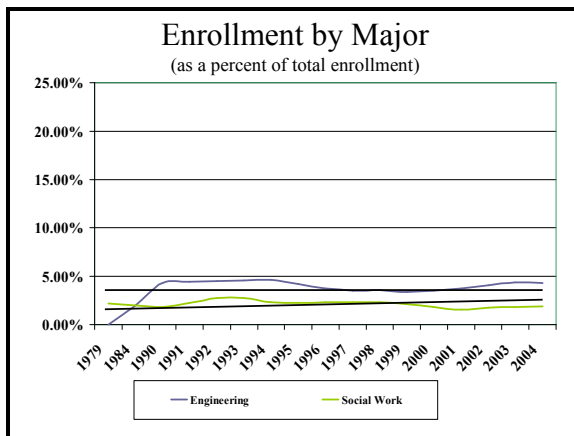
Pilot Study - Enrollment by Major - Arts & Sciences and Business



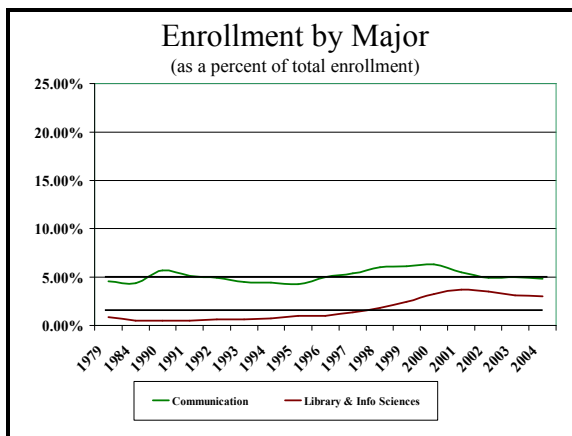
Pilot Study - Enrollment by Major - Social Sciences and Education



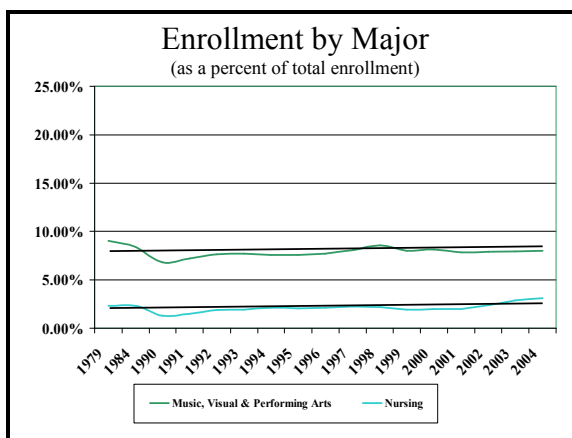
Pilot Study - Enrollment by Major - Engineering and Social Work



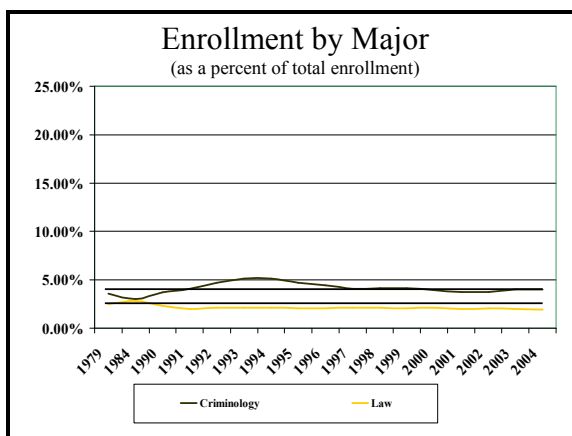
Pilot Study - Enrollment by Major - Communication and Library & Information Sciences



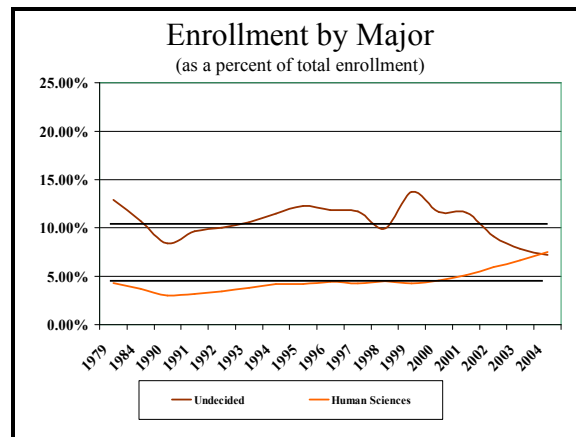
Pilot Study - Enrollment by Major - Music, Visual & Performing Arts; and Nursing



Pilot Study - Enrollment by Major - Criminology and Law



## Pilot Study - Enrollment by Major - Human Sciences and Undecided



**Appendix M**

Consumer Price Index, 1965-2005

**Consumer Price Index, 1965-2005**  
 (Adjusted to Reflect 1965 as Base Year)  
**1965 = 100**

| Year | Annual Percent Change<br>(Rate of Inflation) | Annual Average | Conversion Factor |
|------|--|----------------|-------------------|
|      |  |                |                   |
| 1965 | ---  | 100.00         | 1.0000            |
| 1966 | 2.9  | 102.90         | 0.9718            |
| 1967 | 3.1  | 106.09         | 0.9426            |
| 1968 | 4.2  | 110.55         | 0.9046            |
| 1969 | 5.5  | 116.63         | 0.8574            |
| 1970 | 5.7  | 123.27         | 0.8112            |
| 1971 | 4.4  | 128.70         | 0.7770            |
| 1972 | 3.2  | 132.82         | 0.7529            |
| 1973 | 6.2  | 141.05         | 0.7090            |
| 1974 | 11.0   | 156.57         | 0.6387            |
| 1975 | 9.1  | 170.81         | 0.5854            |
| 1976 | 5.8  | 180.72         | 0.5533            |
| 1977 | 6.5  | 192.47         | 0.5196            |
| 1978 | 7.6  | 207.09         | 0.4829            |
| 1979 | 11.3   | 230.50         | 0.4338            |
| 1980 | 13.5   | 261.61         | 0.3822            |
| 1981 | 10.3   | 288.56         | 0.3465            |
| 1982 | 6.2  | 306.45         | 0.3263            |
| 1983 | 3.2  | 316.26         | 0.3162            |
| 1984 | 4.3  | 329.86         | 0.3032            |
| 1985 | 3.6  | 341.73         | 0.2926            |
| 1986 | 1.9  | 348.22         | 0.2872            |
| 1987 | 3.6  | 360.76         | 0.2772            |
| 1988 | 4.1  | 375.55         | 0.2663            |
| 1989 | 4.8  | 393.58         | 0.2541            |
| 1990 | 5.4  | 414.83         | 0.2411            |

|      |     |        |        |
|------|-----|--------|--------|
| 1991 | 4.2 | 432.25 | 0.2313 |
| 1992 | 3.0 | 445.22 | 0.2246 |
| 1993 | 3.0 | 458.58 | 0.2181 |
| 1994 | 2.6 | 470.50 | 0.2125 |
| 1995 | 2.8 | 483.67 | 0.2068 |
| 1996 | 2.9 | 497.70 | 0.2009 |
| 1997 | 2.3 | 509.15 | 0.1964 |
| 1998 | 1.6 | 517.29 | 0.1933 |
| 1999 | 2.2 | 528.68 | 0.1892 |
| 2000 | 3.4 | 546.65 | 0.1829 |
| 2001 | 2.8 | 561.96 | 0.1779 |
| 2002 | 1.6 | 570.95 | 0.1751 |
| 2003 | 2.3 | 584.08 | 0.1712 |
| 2004 | 2.7 | 599.85 | 0.1667 |
| 2005 | 3.4 | 620.24 | 0.1612 |

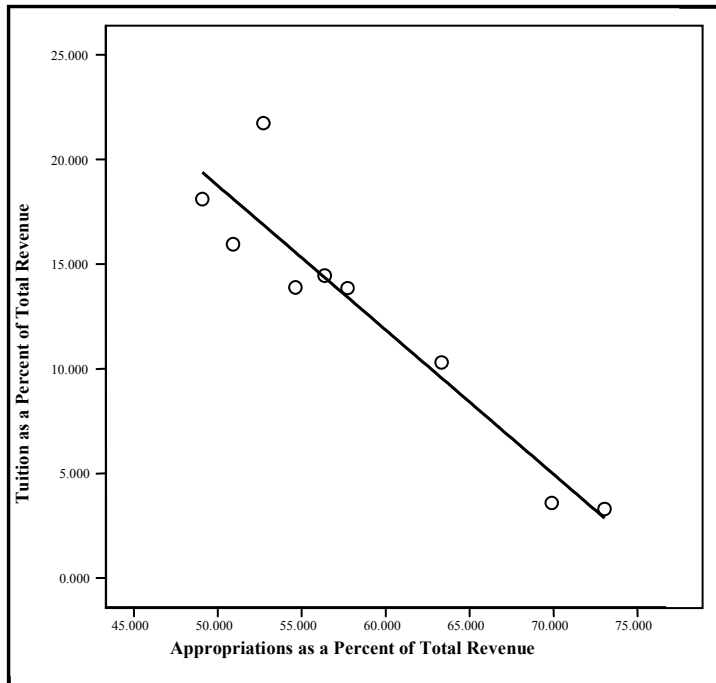
Adapted from Federal Reserve Bank of Minneapolis, Consumer Price Index and Inflation Rates. Retrieved on November 10, 2006 from <http://www.minneapolisfed.org/Research/data/us/calc/hist1913.cfm>

## Appendix N

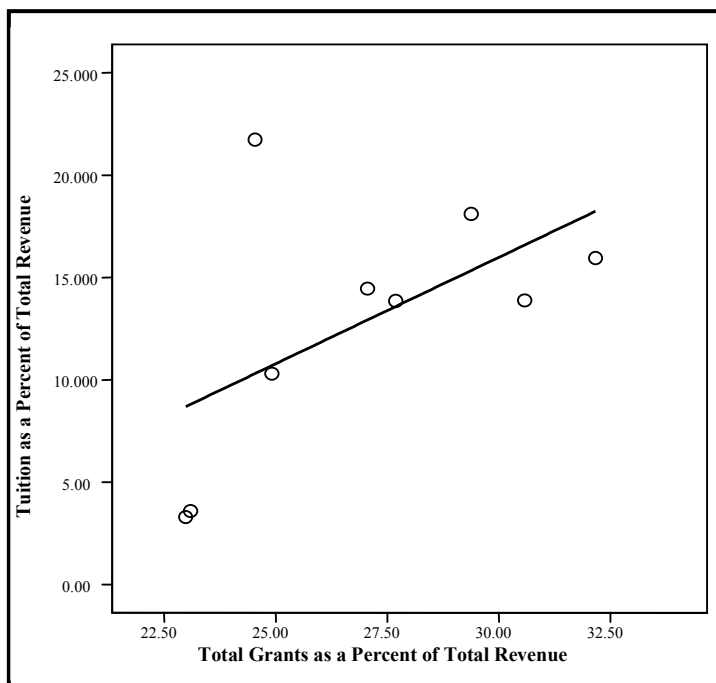
Pilot Study - Simple Scattergrams of Correlations Identified as Significant



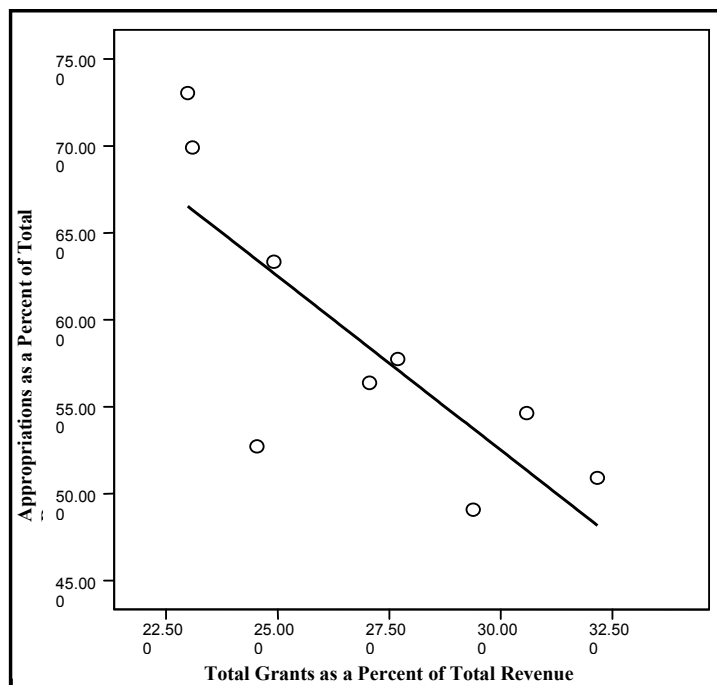
Pilot Study - Scattergram - Correlation between Tuition/Appropriations



Pilot Study - Scattergram - Correlation between Tuition/Grants



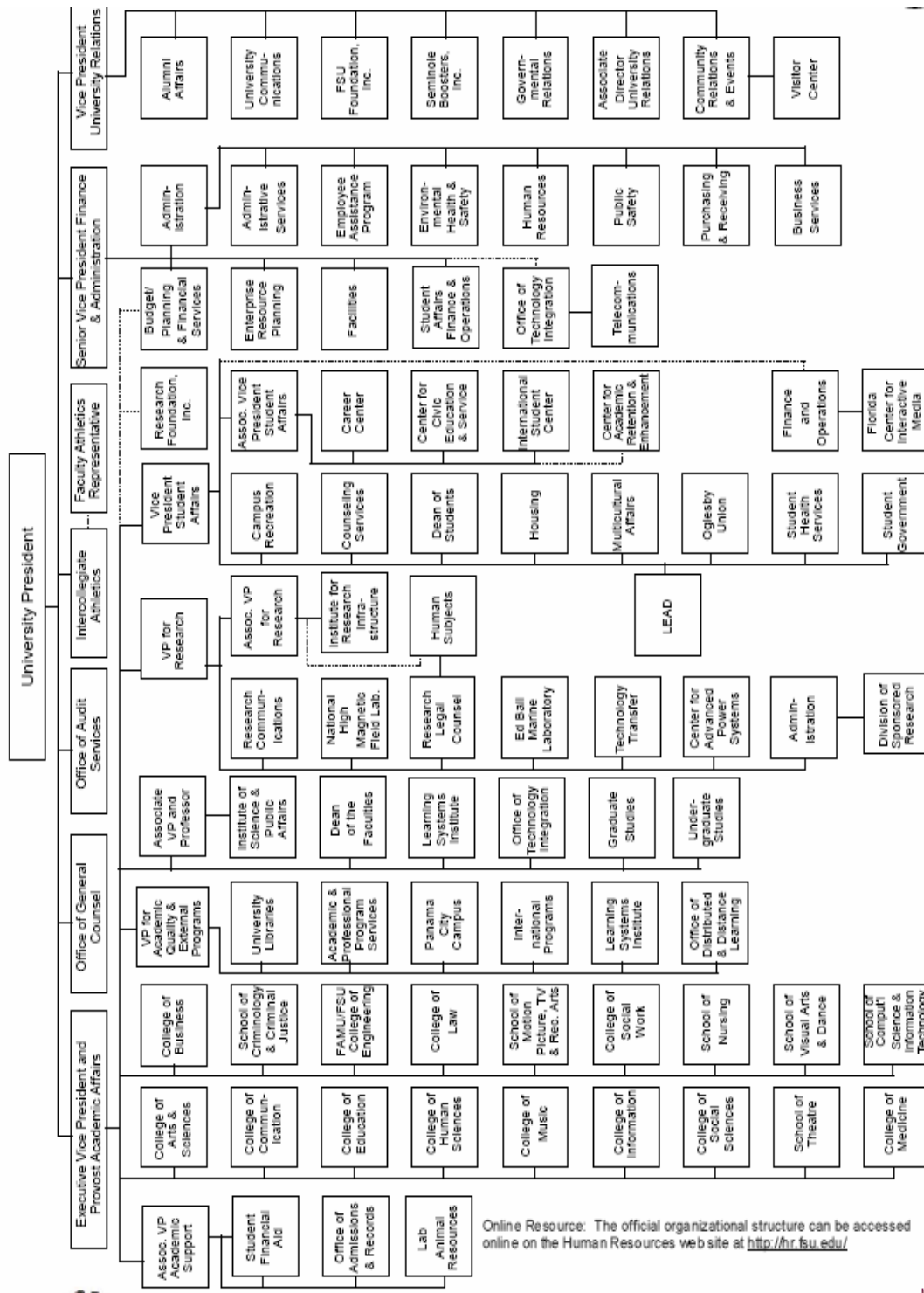
## Pilot Study - Scattergram - Correlation between Appropriations/Grants



## **Appendix O**

### Organizational Structure of Pilot Institution

# Organizational Structure of Pilot Institution



Online Resource: The official organizational structure can be accessed online on the Human Resources web site at <http://hr.fsu.edu/>

**Appendix P**

Pilot Study - Themes by Code/Category

***Main Theme – Political Environment***

**Student Unrest:**

Vietnam era

In the mid-sixties the campus stood at a dividing point – one foot in the traditional past and one looking toward a new and troubled era  
 Racial tensions and the strife over the war in Vietnam were things of the future  
 1968 marked the dividing line between then and now in American history  
 “Activism” was a word heard with increasing frequency  
 In 1968, students across the country were rebelling against the war  
 Gallop reported that only 2% of college students were involved in campus unrest  
 Use of the Gallop poll to change the public mindset  
*Vietnam, Cambodia, Kent State, moratorium, and demonstration* were words sweeping campus in the spring of 1970  
 [The university] was in the grip of intense student unrest  
 350 students marched on the capitol  
 Demonstrations reached a crescendo  
 The protesters’ real goal was to challenge the administration’s authority  
 Students take over administration building  
 Fifteen hundred students ringed the ROTC building, causing minor conflicts with police  
 Activists on campus were intent on a symbolic closing of the university  
 Felt the possibility of physical violence  
 Incident stands out as the tensest moment during a tense period  
 Situation seemed volatile  
 Students holding bricks behind their backs  
 Grateful students had behaved so well in response to [the president] meeting with them

Other

Although he (the president) disagreed with students who created a months-long "tent city" to protest, he welcomed their demonstrations and commitment to a cause beyond themselves

**Faculty/Human Relations:**

Interdepartmental issues

A collegial atmosphere where intellectual ferment was widespread  
 Exchange of ideas was not limited to one’s own discipline but crossed lines of specialties  
 Almost all the faculty were committed to making [the university] a center for academic productivity and innovation  
 Anthropology students delighted in disrupting dinners hosted by the Department of Hotel and Restaurant Management

### Working with administrators

It was a period of great collegiality and gentility, both among the faculty and the students

Transformation of academic and financial structures spearheaded by three presidents

The administration announced the abolition of all curfews for women students – finally men and women were treated equally (in curfews, at least)

### **Legislative Issues:**

#### Government relations

The legislature, in protest of the protests, voted down a major educational bond issue

Governor came to the university and spent a long time talking to students

Taxpayers supporting the institution would not approve of conducting official university business under prominently displayed symbol of protest (Vietcong flag)

Legislature abolishes the board of regents and creates a state-wide board of education

[The president] worked with the now-defunct board of regents, adapted to the state's new system of governance, and welcomed the university's first modern-day board of trustees

A model federal-state partnership

#### Funding levels

The close of the 1960s witnessed an extraordinary strengthening of the university's stature and resources

The Institute of Molecular Biophysics opened with a \$3 million grant from the US Atomic Energy Commission

A 1968 NSF grant signaled arrival in science training and research

If funding levels weren't raised by June 1973, serious cutbacks were coming – major capital campaign initiated

In 1990, the NSF awarded [the university] a research facility for the study magnetic fields

Another major capital campaign began in 1991

Success in raising research dollars and private funds, raising hopes and expectations for the university

Over the past eight years, research awards surged

At a time when the federal government has steadily decreased support for academic research dollars, [the university's] awards have increased

Between 1994 and the end of fiscal year 2002 external funding for research grew from \$68.1 million to \$147.9 million--a 117.2 percent increase

The school's endowment is approaching the top 100 in the country

## ***Main Theme - Diversity***

### **Enrollment:**

#### Enrollment levels

Total enrollment surpasses 11,000

The number of students increased

Enrollment increased to over 12,000

More than 13,000 students arrived to begin the fall semester

Over 17,000 baby boomers were enrolled during that year

The university has many more students today than in the 1960s

Many women returning to campus, after raising their families, as nontraditional students

#### Race/ethnicity

The president was determined that black students would find the campus hospitable

Administrators had until June to prepare for the racial integration of the university

No one could predict how the black students would be received

It was time to proceed with education for students of all creeds and colors

– the students who arrived were here for an education, not agitation

In September 1965, two hundred students were foreign, a new university record

In 1966, there were no African-Americans on the football team

He helped me understand what it was like to be black in the South in the late 1960s and early 1970s

In 1976, the first black homecoming queen is crowned

In 1977, the first African-American vice president is appointed

During the 1980s, colleges across the United States made unusual progress in the area of diversity, especially as it related to minorities and women

As the decade of the 90s began, [the university] assertively built a foundation for even greater diversity

### **Academic Programs:**

#### Schools and colleges

Institutes of Molecular Biophysics and Space Biosciences created in the 1960s

Programs for special education becomes a department in 1965

In 1966 the College of Law opened with 116 students

Successfully gained accreditation for the College of Business in the national Collegiate Schools of Business

Program in Medical Sciences established

“We had a tremendous School of Music and a wonderful theatre program”

College of Social Sciences founded in 1973

New medical school opened in 2001

International academic programs in multiple locations around the world



**Academic focus**

This period (1960-1970) marked the beginning of several new academic and extra-curricular programs

The very popular study abroad program began in 1966

New-departure courses initiated in Women's Studies, Photojournalism, the Hippie and Society, and Astrology

English professor won the 1975 Pulitzer Prize

Named as one of thirty Centers of Excellence in the country by the National Science Foundation

Professor of chemical physics won the Nobel Prize

Nobel Laureate agreed to become the chief scientist

School of Motion Picture, Television, and Recording Arts founded in 1990

[The university] has built its roster of endowed and eminent professors

The faculty is much more research oriented

***Main Theme – Facilities*****New Construction:****General**

The campus was putting up buildings in every direction

Tremendous growth, almost like an explosion, of campus building

Building continues following a master plan for development over the next decade

The ever-increasing number of students necessitated further campus expansion

The University commenced or completed 126 significant capital projects with a total value of over \$887 million

Both students and faculty can take advantage of an infrastructure that a sixties faculty member could not have imagined

**Academic buildings**

Nine new buildings constructed in the 1960s

New fine arts building opened in 1971

Groundbreaking in 1983 for phase I of a new \$9.1 million building

The new president envisioned his priorities in the form of four buildings that would house major programs

Center for Professional Development moved into its new conference center in 1982

Annex to the business building

School of Engineering

Science Library

Museum of art built in 1987 to house growing art collections

#### Housing facilities

A new apartment-style dorm was built to house graduate students

New home constructed for the president

The learning community was initiated in the fall of 1997 when first-time college students were selected to participate in a unique living-learning community

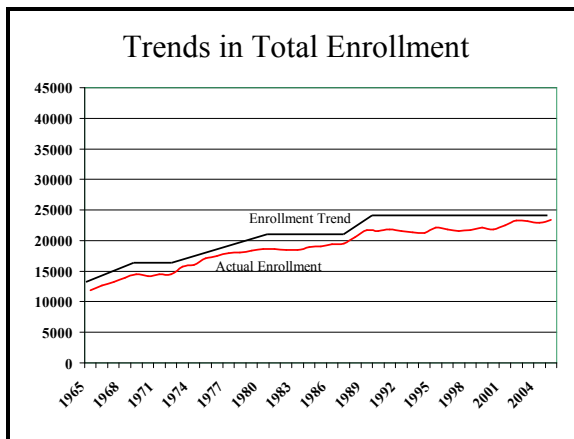
#### **Facilities Maintenance:**

Projects involved new construction and renovation as well as the expansion or rehabilitation of the utility/infrastructure systems that serve the university

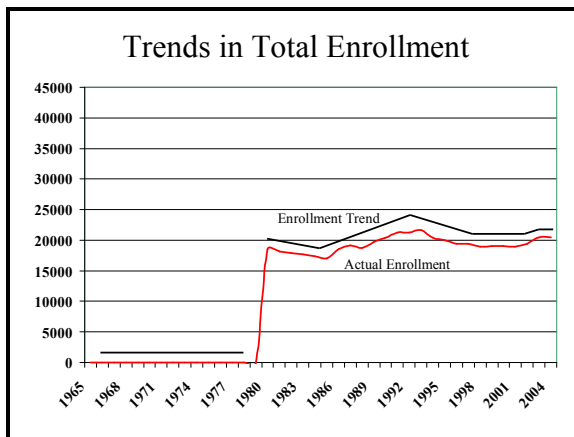
## Appendix Q

### Trends in Total Enrollment for Study Institutions

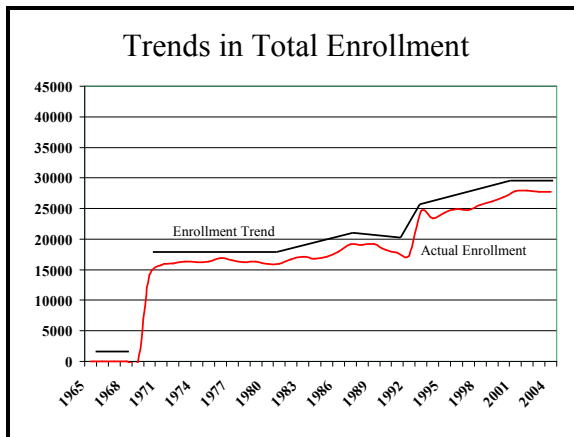
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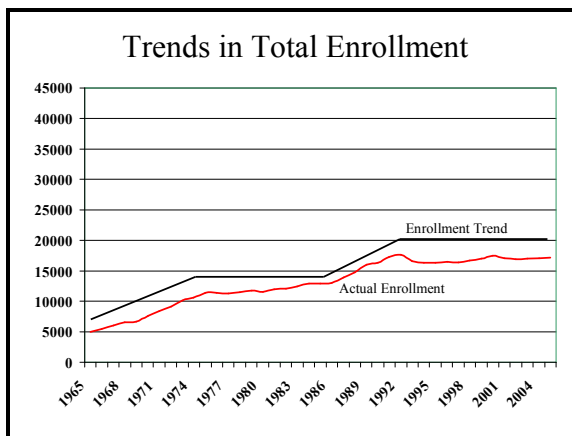
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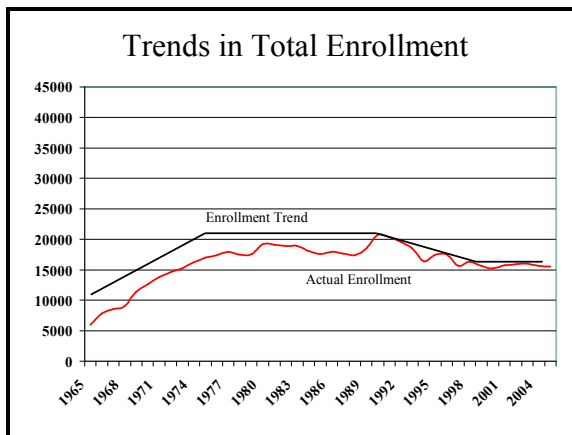
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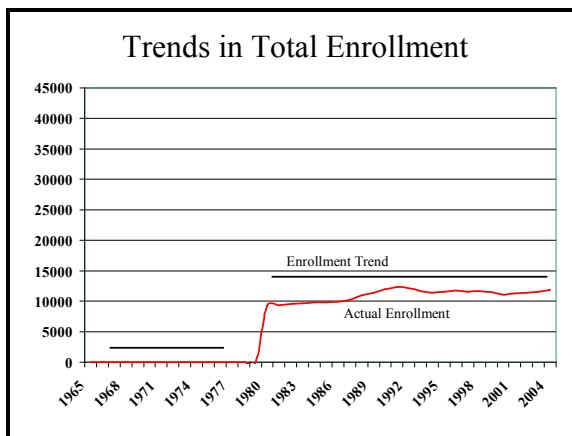
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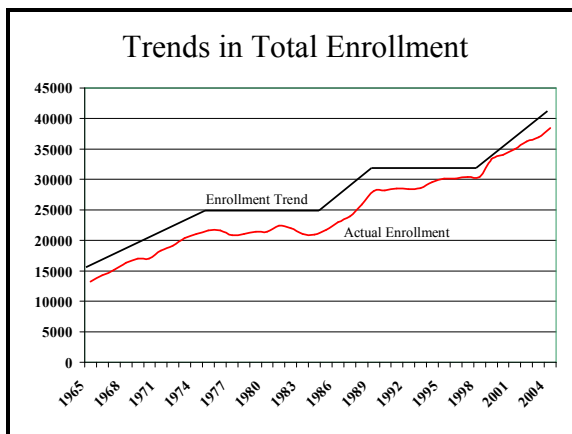
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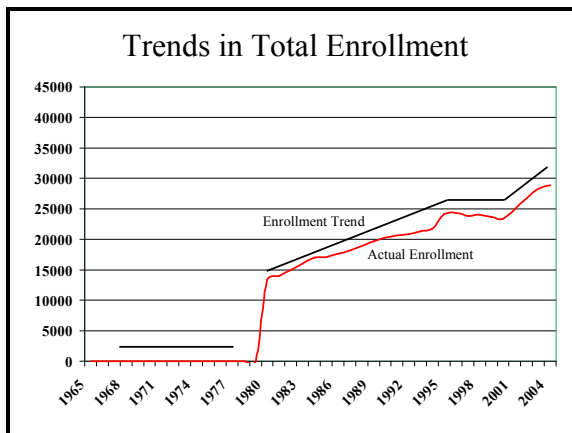
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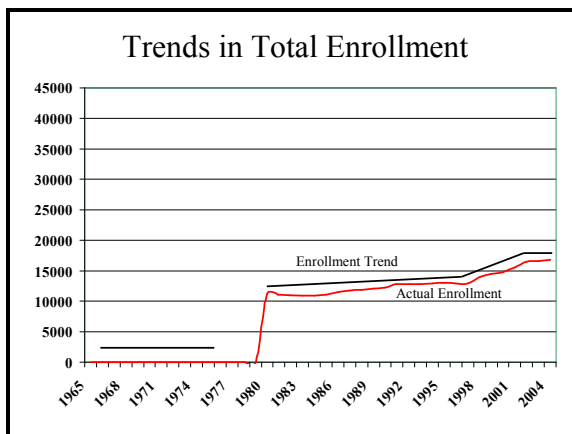
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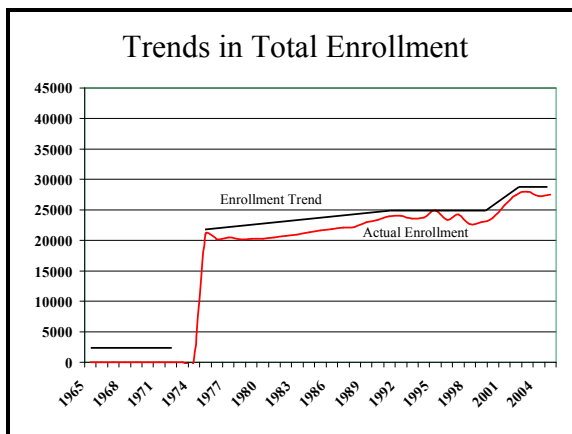
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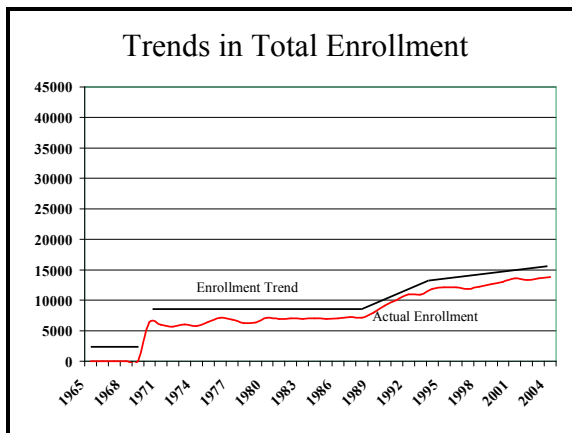
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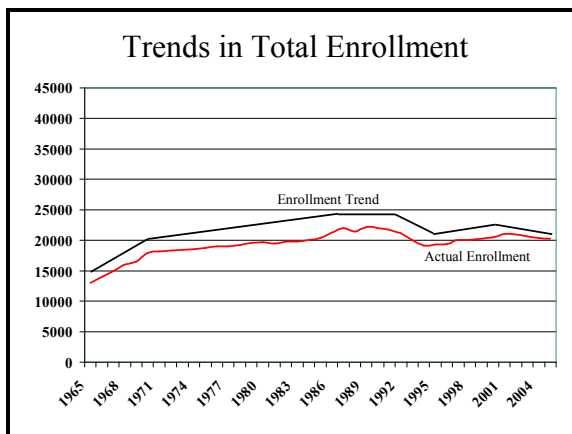
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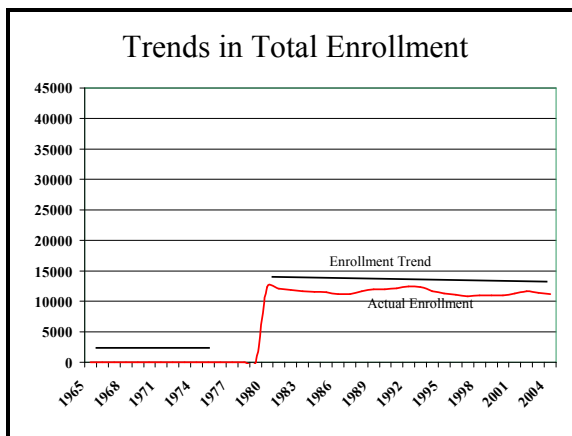
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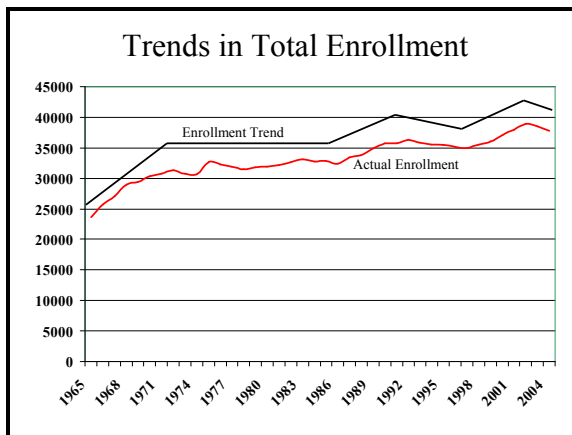
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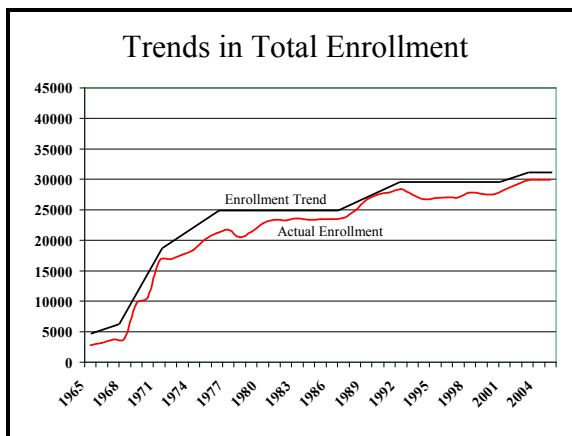
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University # 14

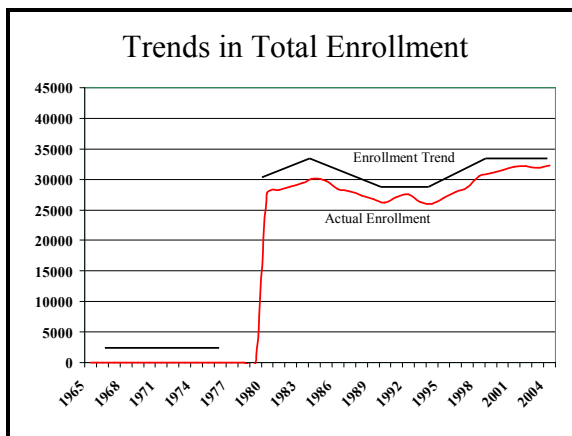


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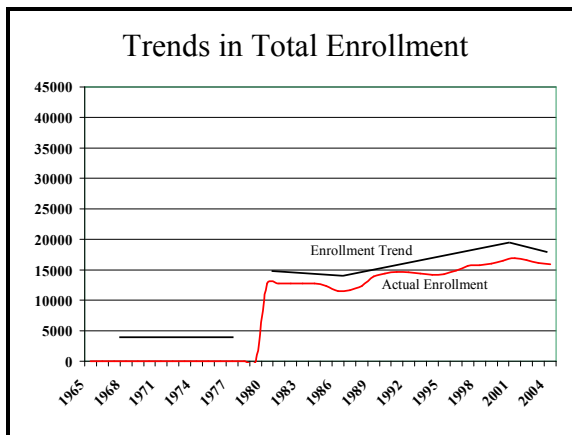




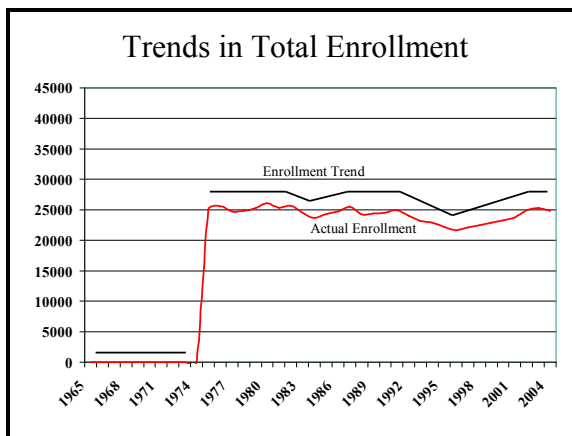
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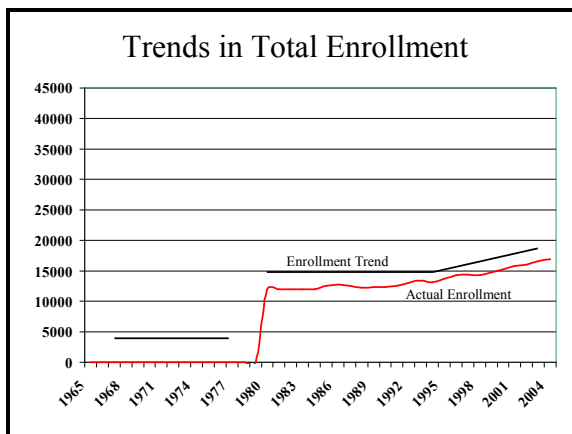
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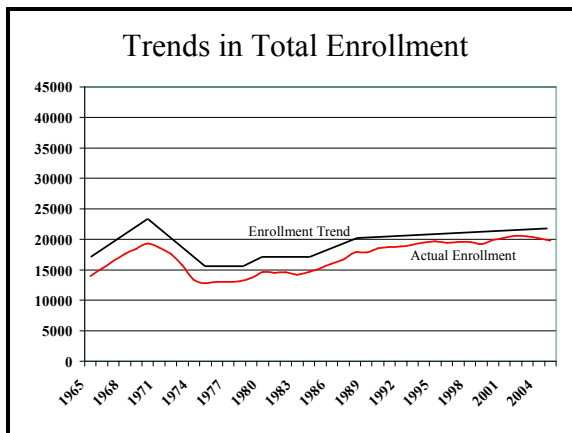
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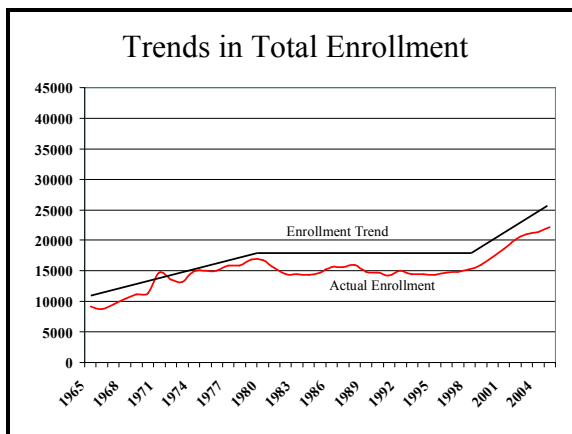
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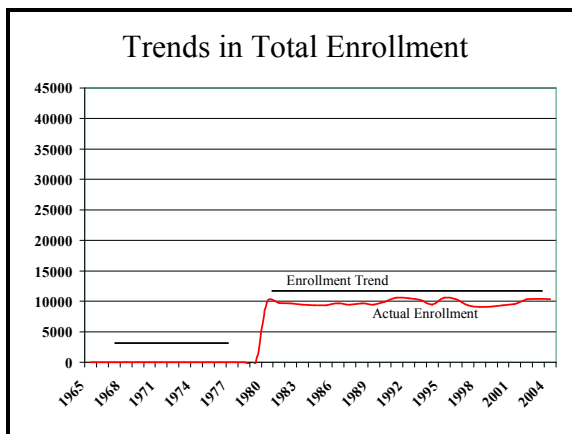
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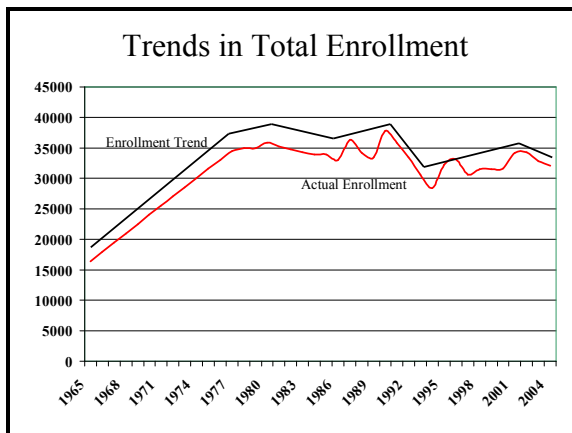
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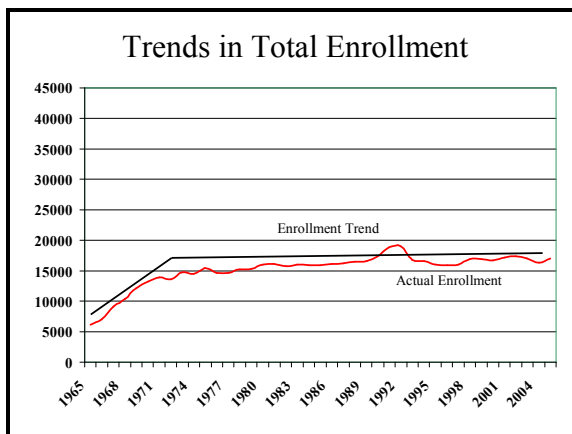
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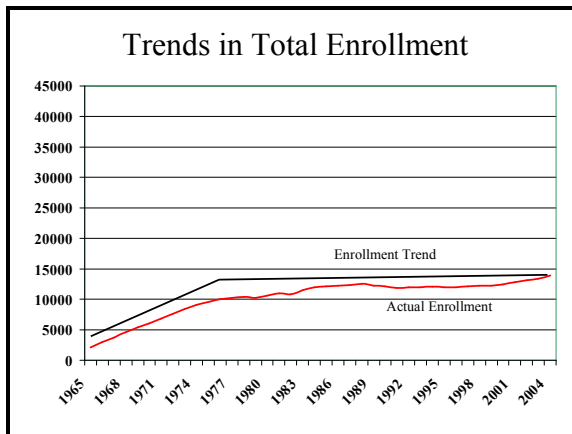
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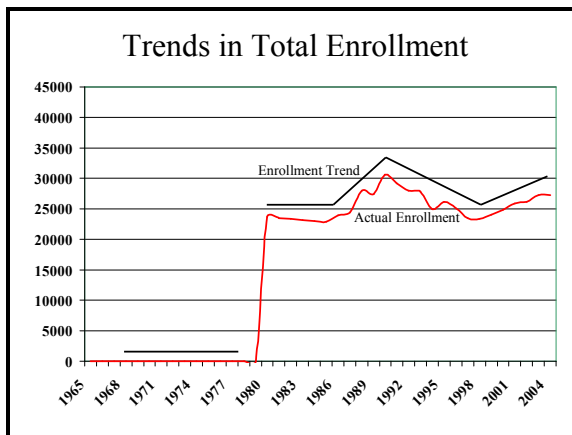
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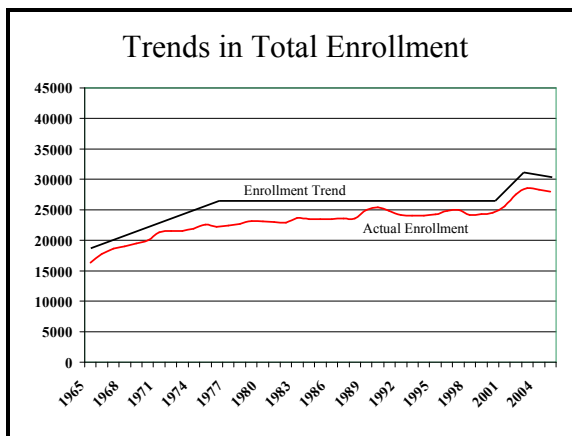
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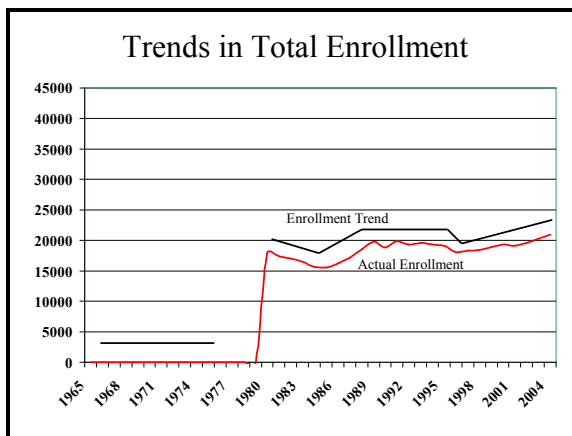
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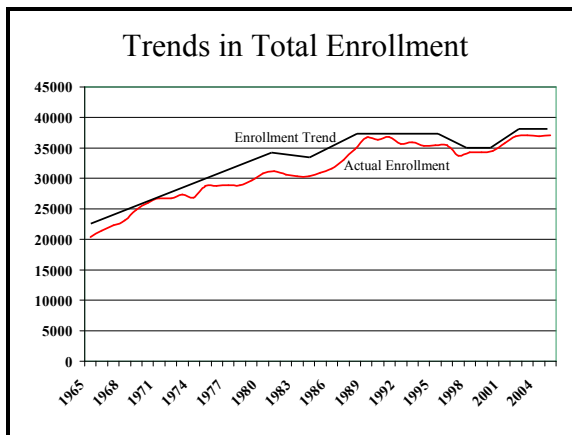
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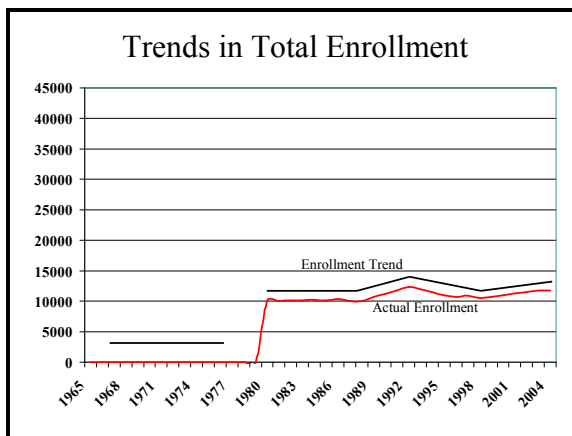
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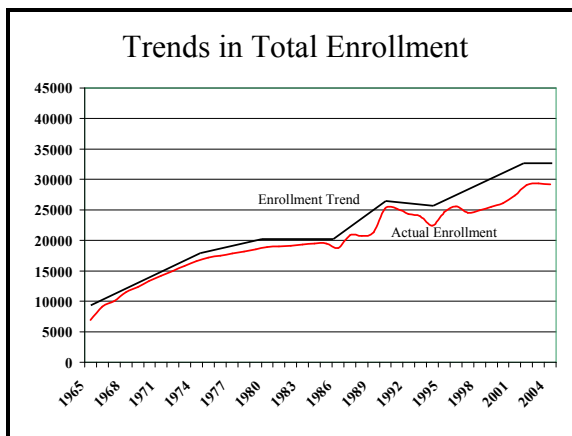
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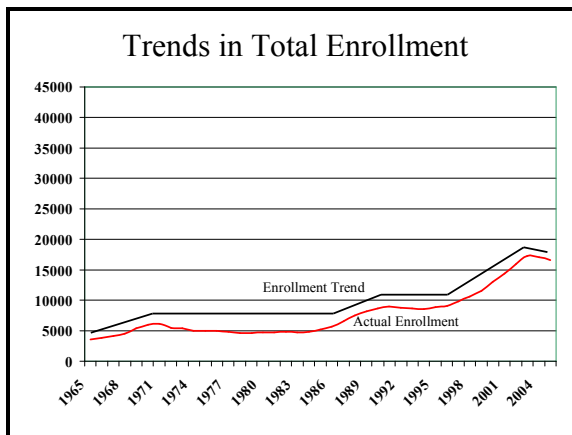
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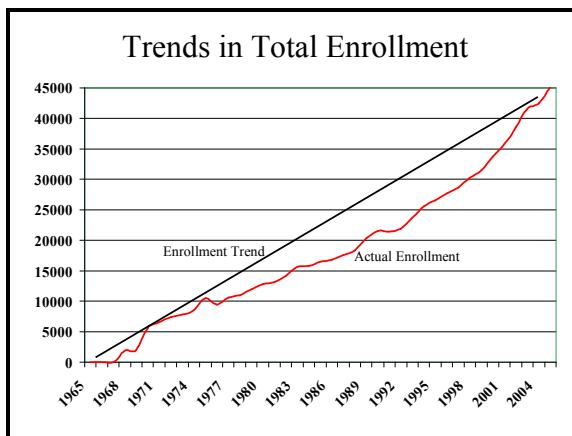
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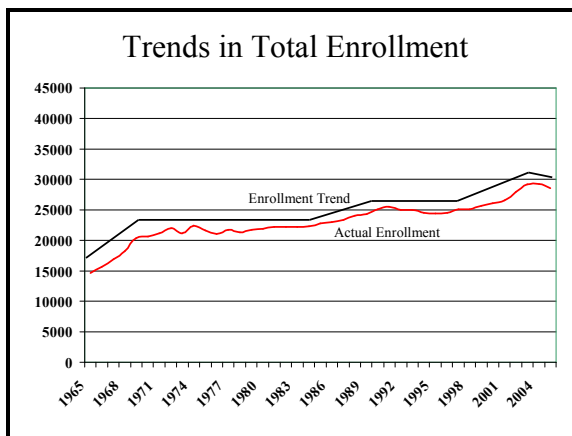
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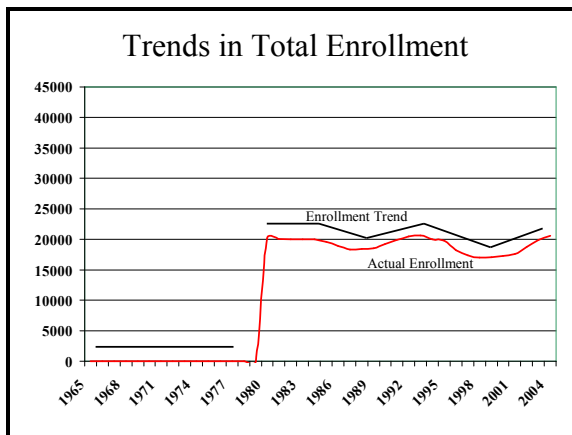
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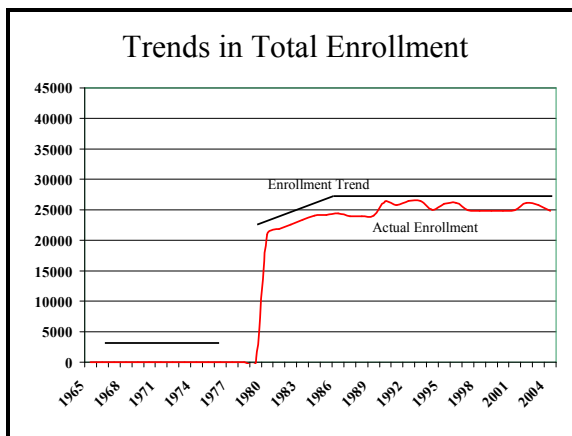
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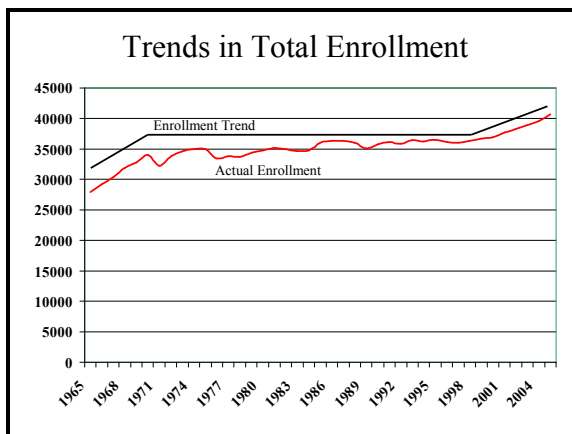
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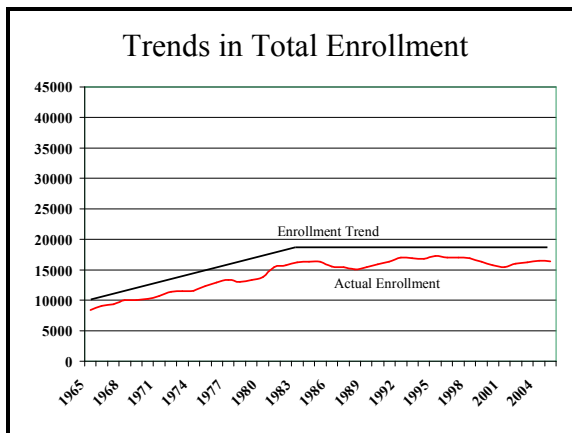
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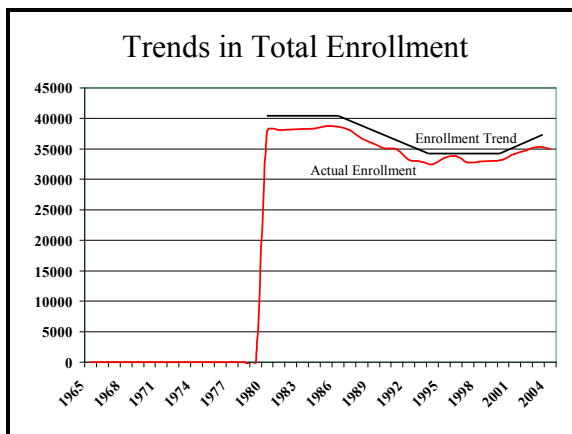
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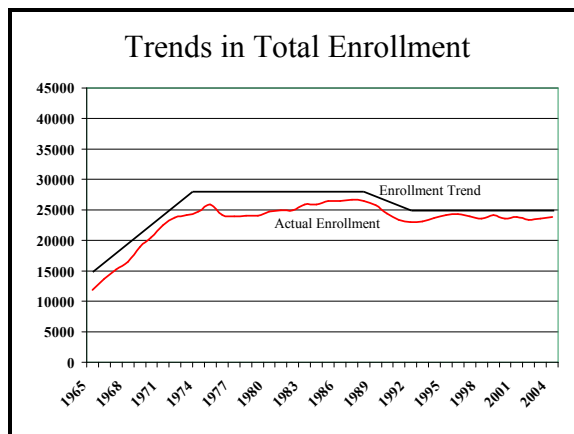


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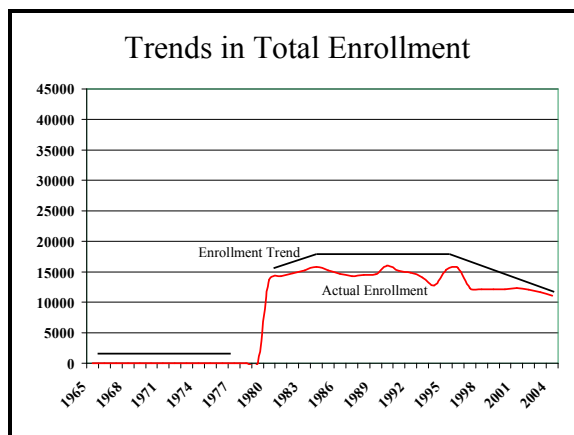




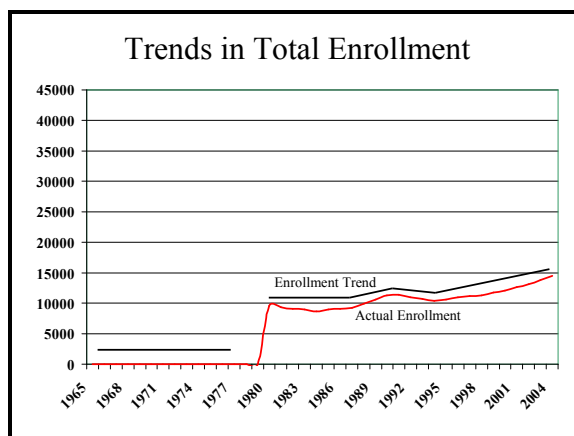
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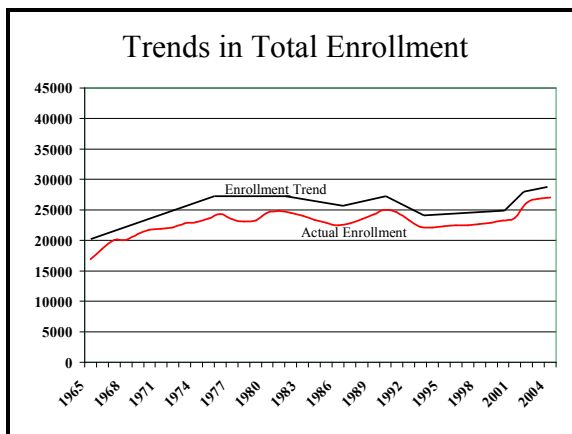
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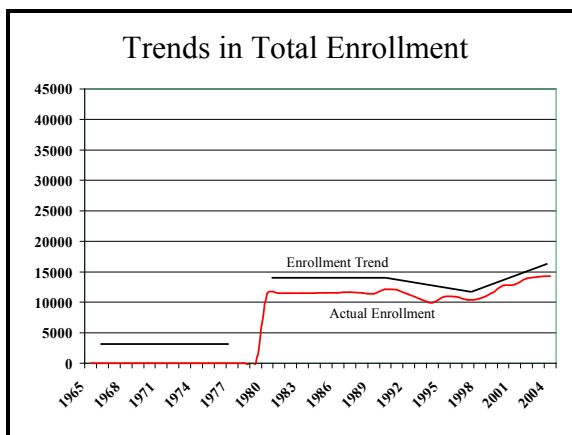
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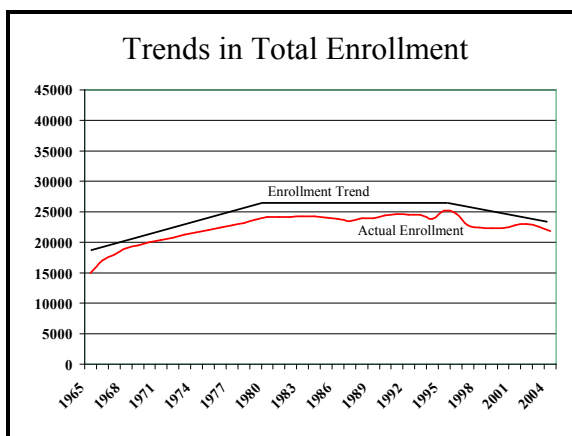
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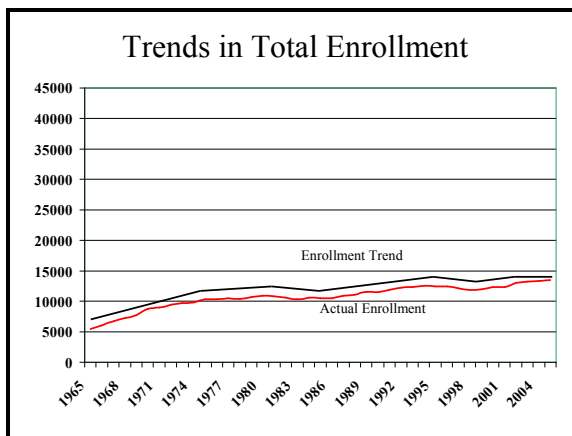
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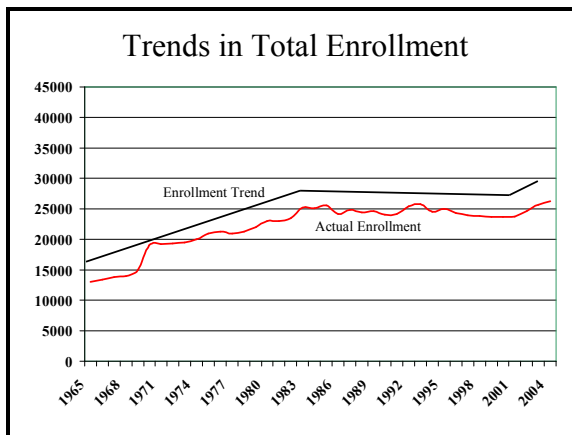
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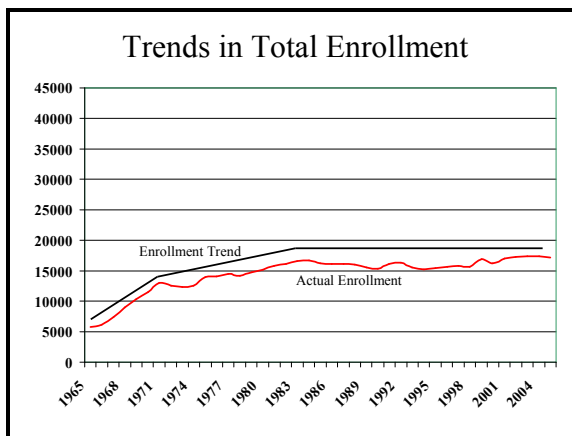
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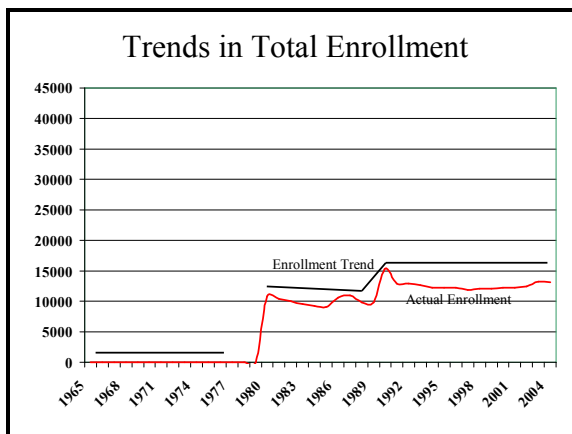
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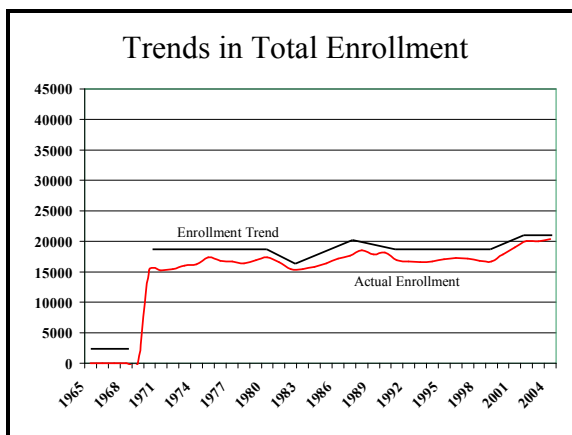
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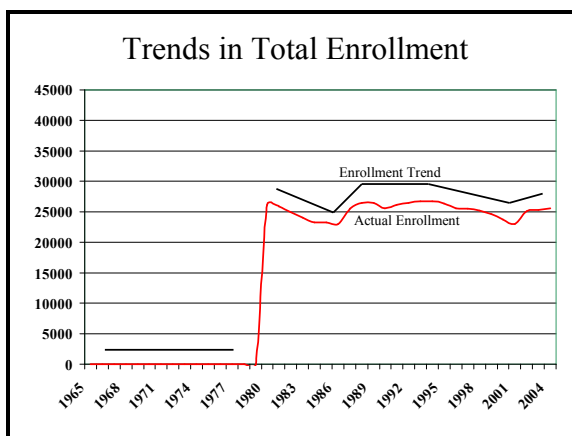
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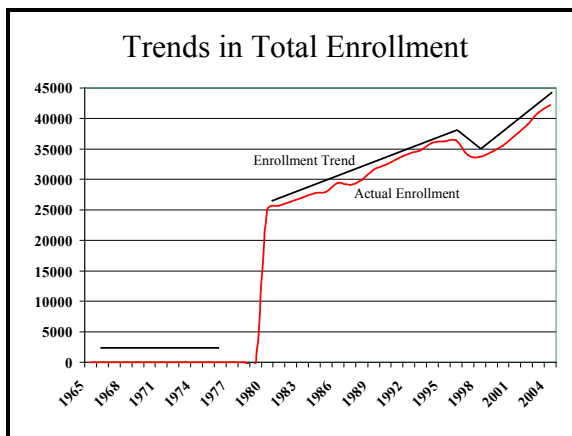
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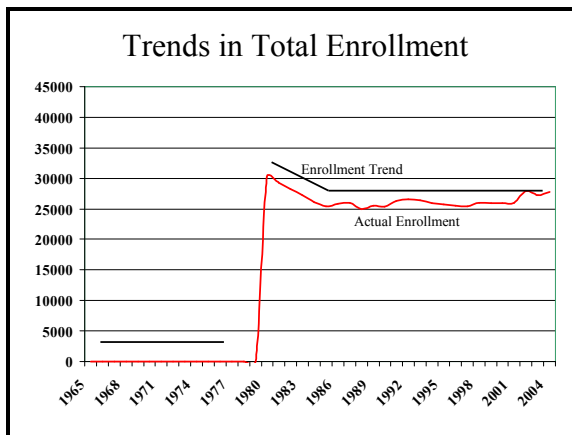
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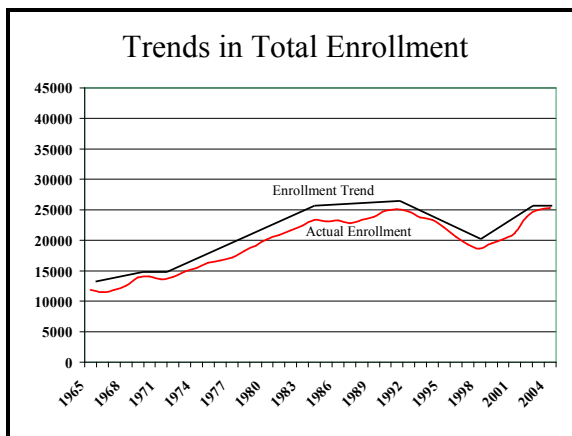
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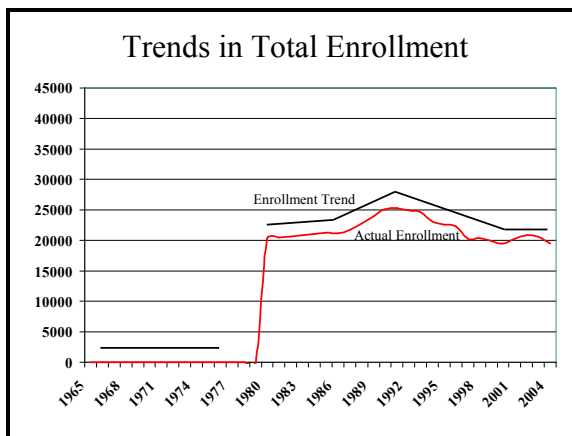
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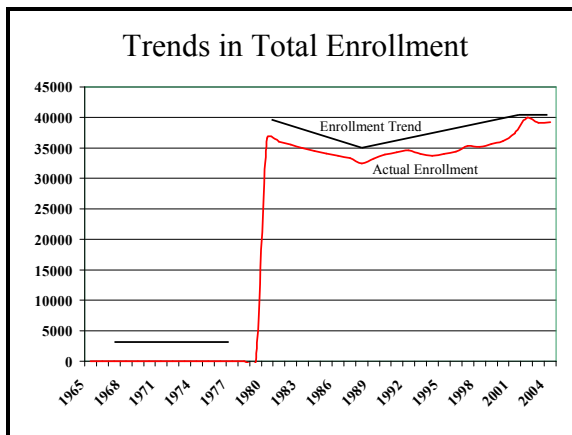
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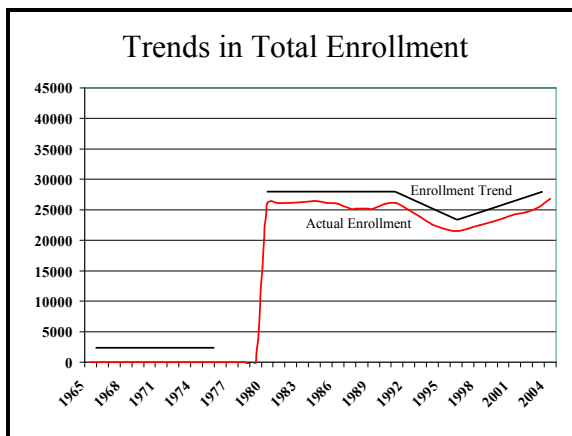
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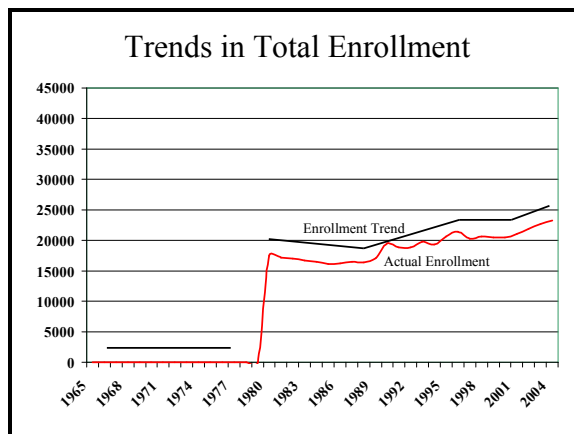
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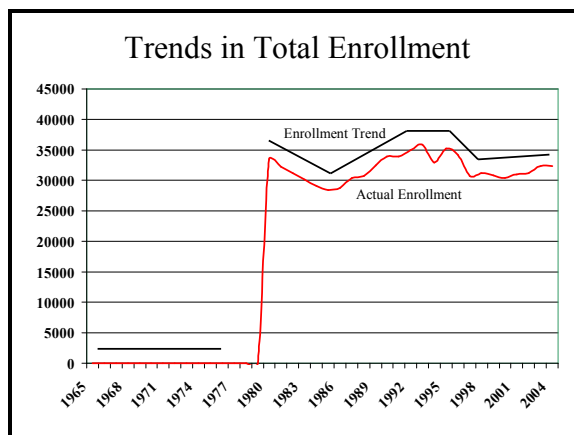
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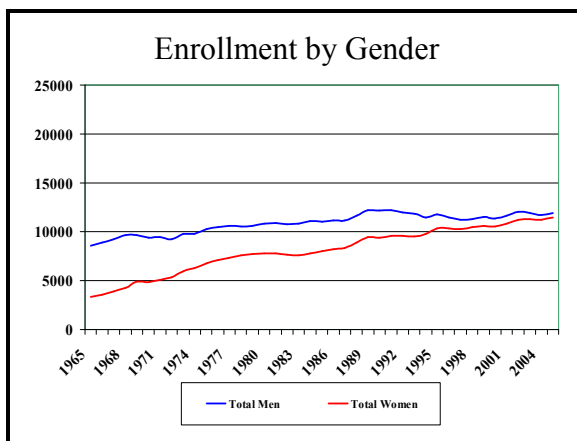


**Appendix R**

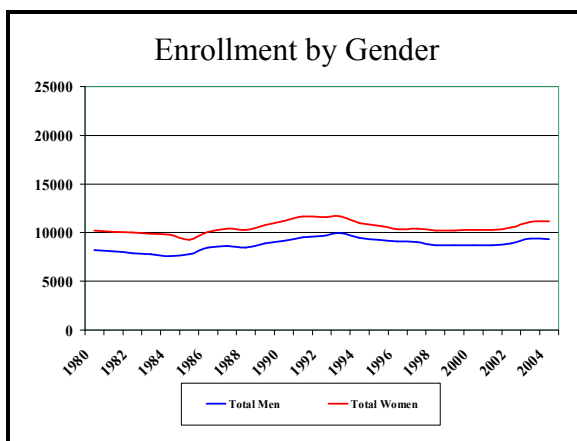
Trends in Enrollment by Gender for Study Institutions



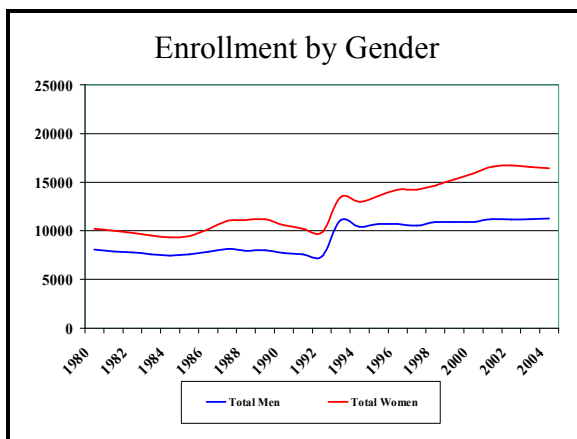
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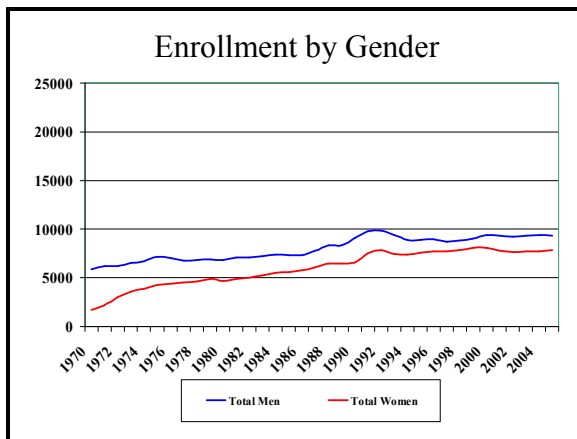
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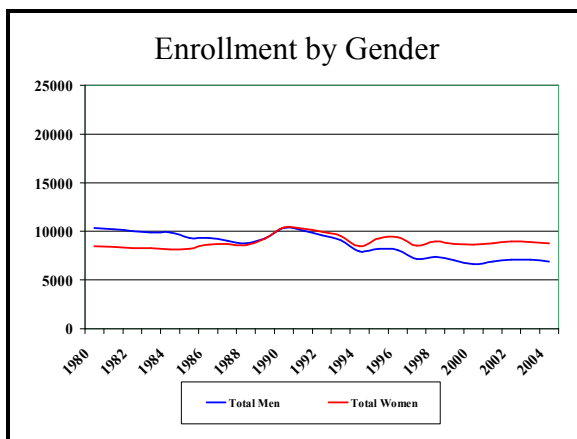
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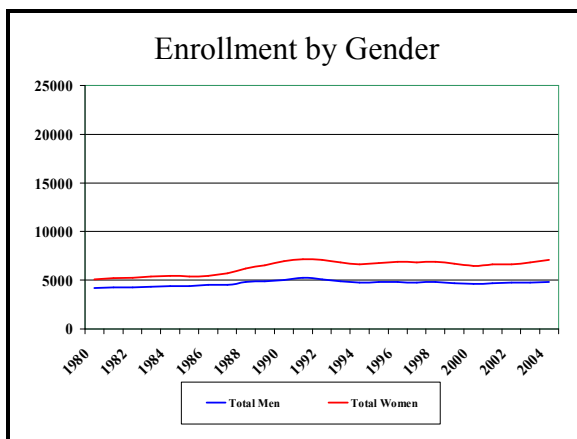
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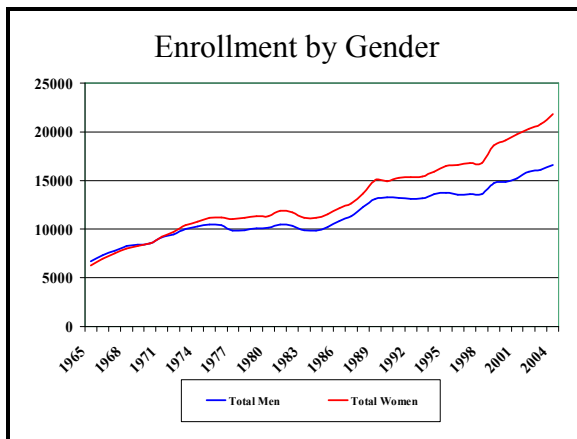
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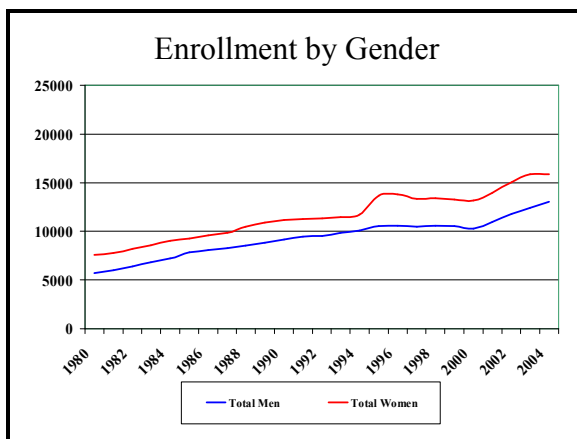
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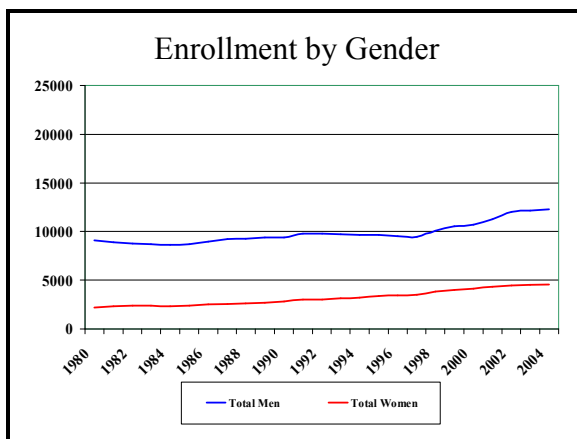
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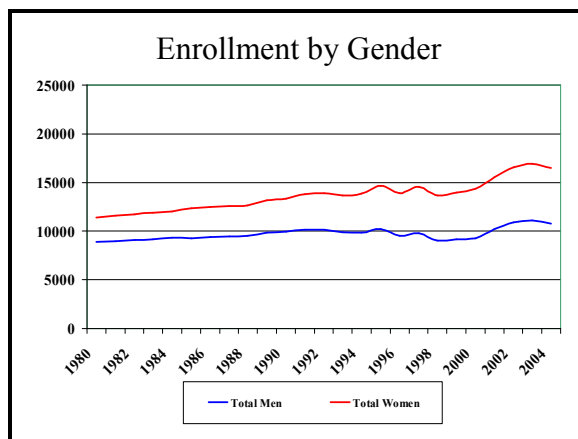
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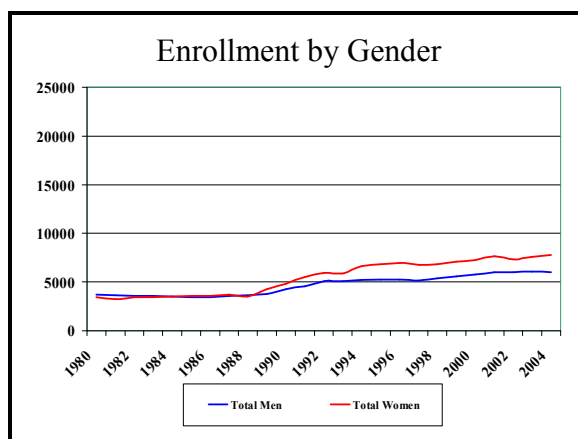
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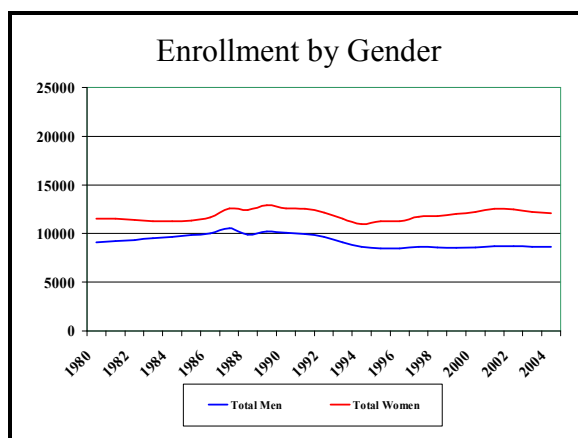
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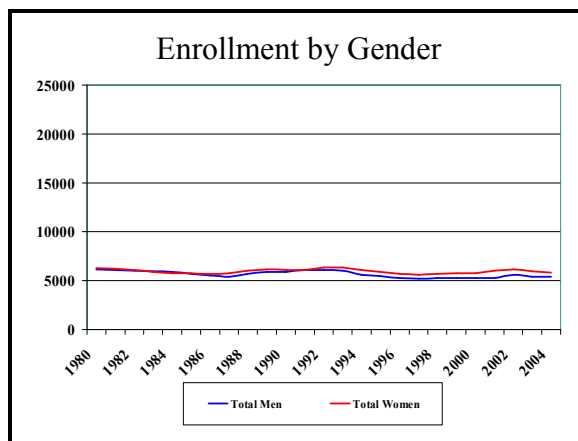
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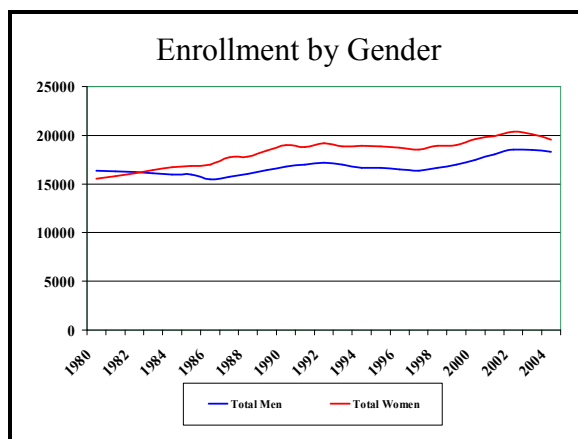
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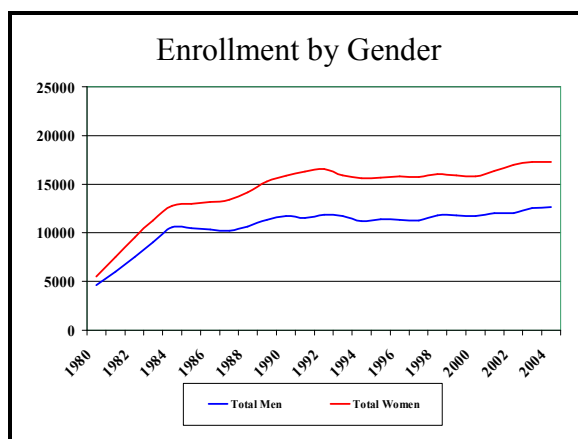
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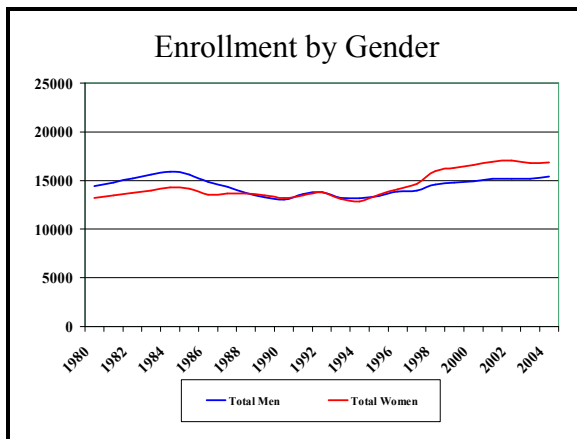
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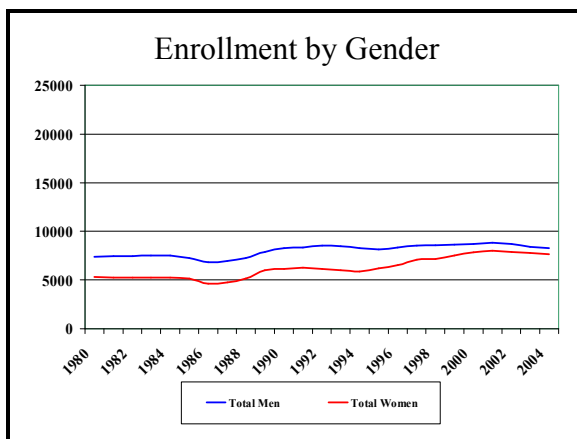
## University # 15



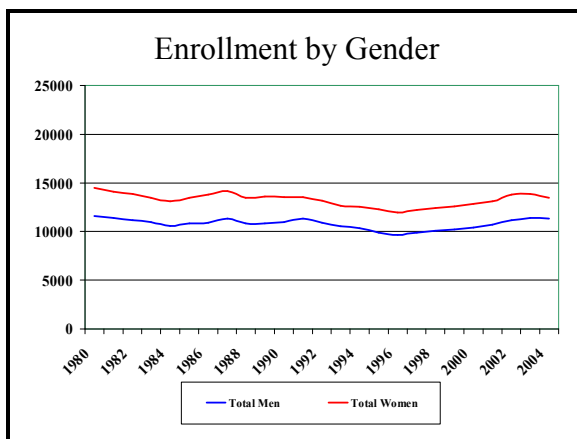
University # 16



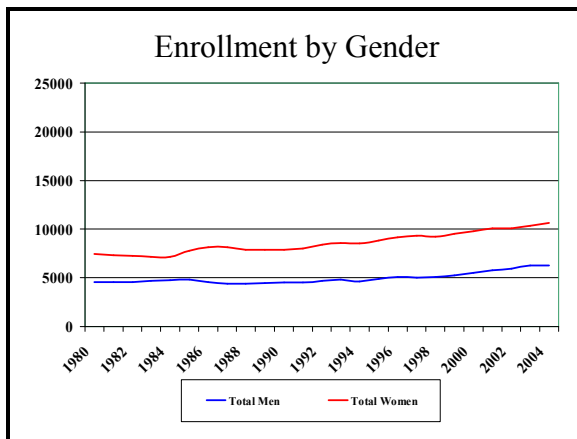
University # 17



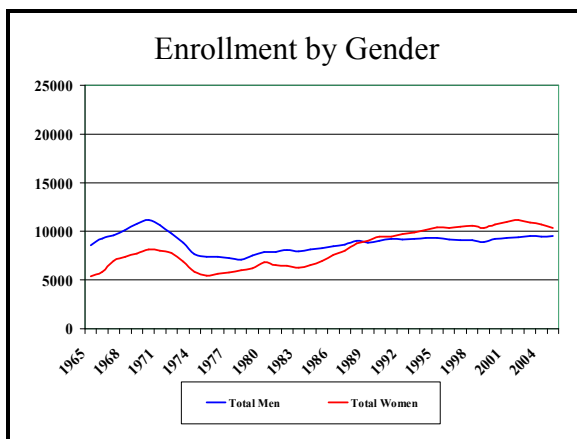
University # 18



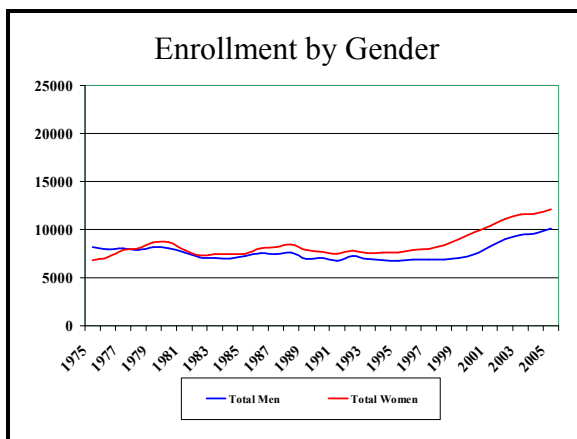
University # 19



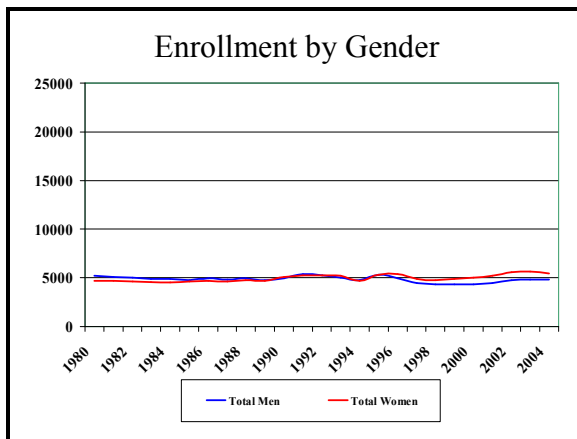
University # 20



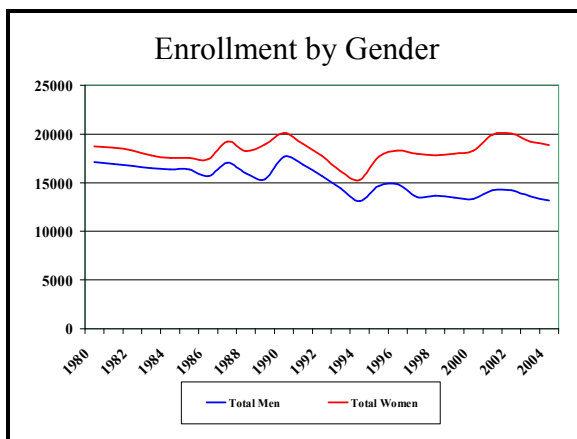
University # 21



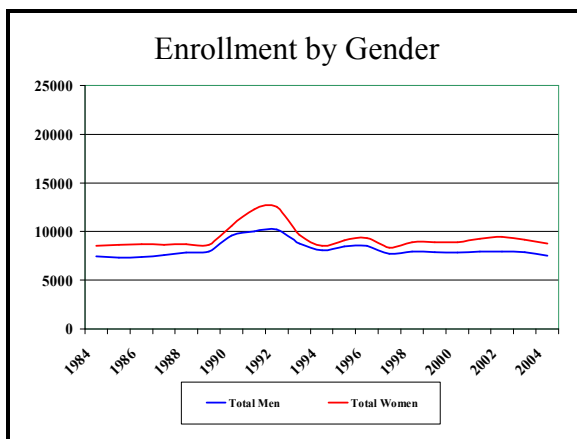
University # 22



University # 23

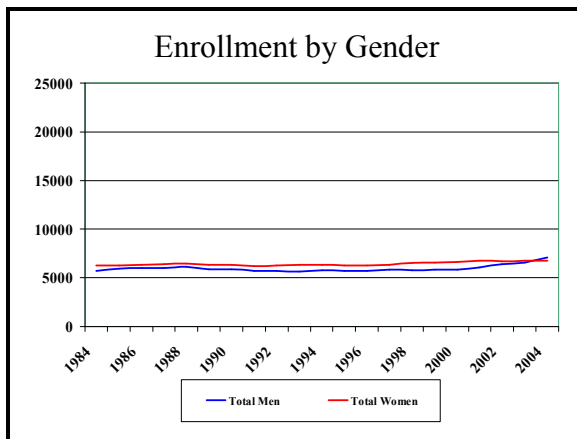


University # 24

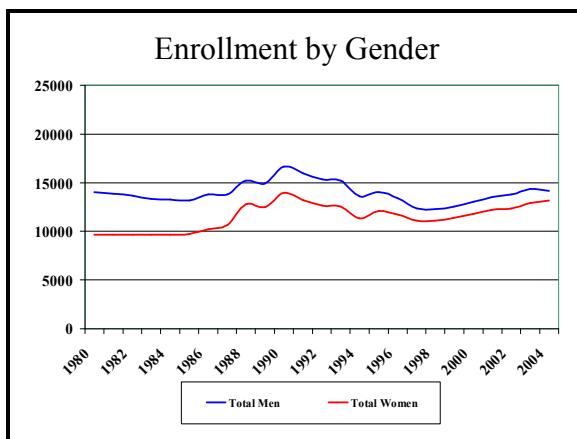




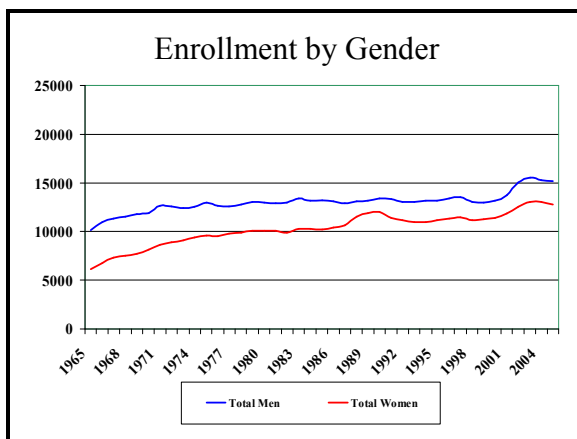
University # 25



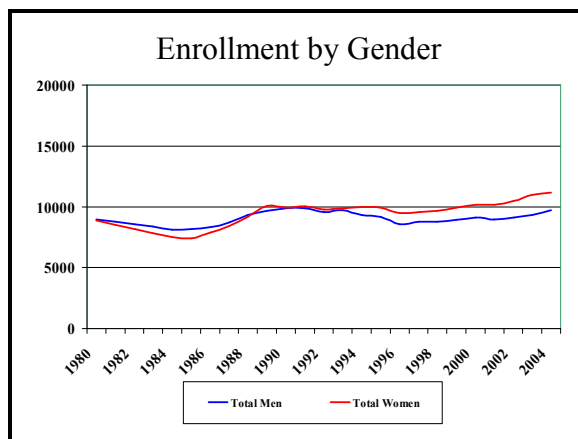
University # 26



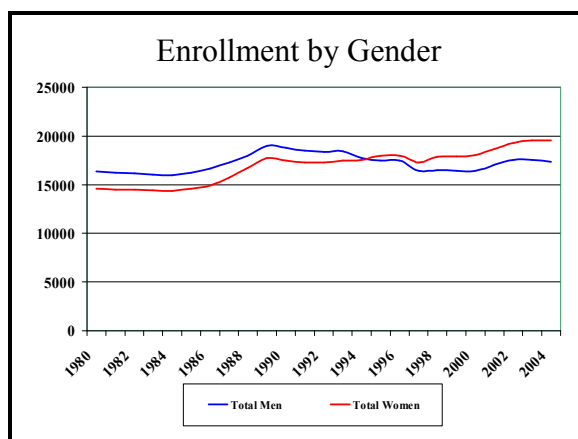
University # 27



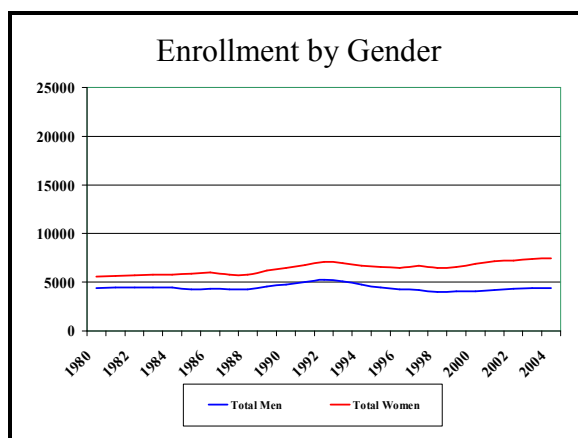
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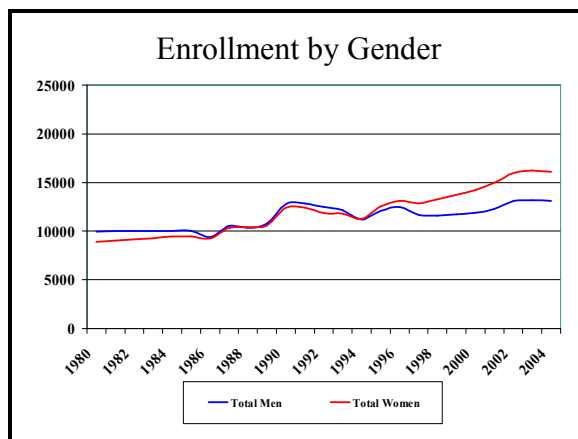
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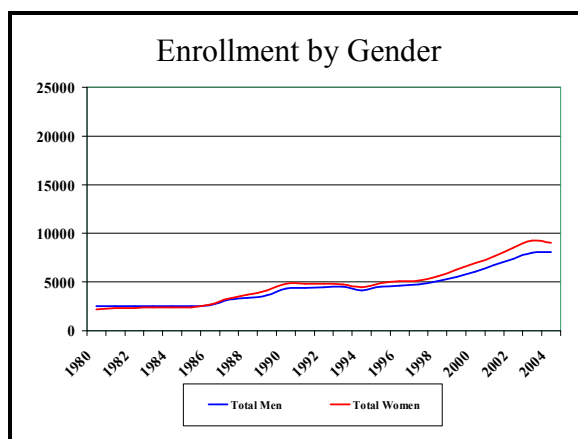
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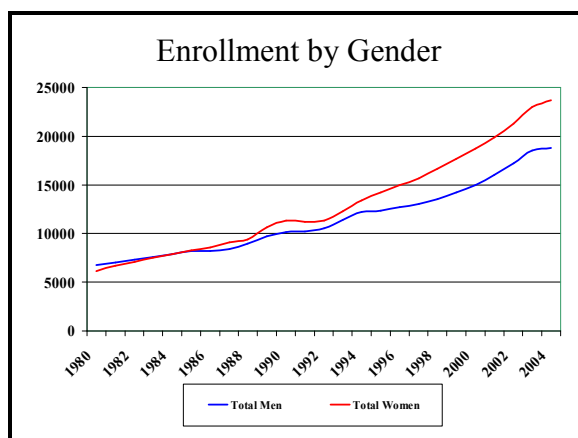
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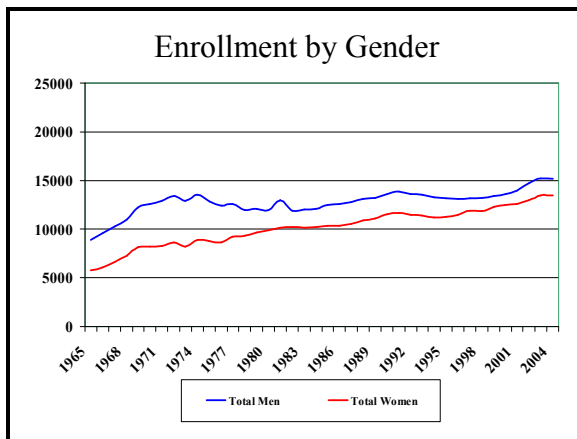
## University # 32



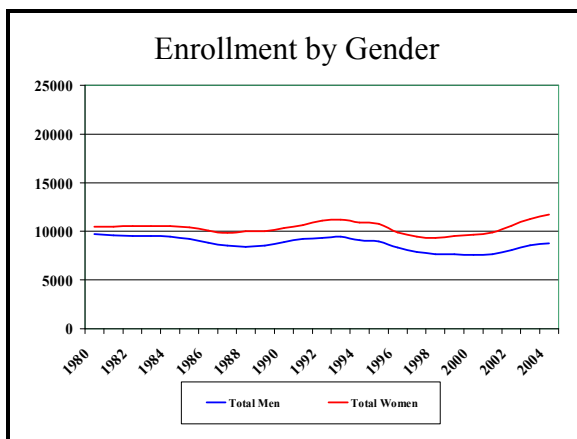
## University # 33



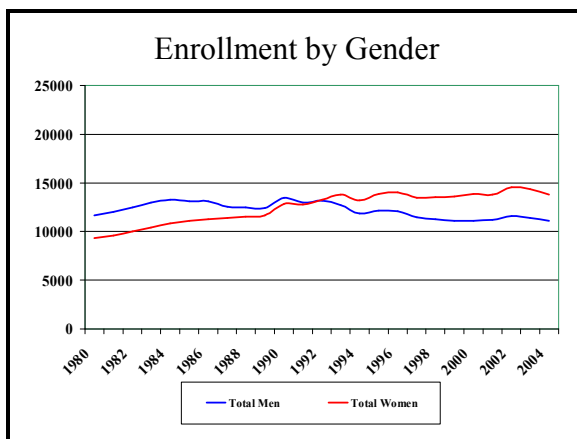
University # 34



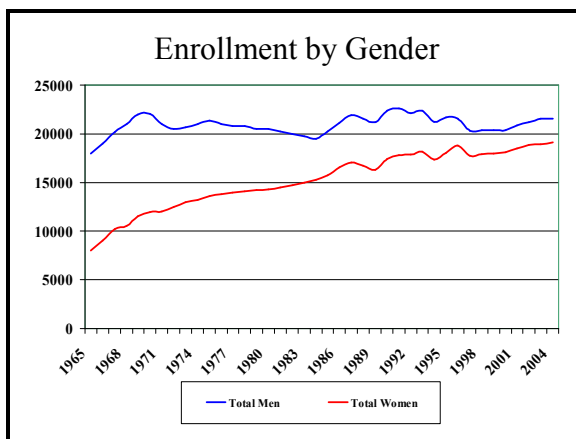
University # 35



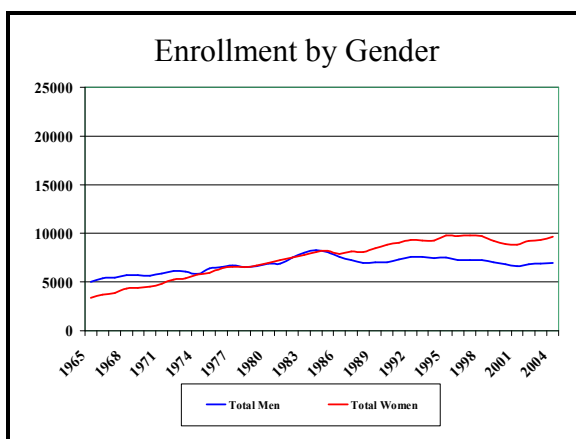
University # 36



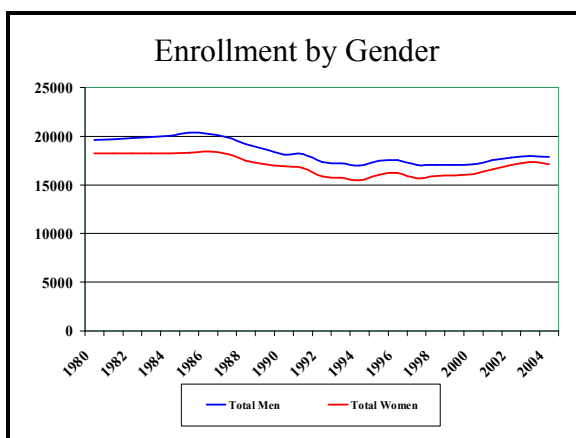
University # 37



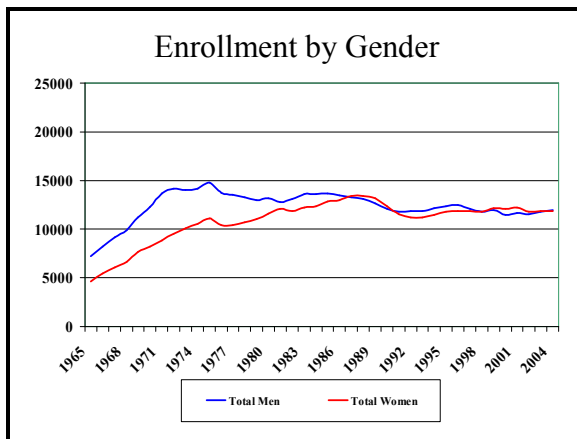
University # 38



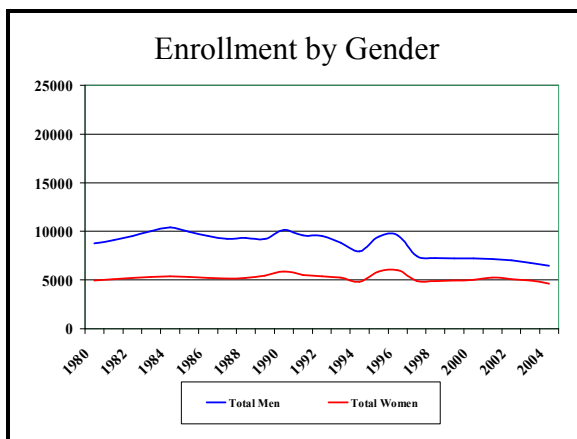
University # 39



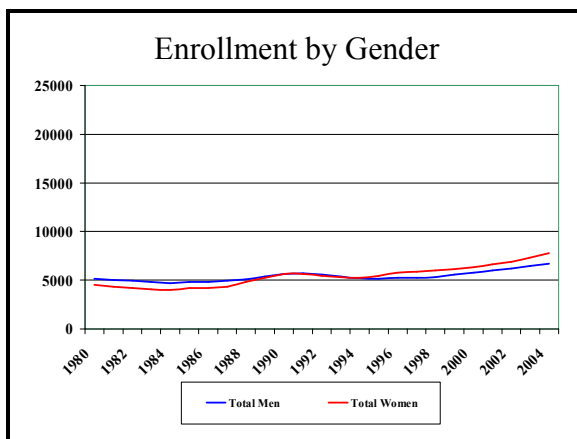
University # 40



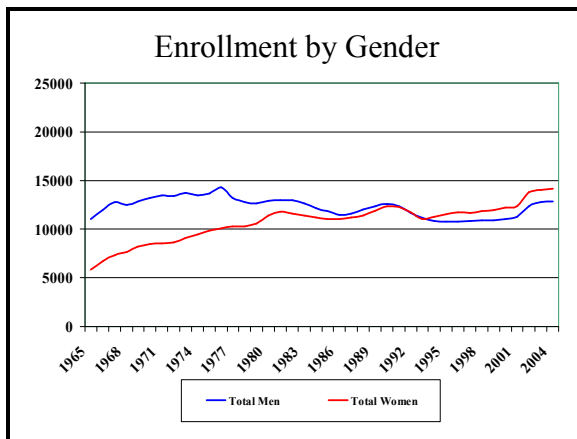
University # 41



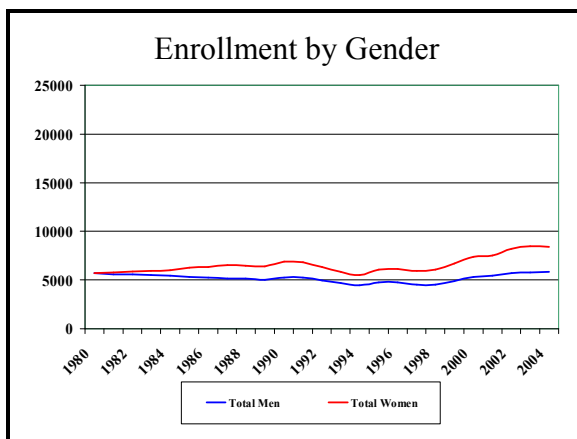
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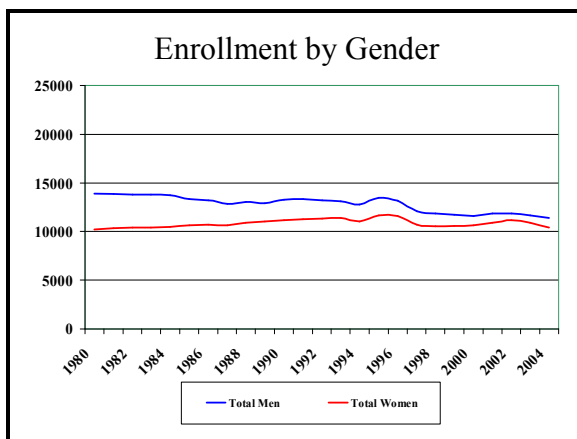
University # 43



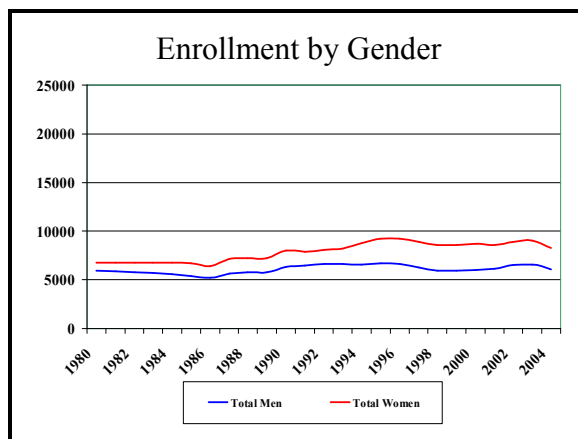
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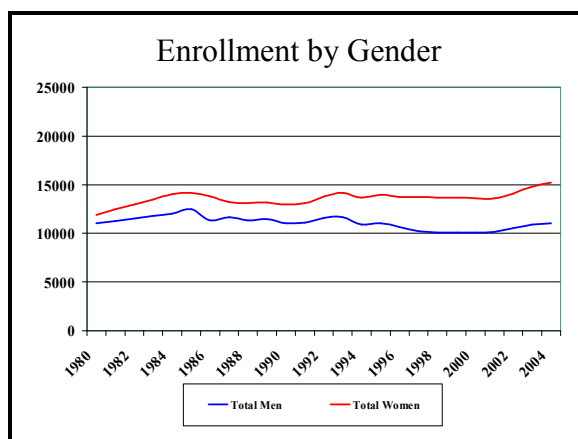
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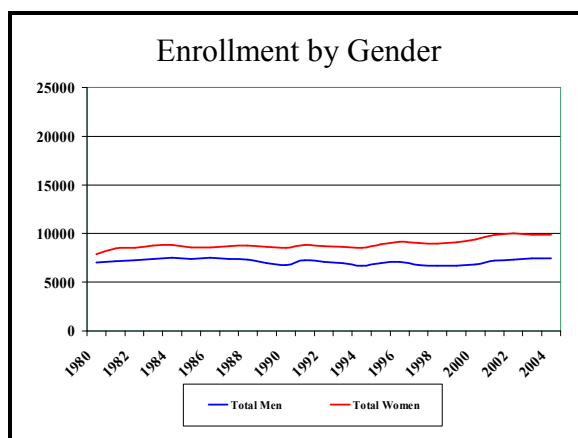
## University # 46



## University # 47

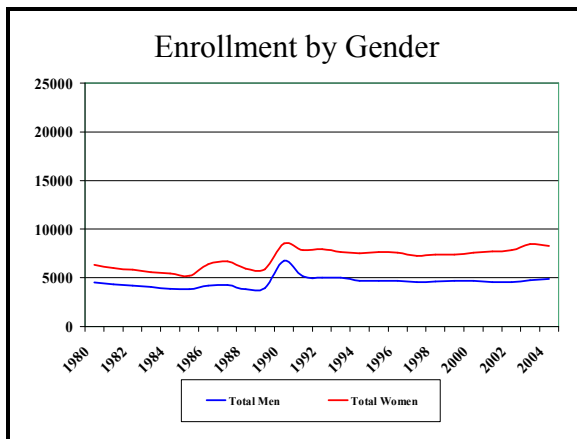


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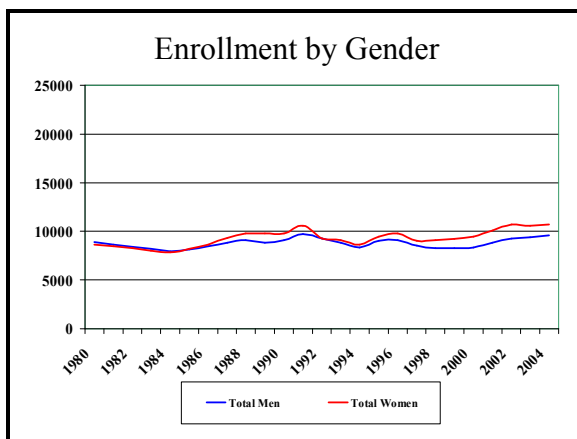




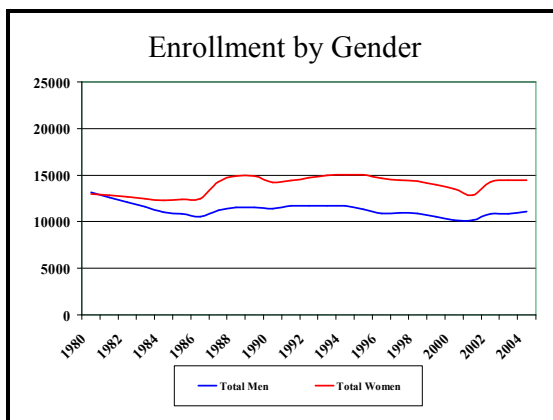
University # 49



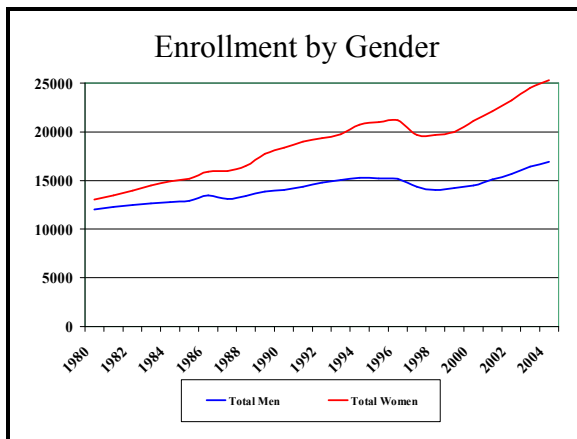
University # 50



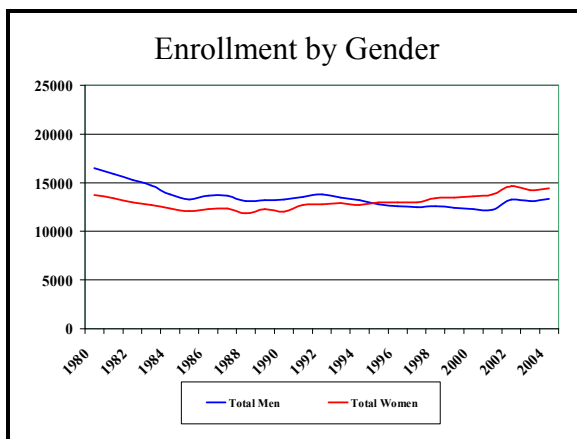
University # 51



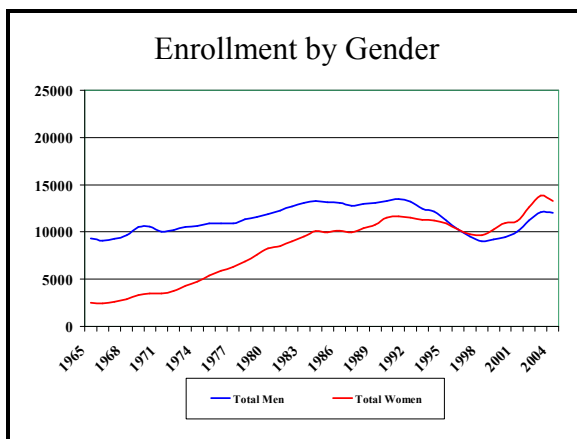
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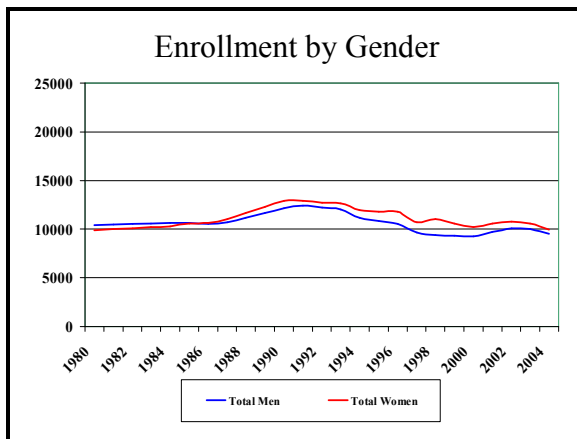
University # 53



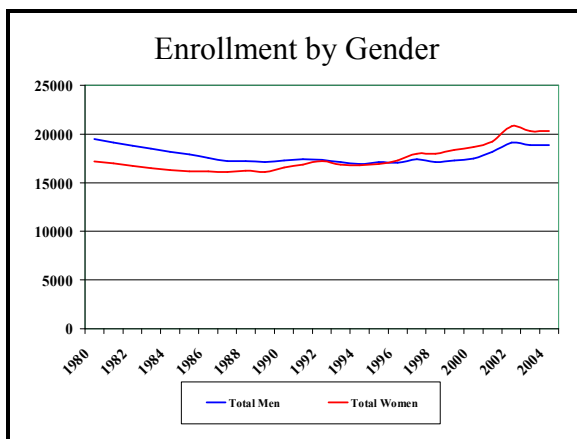
University # 54



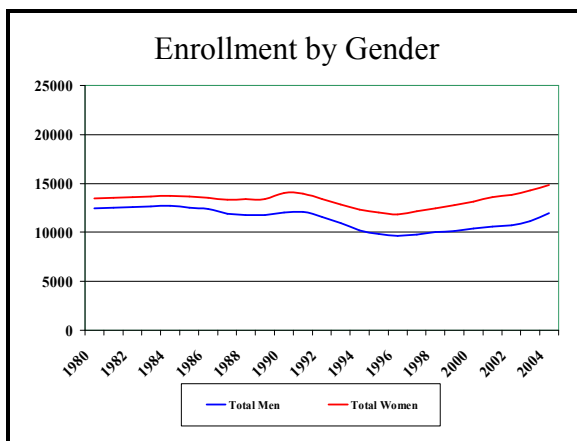
University # 55



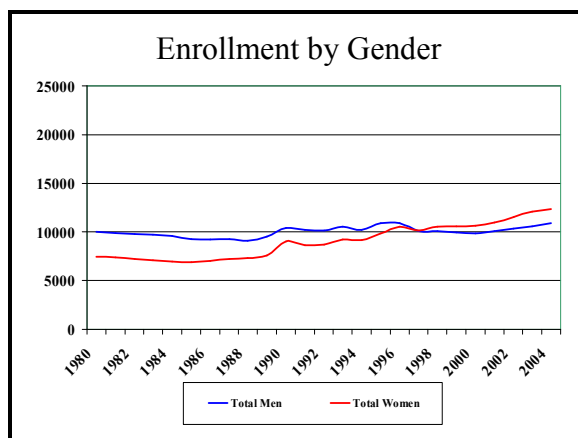
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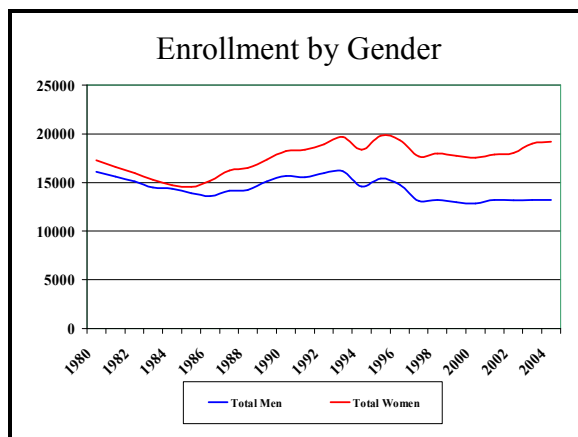
University # 57



## University # 58



## University # 59



## Appendix S

### Chi-square Values for the Percentage of Total Enrollments for Study Institutions

University # 1

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 127.787 | 26 | .000*                 |
| Black  | 61.077  | 26 | .000*                 |
| Hispanic   | 21.445  | 26 | .719                  |
| Native American  | 10.416  | 26 | .997                  |
| Non-Resident Alien   | 518.859 | 26 | .000*                 |
| Unknown  | 8.780   | 15 | .889                  |
| White  | 775.706 | 26 | .000*                 |

\* p &lt; .05

University # 2

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 5.578   | 17 | .996                  |
| Black  | 104.723 | 17 | .000*                 |
| Hispanic   | 6.018   | 17 | .993                  |
| Native American  | 7.746   | 17 | .972                  |
| Non-Resident Alien   | 18.105  | 17 | .382                  |
| Unknown  | .027    | 1  | .868                  |
| White  | 25.576  | 17 | .083                  |

\* p &lt; .05

University # 3

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 14.754  | 17 | .613                  |
| Black  | 159.152 | 17 | .000*                 |
| Hispanic   | 12.353  | 17 | .778                  |
| Native American  | 9.283   | 17 | .931                  |
| Non-Resident Alien   | 53.667  | 17 | .000*                 |
| Unknown  | 1.965   | 10 | .997                  |
| White  | 135.402 | 17 | .000*                 |

\* p &lt; .05

## University # 4

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 5.517   | 17 | .996                  |
| Black  | 43.857  | 17 | .000*                 |
| Hispanic   | 10.116  | 17 | .899                  |
| Native American  | 5.881   | 17 | .994                  |
| Non-Resident Alien   | 131.906 | 17 | .000*                 |
| Unknown  | 5.328   | 10 | .868                  |
| White  | 154.297 | 17 | .000*                 |

\* p &lt; .05

## University # 5

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 22.808  | 17 | .156                  |
| Black  | 251.140 | 17 | .000*                 |
| Hispanic   | 25.882  | 17 | .077                  |
| Native American  | 30.540  | 17 | .023*                 |
| Non-Resident Alien   | 51.760  | 17 | .000*                 |
| Unknown  | 10.556  | 13 | .648                  |
| White  | 592.138 | 17 | .000*                 |

\* p &lt; .05

## University # 6

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 19.164  | 17 | .319                  |
| Black  | 30.575  | 17 | .022*                 |
| Hispanic   | 10.794  | 17 | .867                  |
| Native American  | 14.075  | 17 | .662                  |
| Non-Resident Alien   | 49.399  | 17 | .000*                 |
| Unknown  | 14.834  | 13 | .318                  |
| White  | 142.552 | 17 | .000*                 |

\* p &lt; .05

University # 7

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 11.900  | 28 | .997                  |
| Black  | 22.984  | 28 | .734                  |
| Hispanic   | 100.779 | 28 | .000*                 |
| Native American  | 13.325  | 28 | .991                  |
| Non-Resident Alien   | 59.634  | 28 | .000*                 |
| Unknown  | 1.370   | 13 | 1.000                 |
| White  | 121.974 | 28 | .000*                 |

\* p &lt; .05

University # 8

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 7.232  | 16 | .969                  |
| Black  | 19.502 | 16 | .243                  |
| Hispanic   | 10.102 | 16 | .861                  |
| Native American  | 19.720 | 16 | .233                  |
| Non-Resident Alien   | 29.244 | 16 | .022*                 |
| Unknown  | -      | -  | -                     |
| White  | 64.112 | 16 | .000*                 |

\* p &lt; .05

University # 9

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 68.116  | 17 | .000*                 |
| Black  | 26.186  | 17 | .071                  |
| Hispanic   | 20.316  | 17 | .258                  |
| Native American  | 9.909   | 17 | .907                  |
| Non-Resident Alien   | 194.449 | 17 | .000*                 |
| Unknown  | .122    | 1  | .727                  |
| White  | 482.216 | 17 | .000*                 |

\* p &lt; .05



University # 10

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 9.639  | 17 | .918                  |
| Black  | 30.452 | 17 | .023*                 |
| Hispanic   | 9.883  | 17 | .908                  |
| Native American  | 10.635 | 17 | .875                  |
| Non-Resident Alien   | 79.047 | 17 | .000*                 |
| Unknown  | -      | -  | -                     |
| White  | 27.747 | 17 | .048*                 |

\* p &lt; .05

University # 11

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 65.135  | 17 | .000*                 |
| Black  | 21.017  | 17 | .226                  |
| Hispanic   | 23.363  | 17 | .138                  |
| Native American  | 22.317  | 17 | .173                  |
| Non-Resident Alien   | 67.781  | 17 | .000*                 |
| Unknown  | 11.830  | 11 | .377                  |
| White  | 461.935 | 17 | .000*                 |

\* p &lt; .05

University # 12

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 11.878  | 17 | .807                  |
| Black  | 37.755  | 17 | .003*                 |
| Hispanic   | 4.845   | 17 | .998                  |
| Native American  | 4.261   | 17 | .999                  |
| Non-Resident Alien   | 14.367  | 17 | .641                  |
| Unknown  | 3.521   | 9  | .940                  |
| White  | 164.199 | 17 | .000*                 |

\* p &lt; .05

University # 13

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 16.673 | 17 | .477                  |
| Black  | 9.177  | 17 | .935                  |
| Hispanic   | 14.859 | 17 | .606                  |
| Native American  | 12.054 | 17 | .797                  |
| Non-Resident Alien   | 97.710 | 17 | .000*                 |
| Unknown  | 15.968 | 13 | .251                  |
| White  | 36.038 | 17 | .005*                 |

\*  $p < .05$ 

University # 14

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 9.462  | 17 | .925                  |
| Black  | 7.726  | 17 | .972                  |
| Hispanic   | 14.978 | 17 | .597                  |
| Native American  | 4.907  | 17 | .998                  |
| Non-Resident Alien   | 26.944 | 17 | .059                  |
| Unknown  | 8.317  | 13 | .822                  |
| White  | 67.274 | 17 | .000*                 |

\*  $p < .05$ 

University # 15

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 5.557   | 17 | .996                  |
| Black  | 9.401   | 17 | .927                  |
| Hispanic   | 4.840   | 17 | .998                  |
| Native American  | 5.708   | 17 | .995                  |
| Non-Resident Alien   | 14.452  | 17 | .635                  |
| Unknown  | 6.757   | 13 | .914                  |
| White  | 100.522 | 17 | .000*                 |

\*  $p < .05$

University # 16

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 33.020  | 17 | .011*                 |
| Black  | 19.310  | 17 | .311                  |
| Hispanic   | 17.467  | 17 | .423                  |
| Native American  | 3.984   | 17 | .999                  |
| Non-Resident Alien   | 90.159  | 17 | .000*                 |
| Unknown  | 4.497   | 13 | .985                  |
| White  | 119.000 | 17 | .000*                 |

\*  $p < .05$ 

University # 17

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 11.670  | 17 | .820                  |
| Black  | 103.614 | 17 | .000*                 |
| Hispanic   | 7.947   | 17 | .968                  |
| Native American  | 19.166  | 17 | .319                  |
| Non-Resident Alien   | 126.396 | 17 | .000*                 |
| Unknown  | .381    | 1  | .537                  |
| White  | 204.586 | 17 | .000*                 |

\*  $p < .05$ 

University # 18

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 12.012 | 17 | .799                  |
| Black  | 4.314  | 17 | .999                  |
| Hispanic   | 14.085 | 17 | .661                  |
| Native American  | 4.430  | 17 | .999                  |
| Non-Resident Alien   | 9.200  | 17 | .934                  |
| Unknown  | 1.815  | 4  | .770                  |
| White  | 13.884 | 17 | .675                  |

\*  $p < .05$

University # 19

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 8.435   | 17 | .956                  |
| Black  | 16.457  | 17 | .492                  |
| Hispanic   | 19.427  | 17 | .305                  |
| Native American  | 9.340   | 17 | .929                  |
| Non-Resident Alien   | 65.715  | 17 | .000*                 |
| Unknown  | 13.635  | 10 | .190                  |
| White  | 111.349 | 17 | .000*                 |

\*  $p < .05$ 

University # 20

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 5.255   | 17 | .997                  |
| Black  | 9.306   | 17 | .930                  |
| Hispanic   | 18.850  | 17 | .864                  |
| Native American  | 13.982  | 17 | .668                  |
| Non-Resident Alien   | 388.801 | 17 | .000*                 |
| Unknown  |         | -  | -                     |
| White  | 330.935 | 17 | .000*                 |

\*  $p < .05$ 

University # 21

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 63.453  | 17 | .000*                 |
| Black  | 12.736  | 17 | .754                  |
| Hispanic   | 7.333   | 17 | .979                  |
| Native American  | 9.278   | 17 | .931                  |
| Non-Resident Alien   | 270.691 | 17 | .000*                 |
| Unknown  | 31.998  | 13 | .002*                 |
| White  | 165.706 | 17 | .000*                 |

\*  $p < .05$

University # 22

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 65.772  | 17 | .000*                 |
| Black  | 29.548  | 17 | .030*                 |
| Hispanic   | 33.510  | 17 | .010*                 |
| Native American  | 16.107  | 17 | .516                  |
| Non-Resident Alien   | 36.708  | 17 | .004*                 |
| Unknown  | 38.869  | 13 | .000*                 |
| White  | 137.005 | 17 | .000*                 |

\* p &lt; .05

University # 23

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 146.363 | 17 | .000*                 |
| Black  | 4.345   | 17 | .999                  |
| Hispanic   | 91.654  | 17 | .000*                 |
| Native American  | 5.876   | 17 | .994                  |
| Non-Resident Alien   | 141.702 | 17 | .000*                 |
| Unknown  | 61.513  | 13 | .000*                 |
| White  | 190.276 | 17 | .000*                 |

\* p &lt; .05

University # 24

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 25.457  | 17 | .085                  |
| Black  | 515.301 | 17 | .000*                 |
| Hispanic   | 23.054  | 17 | .147                  |
| Native American  | 15.435  | 17 | .564                  |
| Non-Resident Alien   | 136.060 | 17 | .000*                 |
| Unknown  | 95.041  | 13 | .000*                 |
| White  | 96.999  | 17 | .000*                 |

\* p &lt; .05

University # 25

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 42.019  | 17 | .001*                 |
| Black  | 38.821  | 17 | .002*                 |
| Hispanic   | 23.226  | 17 | .142                  |
| Native American  | 24.373  | 17 | .110                  |
| Non-Resident Alien   | 44.521  | 17 | .000*                 |
| Unknown  | 5.458   | 3  | .141                  |
| White  | 442.798 | 17 | .000*                 |

\* p &lt; .05

University # 26

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 33.974  | 17 | .008*                 |
| Black  | 16.731  | 17 | .473                  |
| Hispanic   | 7.008   | 17 | .983                  |
| Native American  | 21.605  | 17 | .200                  |
| Non-Resident Alien   | 107.377 | 17 | .000*                 |
| Unknown  | 14.370  | 13 | .348                  |
| White  | 265.608 | 17 | .000*                 |

\* p &lt; .05

University # 27

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 16.348 | 17 | .499                  |
| Black  | 14.783 | 17 | .611                  |
| Hispanic   | 11.522 | 17 | .828                  |
| Native American  | 6.888  | 17 | .985                  |
| Non-Resident Alien   | 39.633 | 17 | .001*                 |
| Unknown  | 11.093 | 13 | .603                  |
| White  | 48.284 | 17 | .000*                 |

\* p &lt; .05

University # 28

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 74.125  | 17 | .000*                 |
| Black  | 21.382  | 17 | .210                  |
| Hispanic   | 18.969  | 17 | .330                  |
| Native American  | 7.805   | 16 | .954                  |
| Non-Resident Alien   | 105.106 | 17 | .000*                 |
| Unknown  | 1.940   | 5  | .857                  |
| White  | 138.131 | 17 | .000*                 |

\* p &lt; .05

University # 29

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 36.775  | 17 | .004*                 |
| Black  | 17.029  | 17 | .452                  |
| Hispanic   | 49.702  | 17 | .000*                 |
| Native American  | 19.233  | 17 | .315                  |
| Non-Resident Alien   | 151.094 | 17 | .000*                 |
| Unknown  | 17.587  | 13 | .174                  |
| White  | 146.790 | 17 | .000*                 |

\* p &lt; .05

University # 30

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 30.429  | 17 | .023*                 |
| Black  | 85.102  | 17 | .000*                 |
| Hispanic   | 18.045  | 17 | .386                  |
| Native American  | 37.621  | 17 | .003*                 |
| Non-Resident Alien   | 109.602 | 17 | .000*                 |
| Unknown  | 13.577  | 13 | .257                  |
| White  | 134.294 | 17 | .000*                 |

\* p &lt; .05

University # 31

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |          |    |                       |
|--|----------|----|-----------------------|
| Ethnicity  | Value    | Df | Asymp. Sig. (2-sided) |
| Asian  | 133.022  | 17 | .000*                 |
| Black  | 9.904    | 17 | .906                  |
| Hispanic   | 1313.805 | 17 | .000*                 |
| Native American  | 15.517   | 17 | .558                  |
| Non-Resident Alien   | 141.874  | 17 | .000*                 |
| Unknown  | 47.464   | 13 | .000*                 |
| White  | 220.546  | 17 | .000*                 |

\* p &lt; .05

University # 32

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 62.715  | 17 | .000*                 |
| Black  | 54.271  | 17 | .000*                 |
| Hispanic   | 149.525 | 17 | .000*                 |
| Native American  | 13.376  | 17 | .711                  |
| Non-Resident Alien   | 108.214 | 17 | .000*                 |
| Unknown  | 8.466   | 13 | .812                  |
| White  | 88.509  | 17 | .000*                 |

\* p &lt; .05

University # 33

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 34.360  | 17 | .008*                 |
| Black  | 17.713  | 17 | .407                  |
| Hispanic   | 45.533  | 17 | .000*                 |
| Native American  | 8.175   | 17 | .963                  |
| Non-Resident Alien   | 53.127  | 17 | .000*                 |
| Unknown  | 3.158   | 8  | .924                  |
| White  | 273.424 | 17 | .000*                 |

\* p &lt; .05



University # 34

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 27.939 | 17 | .046*                 |
| Black  | 2.662  | 17 | 1.000                 |
| Hispanic   | 20.673 | 17 | .241                  |
| Native American  | 5.146  | 17 | .997                  |
| Non-Resident Alien   | 68.018 | 17 | .000*                 |
| Unknown  | 19.273 | 13 | .115                  |
| White  | 31.066 | 17 | .020*                 |

\* p &lt; .05

University # 35

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 78.581  | 17 | .000*                 |
| Black  | 15.958  | 17 | .527                  |
| Hispanic   | 18.511  | 17 | .357                  |
| Native American  | 13.775  | 17 | .683                  |
| Non-Resident Alien   | 106.973 | 16 | .000*                 |
| Unknown  | 26.507  | 10 | .003*                 |
| White  | 22.991  | 17 | .150                  |

\* p &lt; .05

University # 36

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 136.682 | 17 | .000*                 |
| Black  | 133.056 | 17 | .000*                 |
| Hispanic   | 116.567 | 17 | .000*                 |
| Native American  | 3.277   | 17 | 1.000                 |
| Non-Resident Alien   | 162.349 | 17 | .000*                 |
| Unknown  | 19.867  | 13 | .099                  |
| White  | 666.645 | 17 | .000*                 |

\* p &lt; .05

University # 37

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 3.593   | 17 | 1.000                 |
| Black  | 25.640  | 17 | .081                  |
| Hispanic   | 20.082  | 17 | .270                  |
| Native American  | 2.502   | 17 | 1.000                 |
| Non-Resident Alien   | 41.758  | 17 | .001*                 |
| Unknown  | 38.369  | 13 | .000*                 |
| White  | 166.919 | 17 | .000*                 |

\* p &lt; .05

University # 38

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 44.804  | 17 | .000*                 |
| Black  | 33.404  | 17 | .010*                 |
| Hispanic   | 23.054  | 17 | .148                  |
| Native American  | 2.692   | 17 | 1.000                 |
| Non-Resident Alien   | 87.881  | 17 | .000*                 |
| Unknown  | 24.378  | 13 | .028*                 |
| White  | 156.979 | 17 | .000*                 |

\* p &lt; .05

University # 39

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 17.347  | 17 | .431                  |
| Black  | 15.940  | 17 | .528                  |
| Hispanic   | 15.457  | 17 | .563                  |
| Native American  | 3.795   | 17 | 1.000                 |
| Non-Resident Alien   | 103.156 | 17 | .000*                 |
| Unknown  | 5.193   | 13 | .971                  |
| White  | 8.553   | 17 | .953                  |

\* p &lt; .05

University # 40

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 16.509  | 17 | .488                  |
| Black  | 7.312   | 17 | .979                  |
| Hispanic   | 10.204  | 17 | .895                  |
| Native American  | 4.433   | 17 | .999                  |
| Non-Resident Alien   | 56.484  | 17 | .000*                 |
| Unknown  | 26.371  | 13 | .015*                 |
| White  | 102.563 | 17 | .000*                 |

\* p &lt; .05

University # 41

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 91.120  | 17 | .000*                 |
| Black  | 25.967  | 17 | .075                  |
| Hispanic   | 25.780  | 17 | .075                  |
| Native American  | 19.949  | 17 | .277                  |
| Non-Resident Alien   | 118.910 | 17 | .000*                 |
| Unknown  | 41.874  | 13 | .000*                 |
| White  | 399.847 | 17 | .000*                 |

\* p &lt; .05

University # 42

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 19.006  | 17 | .328                  |
| Black  | 53.553  | 17 | .000*                 |
| Hispanic   | 21.082  | 17 | .223                  |
| Native American  | 8.713   | 17 | .949                  |
| Non-Resident Alien   | 234.288 | 17 | .000*                 |
| Unknown  | 14.212  | 9  | .115                  |
| White  | 167.315 | 17 | .000*                 |

\* p &lt; .05

University # 43

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 12.488  | 17 | .770                  |
| Black  | 36.202  | 17 | .004*                 |
| Hispanic   | 7.148   | 17 | .981                  |
| Native American  | 10.931  | 17 | .860                  |
| Non-Resident Alien   | 110.339 | 17 | .000*                 |
| Unknown  | 12.559  | 13 | .482                  |
| White  | 159.011 | 17 | .000*                 |

\* p &lt; .05

University # 44

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 44.312  | 17 | .000*                 |
| Black  | 34.016  | 17 | .008*                 |
| Hispanic   | 31.655  | 17 | .017*                 |
| Native American  | 10.268  | 17 | .892                  |
| Non-Resident Alien   | 47.402  | 17 | .000*                 |
| Unknown  | 18.624  | 13 | .135                  |
| White  | 394.036 | 17 | .000*                 |

\* p &lt; .05

University # 45

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 18.370  | 17 | .366                  |
| Black  | 11.046  | 17 | .854                  |
| Hispanic   | 9.791   | 17 | .912                  |
| Native American  | 8.429   | 17 | .956                  |
| Non-Resident Alien   | 123.579 | 17 | .000*                 |
| Unknown  | 4.270   | 8  | .832                  |
| White  | 167.417 | 17 | .000*                 |

\* p &lt; .05

University # 46

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 15.437  | 17 | .564                  |
| Black  | 24.312  | 17 | .111                  |
| Hispanic   | 32.549  | 17 | .013*                 |
| Native American  | 18.614  | 17 | .351                  |
| Non-Resident Alien   | 46.964  | 17 | .000*                 |
| Unknown  | 33.496  | 13 | .001*                 |
| White  | 201.121 | 17 | .000*                 |

\* p &lt; .05

University # 47

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 25.618  | 17 | .082                  |
| Black  | 20.404  | 17 | .254                  |
| Hispanic   | 107.557 | 17 | .000*                 |
| Native American  | 23.384  | 17 | .137                  |
| Non-Resident Alien   | 33.523  | 17 | .010*                 |
| Unknown  | 6.095   | 13 | .943                  |
| White  | 102.751 | 17 | .000*                 |

\* p &lt; .05

University # 48

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 30.777  | 16 | .014*                 |
| Black  | 43.855  | 16 | .000*                 |
| Hispanic   | 20.066  | 16 | .217                  |
| Native American  | 9.853   | 16 | .874                  |
| Non-Resident Alien   | 86.778  | 16 | .000*                 |
| Unknown  | 3.924   | 11 | .972                  |
| White  | 118.169 | 16 | .000*                 |

\* p &lt; .05

University # 49

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 23.090  | 17 | .146                  |
| Black  | 136.831 | 17 | .000*                 |
| Hispanic   | 46.060  | 17 | .000*                 |
| Native American  | 9.797   | 17 | .912                  |
| Non-Resident Alien   | 67.222  | 17 | .000*                 |
| Unknown  | 35.027  | 12 | .000*                 |
| White  | 266.804 | 17 | .000*                 |

\* p &lt; .05

University # 50

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 24.882  | 17 | .097                  |
| Black  | 10.178  | 17 | .896                  |
| Hispanic   | 23.006  | 17 | .149                  |
| Native American  | 9.520   | 17 | .923                  |
| Non-Resident Alien   | 163.863 | 17 | .000*                 |
| Unknown  | 10.747  | 12 | .551                  |
| White  | 67.706  | 17 | .000*                 |

\* p &lt; .05

University # 51

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 15.621  | 17 | .551                  |
| Black  | 31.902  | 17 | .015*                 |
| Hispanic   | 5.638   | 17 | .995                  |
| Native American  | 3.342   | 17 | 1.000                 |
| Non-Resident Alien   | 44.697  | 17 | .000*                 |
| Unknown  | 1.940   | 7  | .963                  |
| White  | 223.070 | 17 | .000*                 |

\* p &lt; .05

University # 52

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 23.949  | 17 | .121                  |
| Black  | 11.558  | 17 | .826                  |
| Hispanic   | 51.042  | 17 | .000*                 |
| Native American  | 5.107   | 17 | .997                  |
| Non-Resident Alien   | 56.862  | 17 | .000*                 |
| Unknown  | 1.837   | 13 | 1.000                 |
| White  | 293.773 | 17 | .000*                 |

\* p &lt; .05

University # 53

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 16.305  | 17 | .502                  |
| Black  | 55.819  | 17 | .000*                 |
| Hispanic   | 13.149  | 17 | .726                  |
| Native American  | 7.607   | 17 | .974                  |
| Non-Resident Alien   | 108.605 | 17 | .000*                 |
| Unknown  | .808    | 5  | .977                  |
| White  | 323.177 | 17 | .000*                 |

\* p &lt; .05

University # 54

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 212.739 | 17 | .000*                 |
| Black  | 203.666 | 17 | .000*                 |
| Hispanic   | 123.804 | 17 | .000*                 |
| Native American  | 5.382   | 17 | .996                  |
| Non-Resident Alien   | 152.279 | 17 | .000*                 |
| Unknown  |         | -  | -                     |
| White  | 576.175 | 17 | .000*                 |

\* p &lt; .05

University # 55

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |        |    |                       |
|--|--------|----|-----------------------|
| Ethnicity  | Value  | Df | Asymp. Sig. (2-sided) |
| Asian  | 19.038 | 17 | .326                  |
| Black  | 31.741 | 17 | .016*                 |
| Hispanic   | 13.835 | 17 | .679                  |
| Native American  | 13.172 | 17 | .725                  |
| Non-Resident Alien   | 55.503 | 17 | .000*                 |
| Unknown  | 30.412 | 13 | .004*                 |
| White  | 67.821 | 17 | .000*                 |

\* p &lt; .05

University # 56

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 76.467  | 17 | .000*                 |
| Black  | 3.936   | 17 | 1.000                 |
| Hispanic   | 28.964  | 17 | .035                  |
| Native American  | 12.285  | 17 | .783                  |
| Non-Resident Alien   | 140.907 | 17 | .000*                 |
| Unknown  | 5.184   | 6  | .520                  |
| White  | 99.564  | 17 | .000*                 |

\* p &lt; .05

University # 57

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 12.345  | 17 | .779                  |
| Black  | 8.853   | 17 | .945                  |
| Hispanic   | 8.842   | 17 | .955                  |
| Native American  | 5.219   | 17 | .997                  |
| Non-Resident Alien   | 93.713  | 17 | .000*                 |
| Unknown  |         | -  | -                     |
| White  | 110.072 | 17 | .000*                 |

\* p &lt; .05



University # 58

| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 38.481  | 17 | .002*                 |
| Black  | 21.088  | 17 | .222                  |
| Hispanic   | 28.612  | 17 | .038*                 |
| Native American  | 12.721  | 17 | .755                  |
| Non-Resident Alien   | 122.222 | 17 | .000*                 |
| Unknown  | 64.814  | 13 | .000*                 |
| White  | 830.646 | 17 | .000*                 |

\* p &lt; .05

University # 59

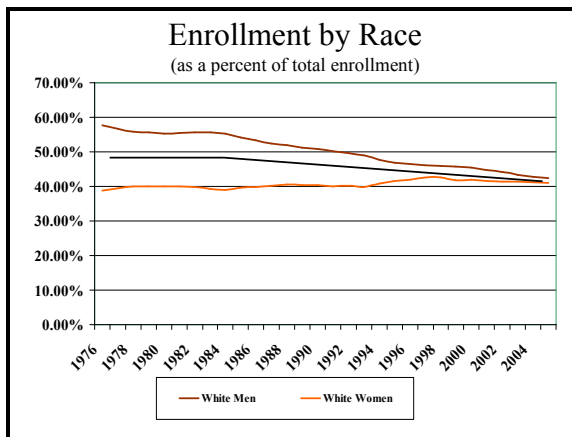
| <b>Chi-Square Values for the Percentage of Total Enrollments</b> |         |    |                       |
|--|---------|----|-----------------------|
| Ethnicity  | Value   | Df | Asymp. Sig. (2-sided) |
| Asian  | 51.596  | 17 | .000*                 |
| Black  | 105.287 | 17 | .000*                 |
| Hispanic   | 19.604  | 17 | .295                  |
| Native American  | 13.241  | 17 | .720                  |
| Non-Resident Alien   | 265.906 | 17 | .000*                 |
| Unknown  | 2.833   | 10 | .985                  |
| White  | 415.035 | 17 | .000*                 |

\* p &lt; .05

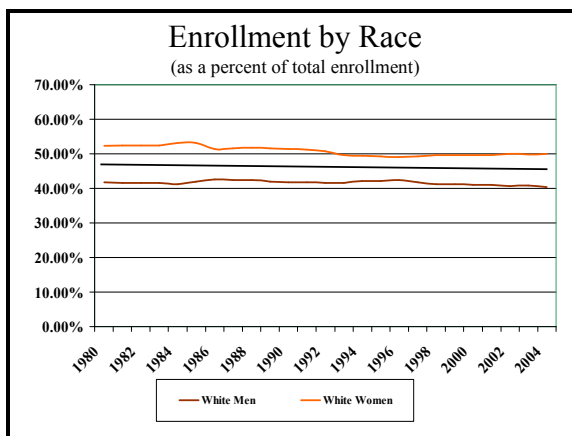
## **Appendix T**

### Trends in Enrollment by Race/ethnicity for Study Institutions

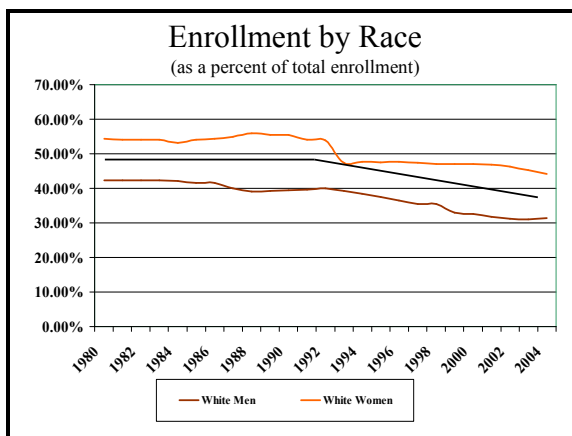
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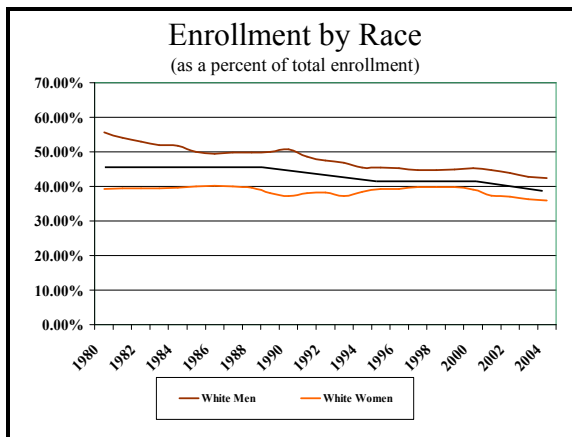
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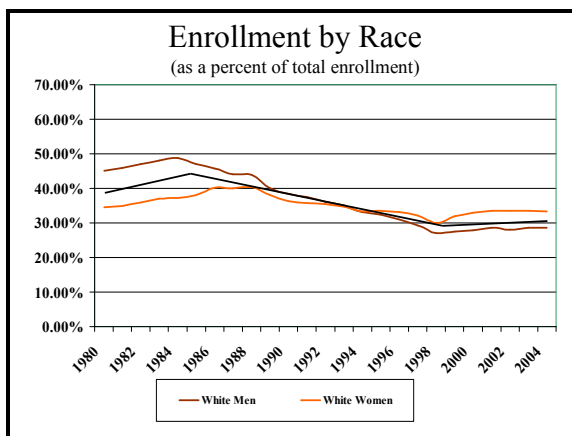
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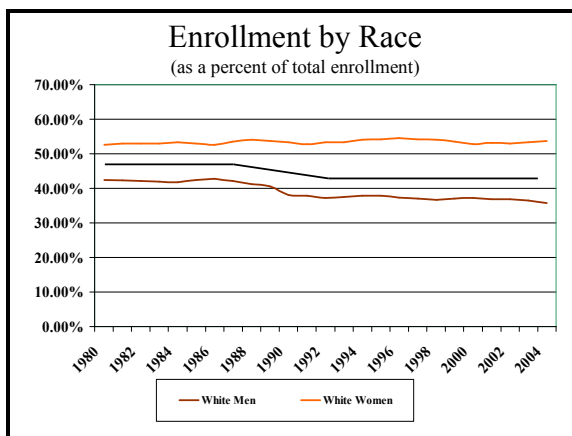
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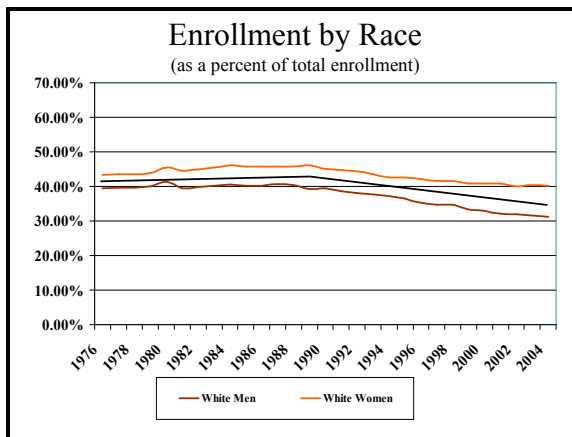
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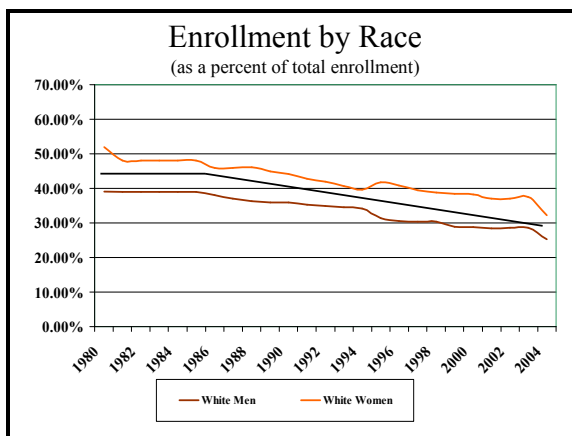
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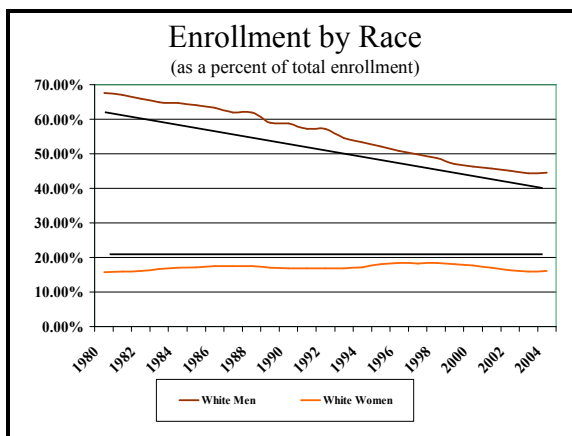
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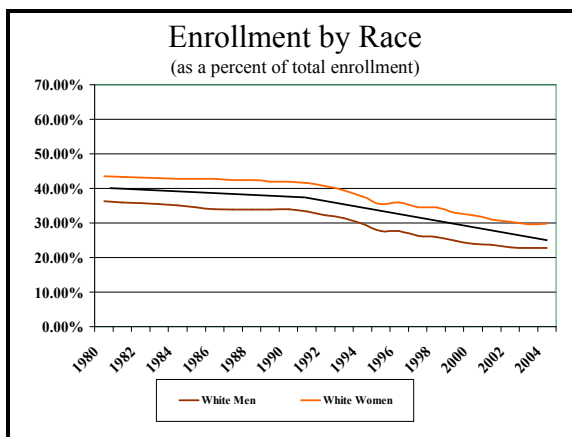
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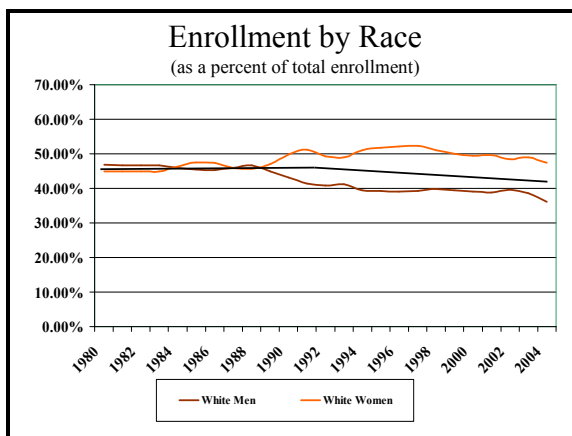
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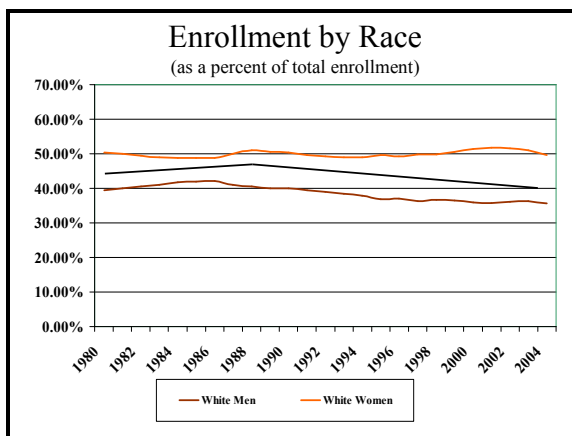
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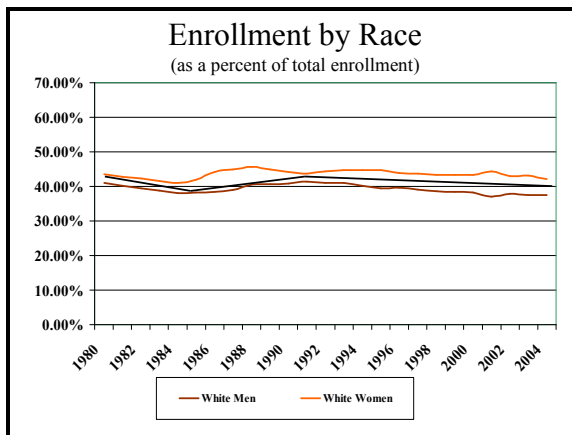
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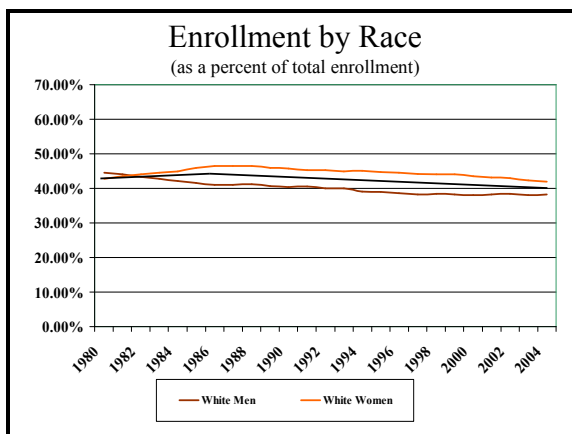
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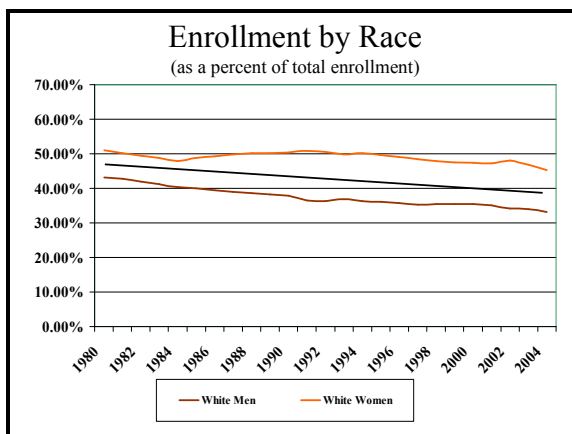
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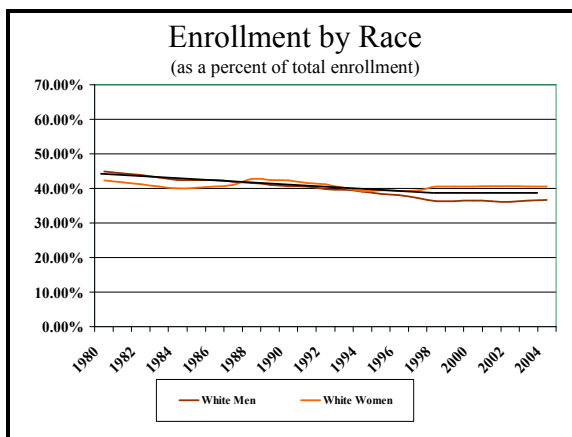
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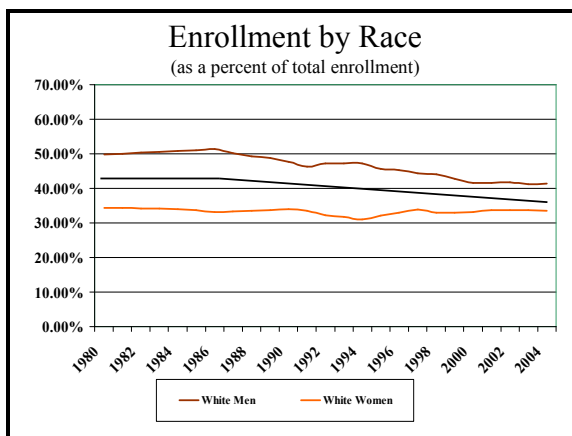
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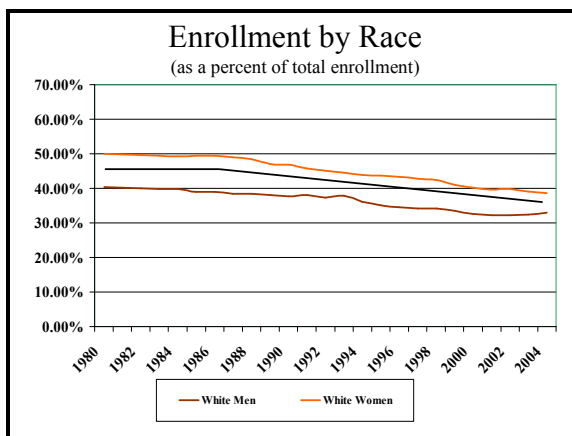
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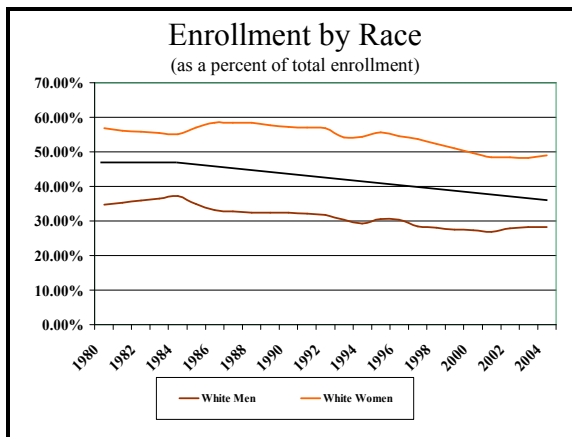


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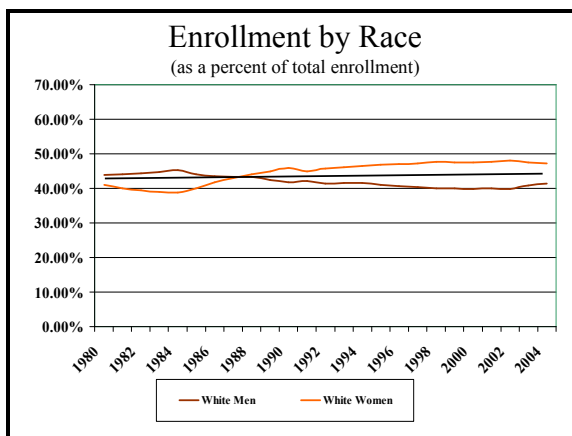




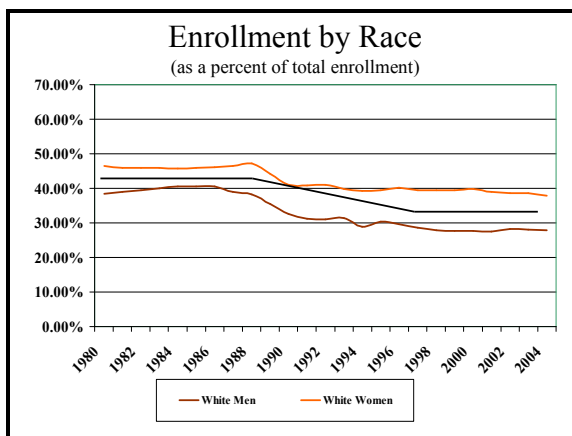
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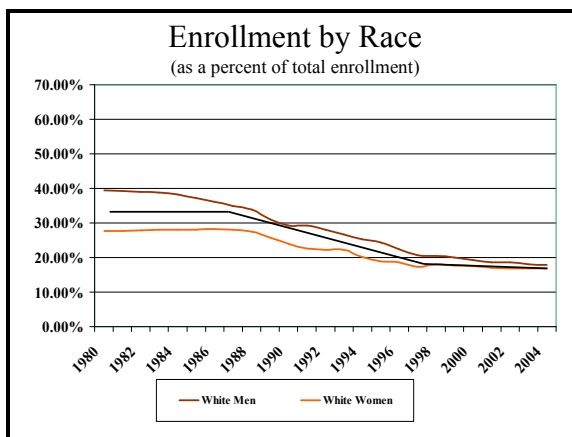
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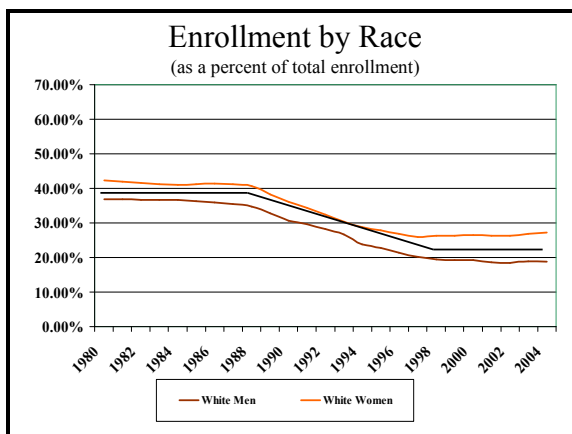
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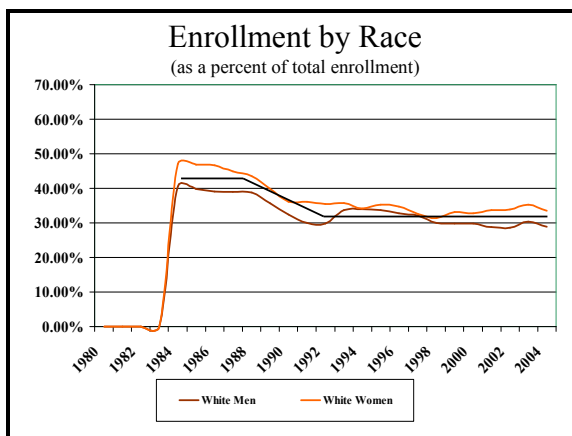
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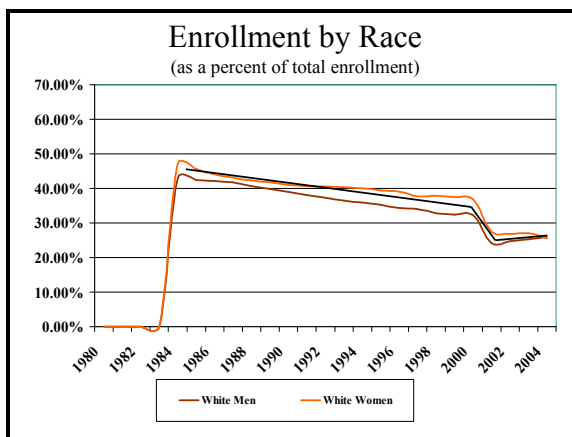
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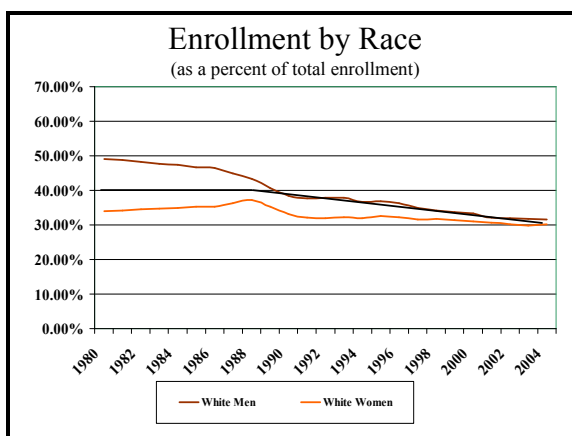
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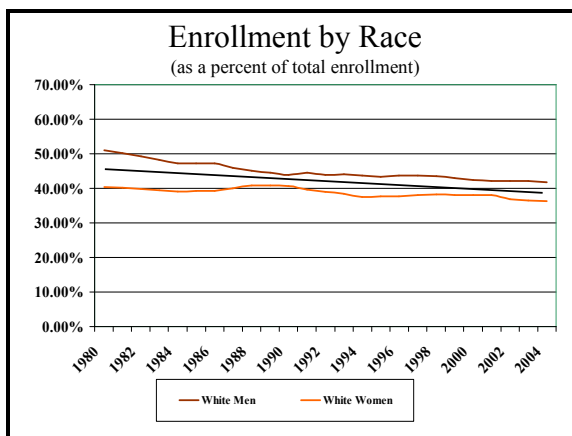
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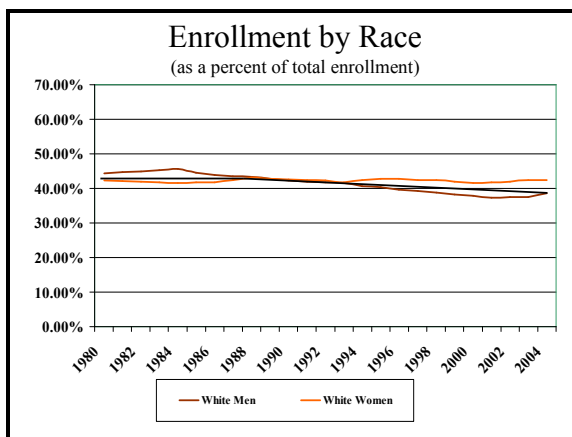
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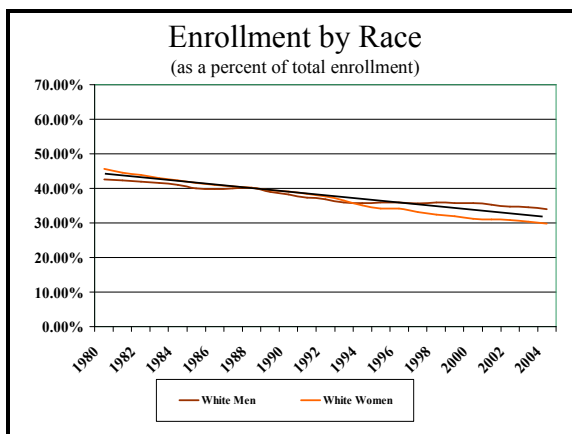
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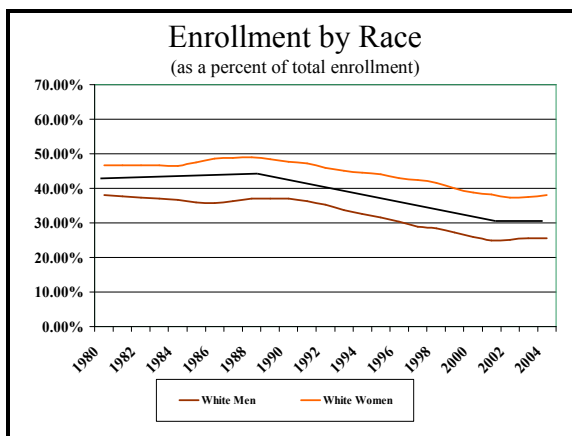
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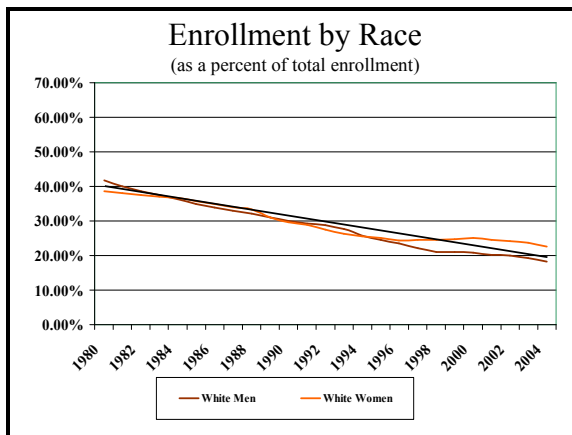
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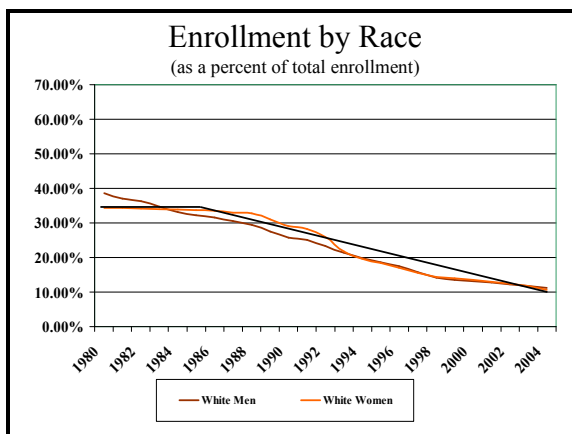
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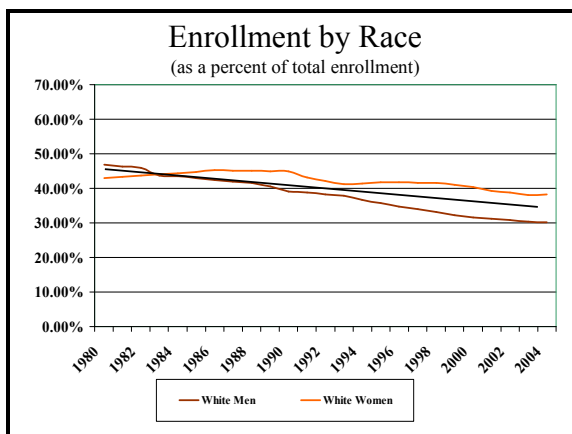
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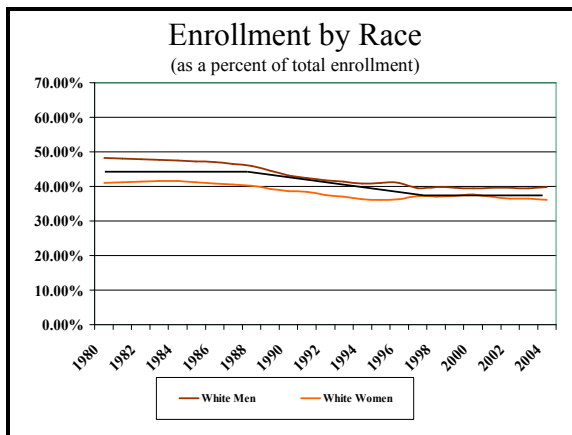
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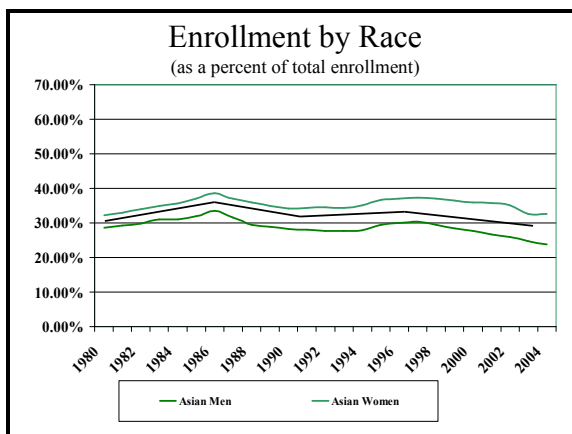
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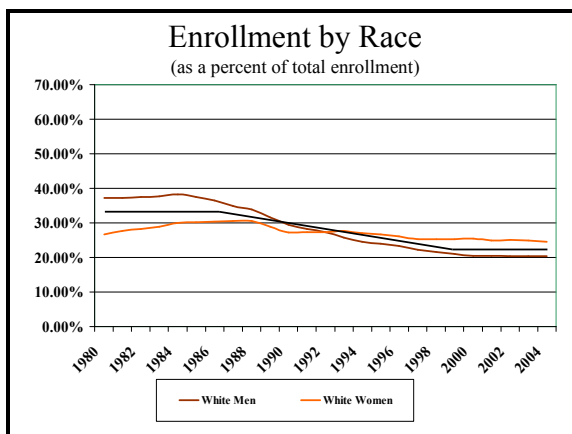
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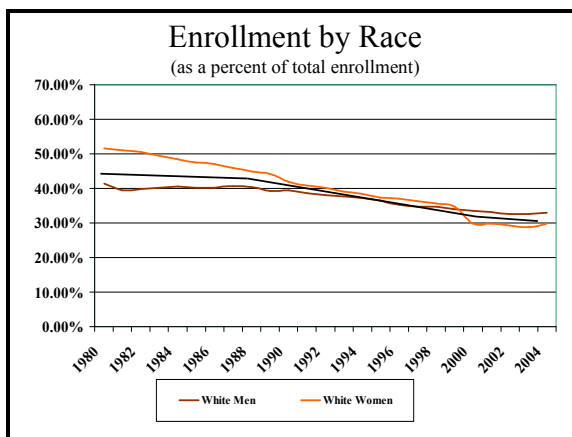
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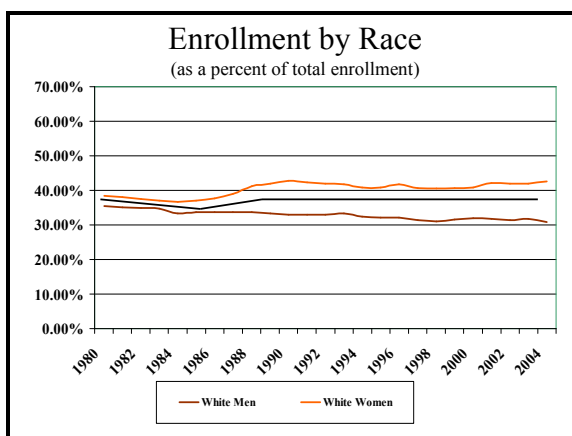
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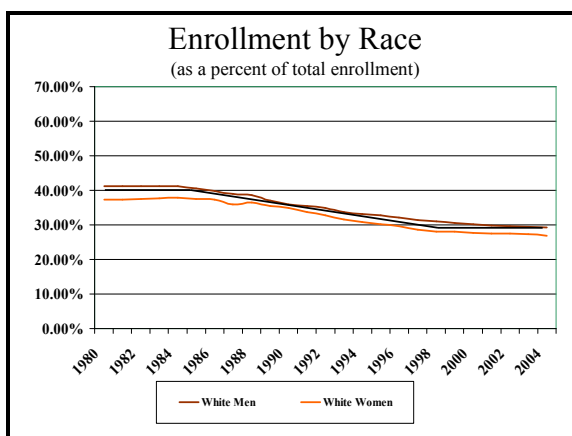
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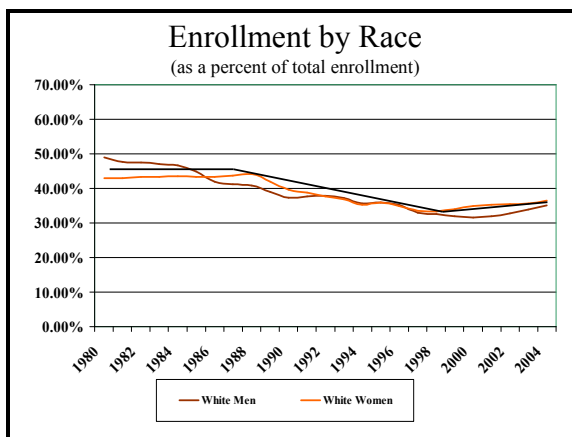
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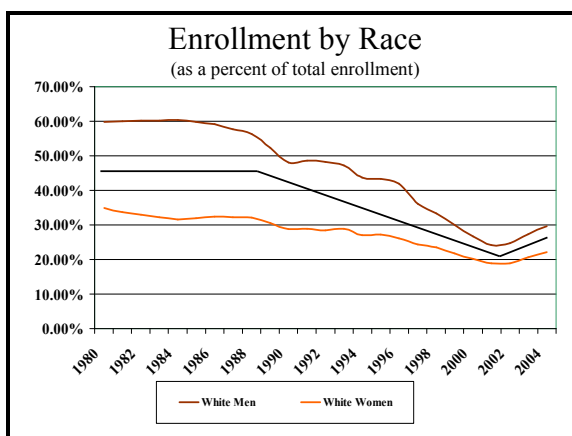
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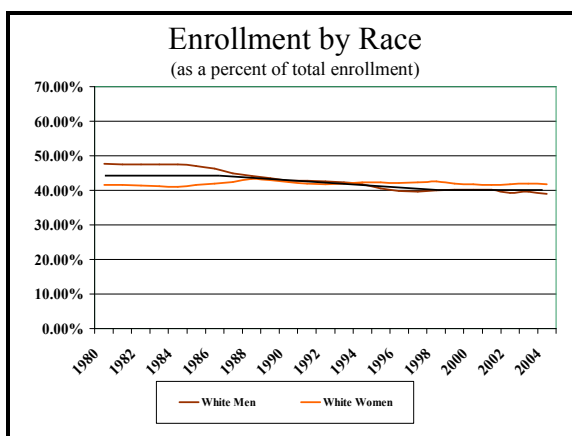
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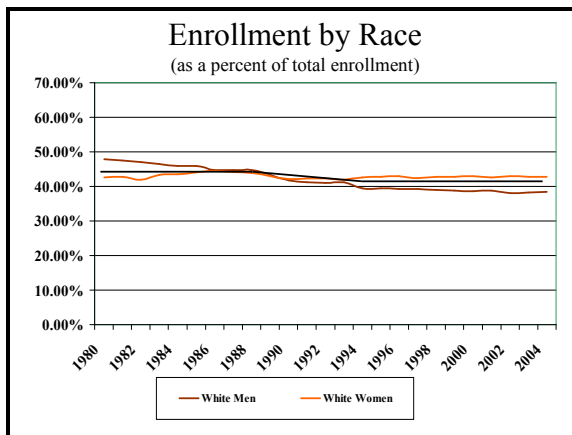


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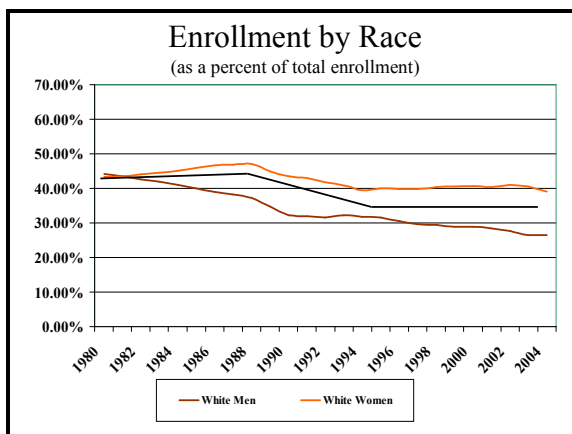




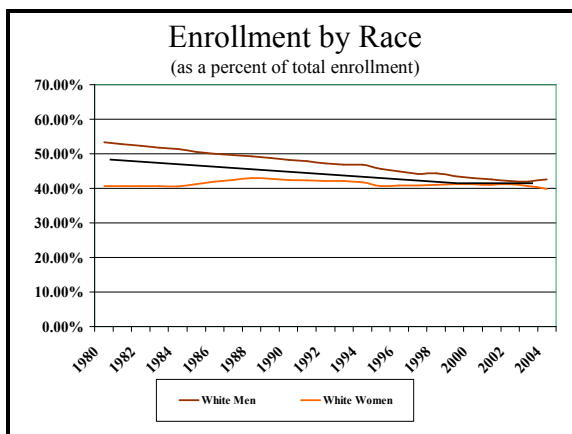
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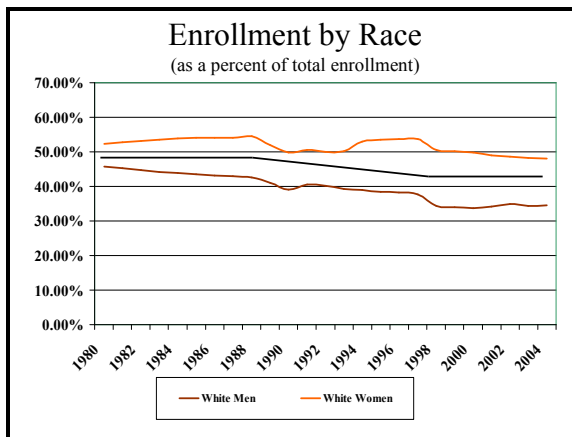
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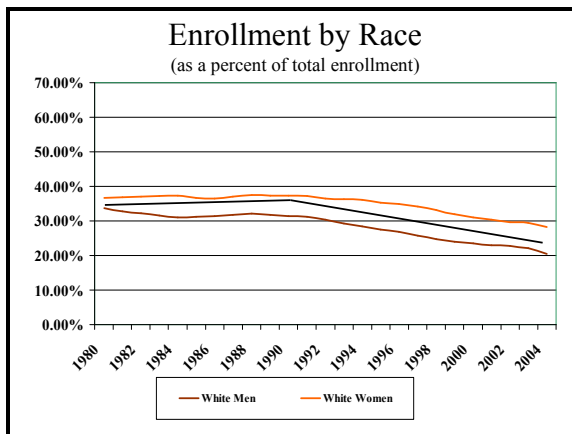
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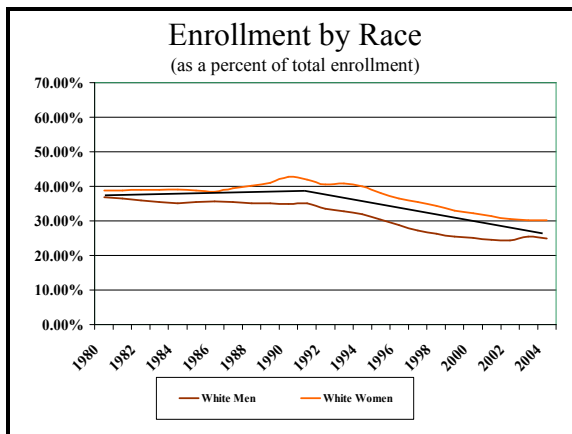
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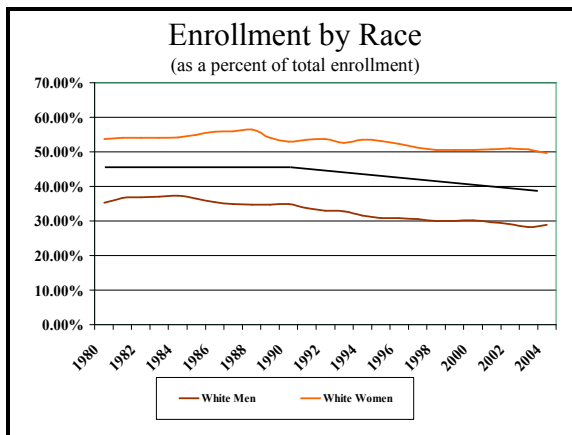
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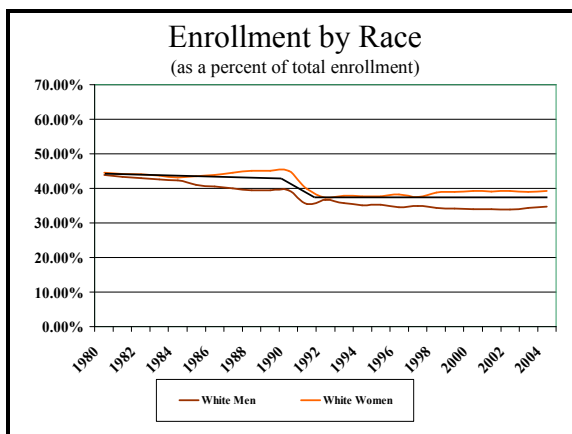
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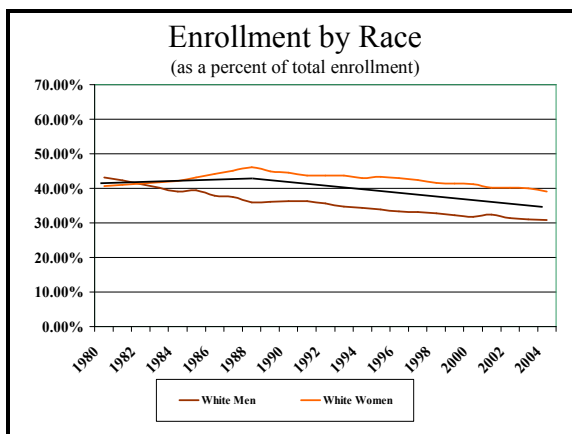
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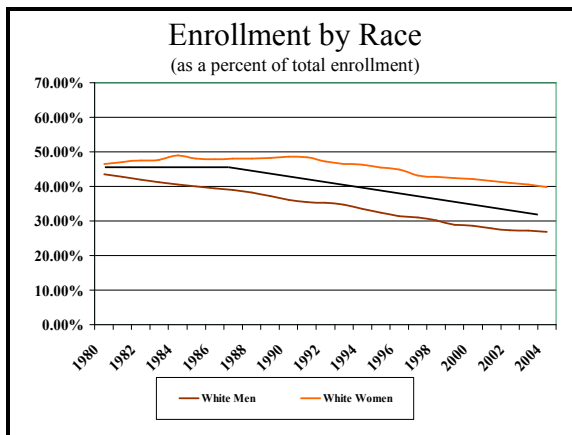
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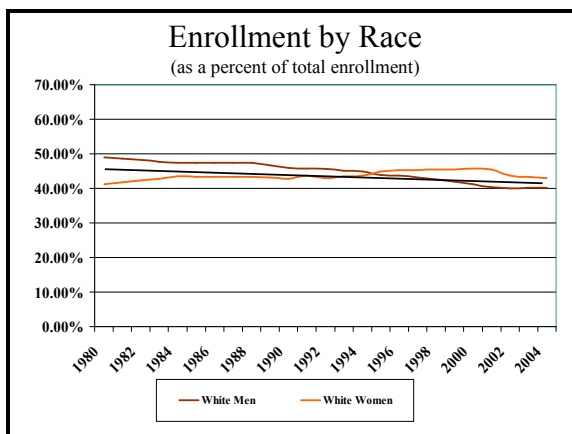
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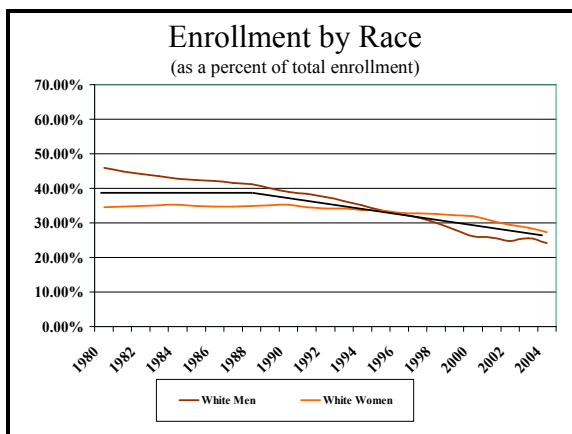
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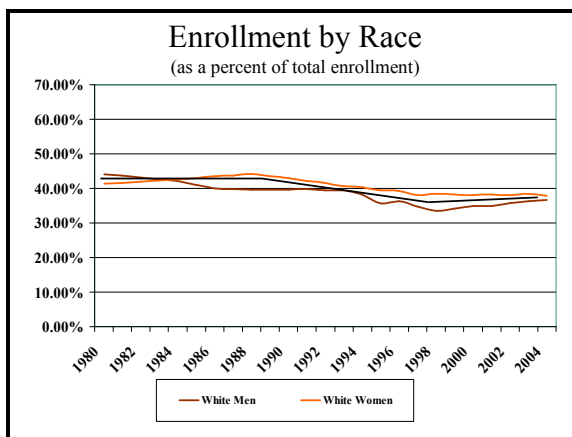
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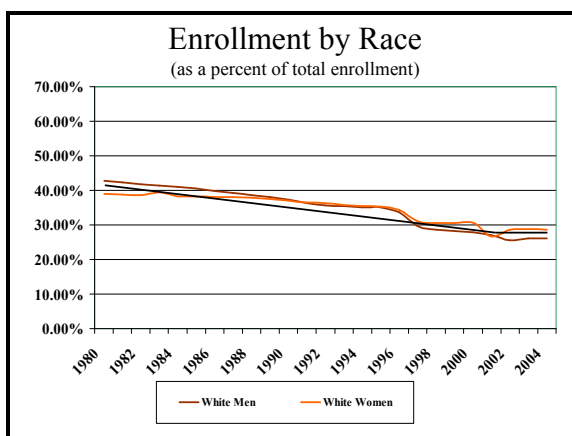
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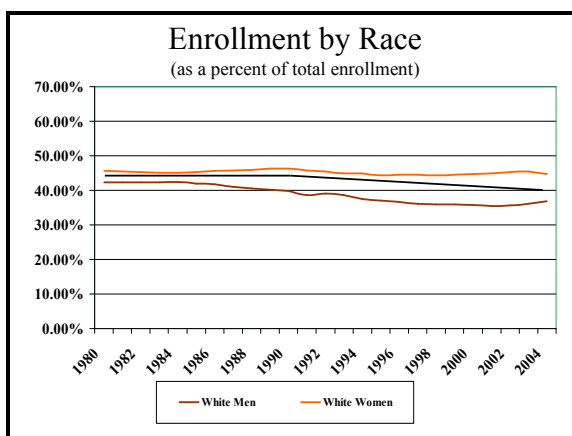
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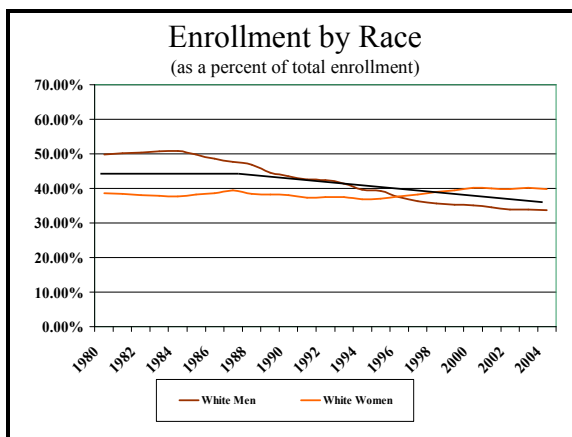
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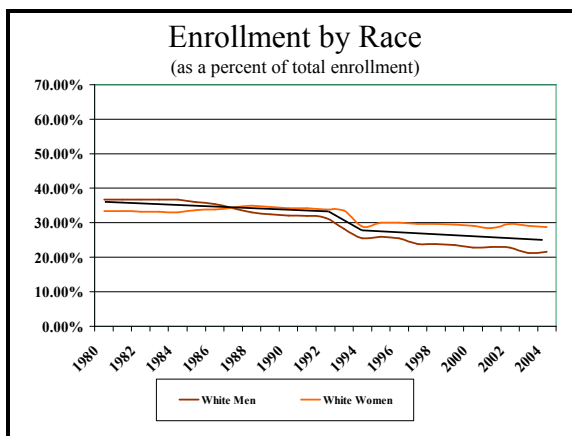
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University # 58



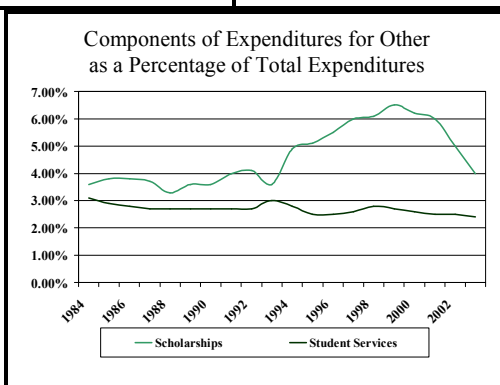
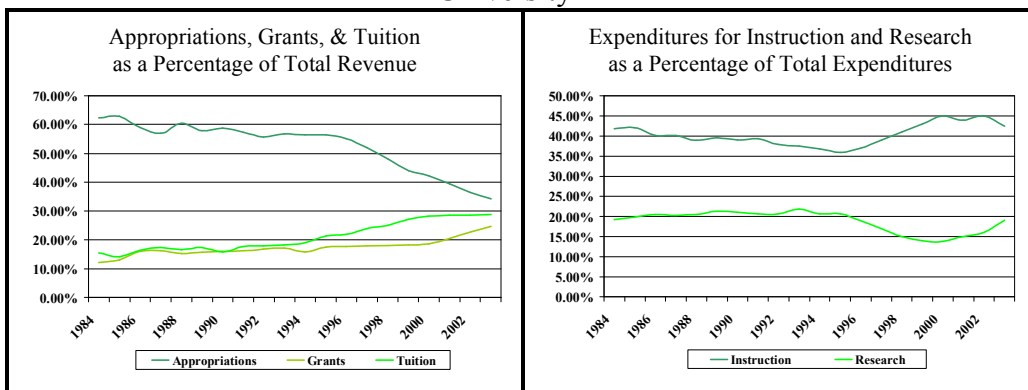
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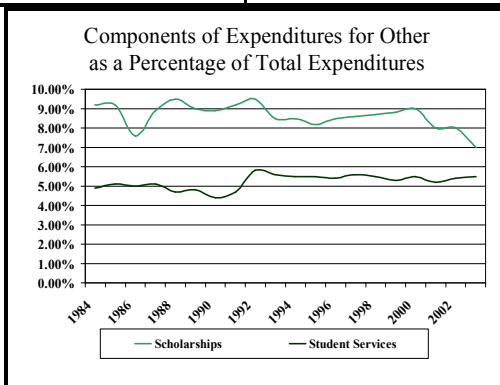
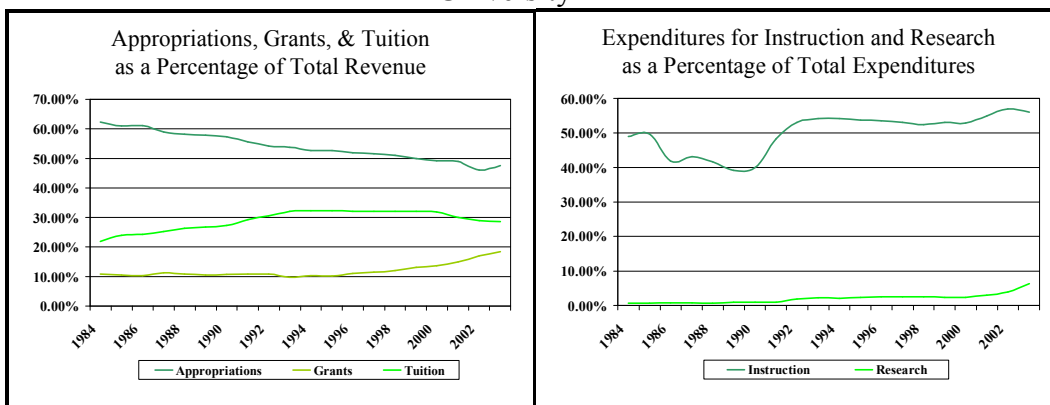
## **Appendix U**

### **Sources and Uses of Funding for Study Institutions**

### University # 1

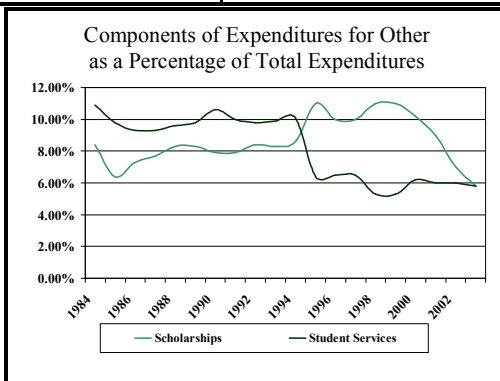
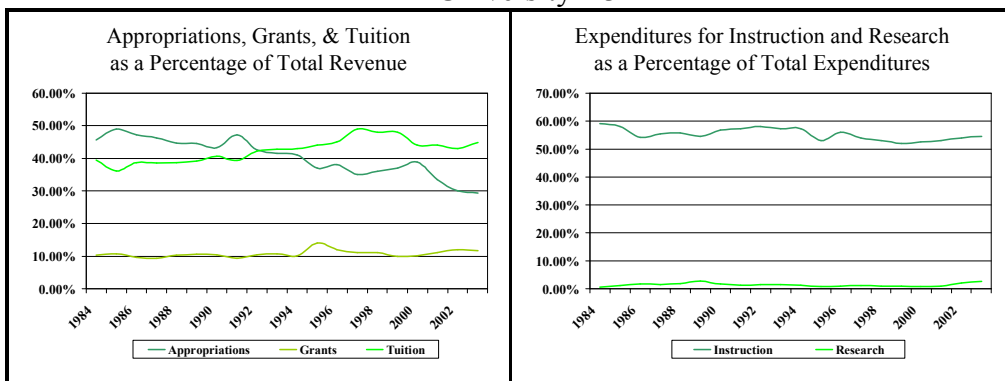


### University # 2

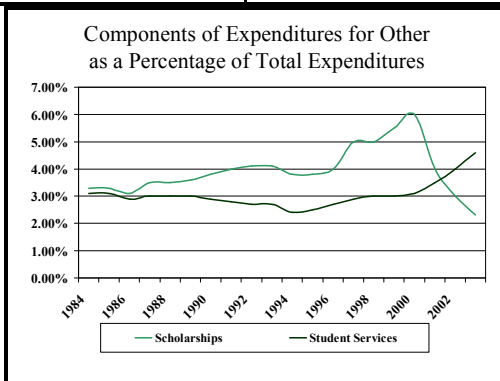
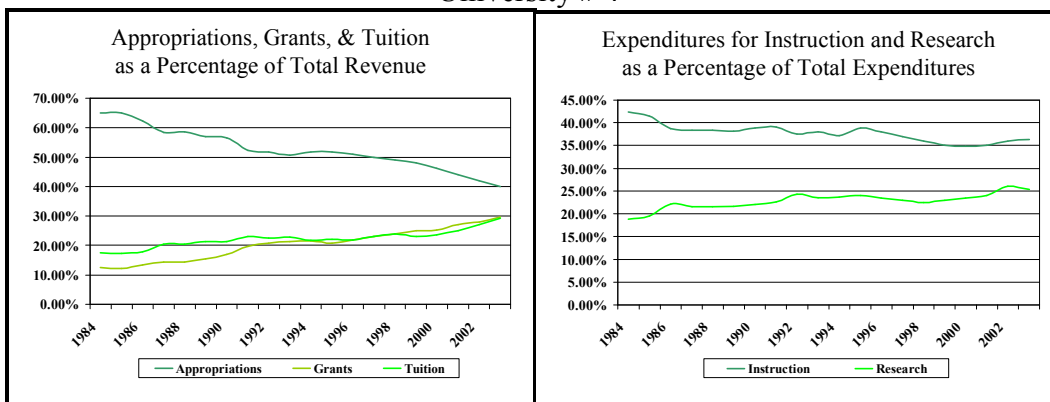




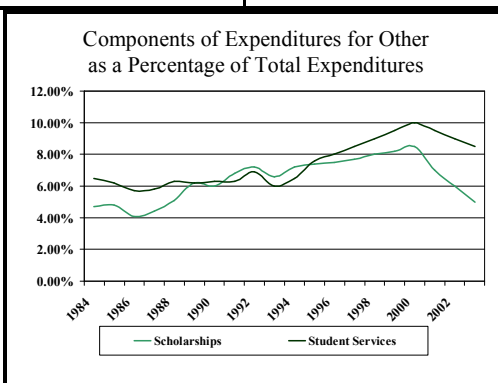
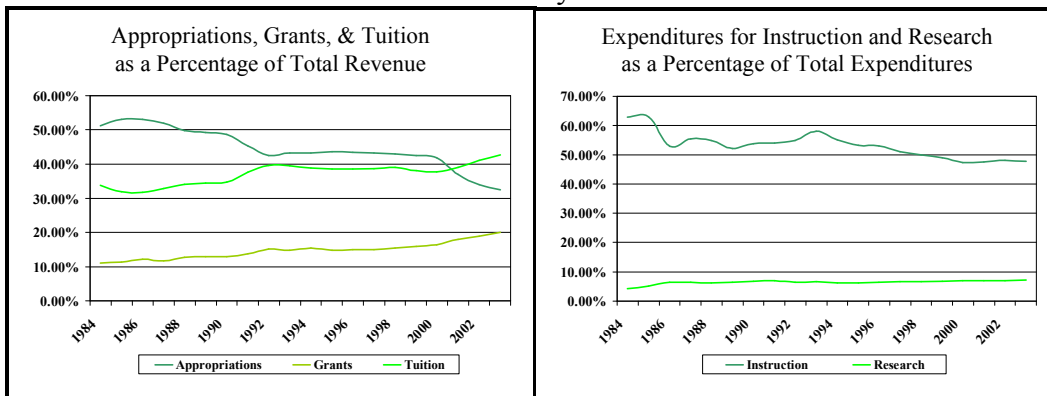
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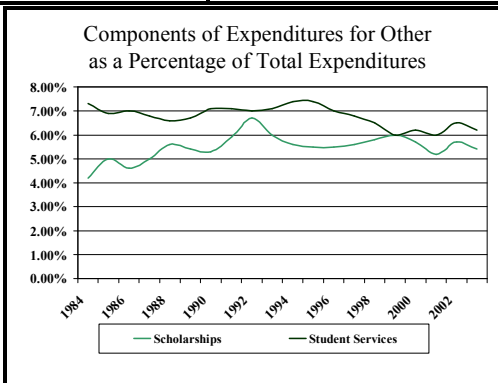
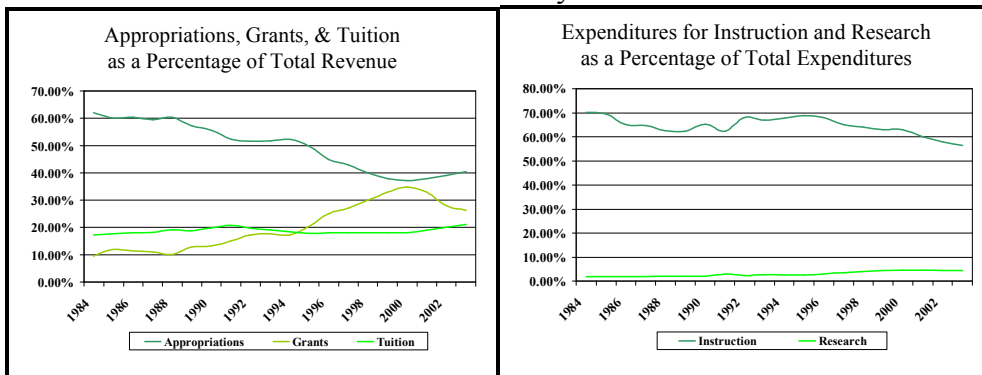
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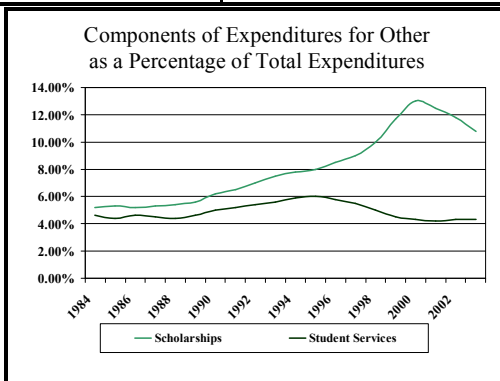
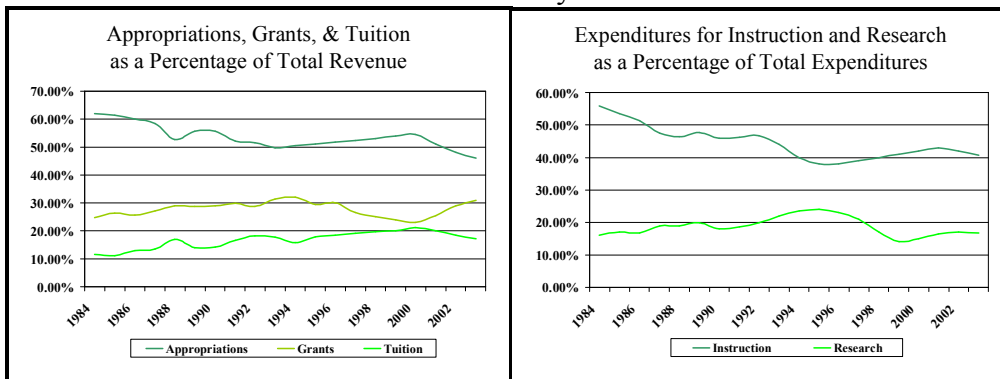
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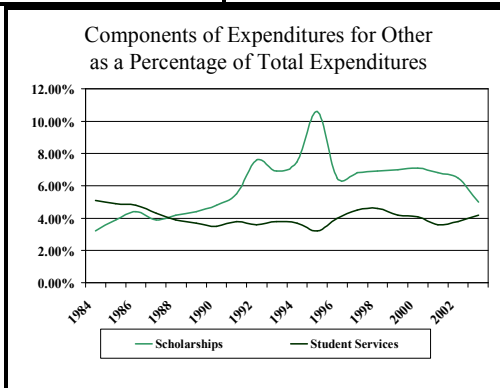
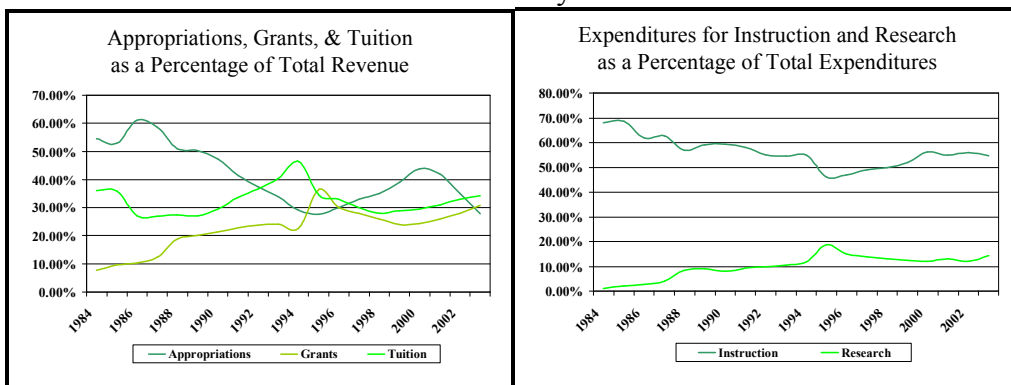
### University # 6



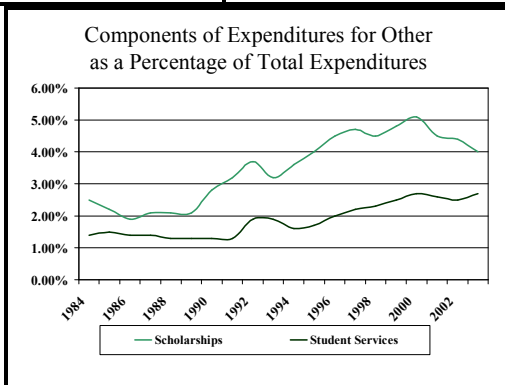
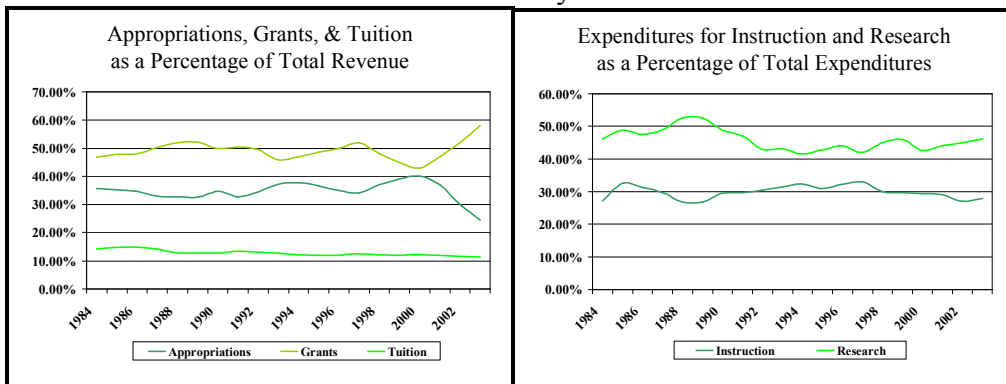
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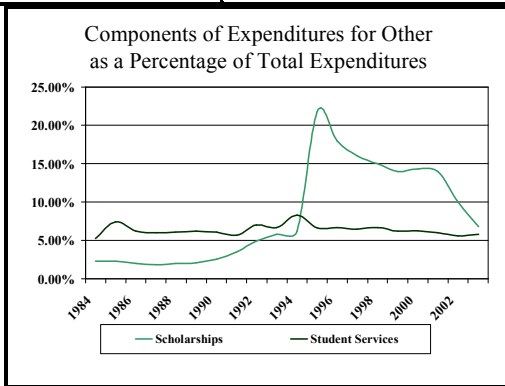
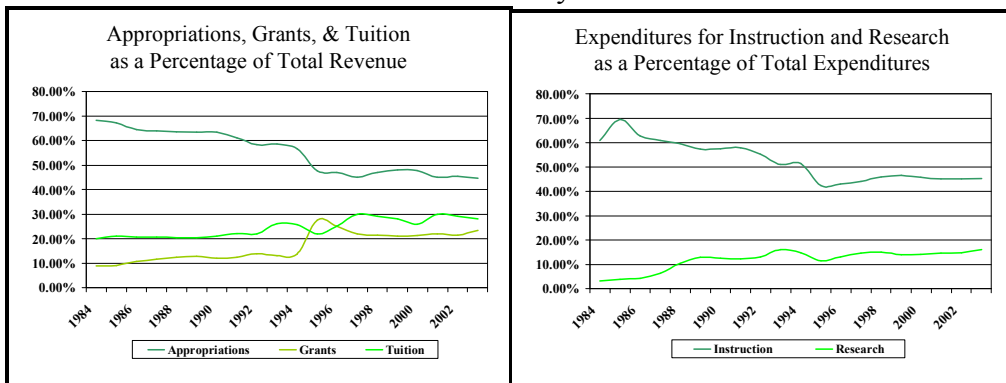
### University # 8



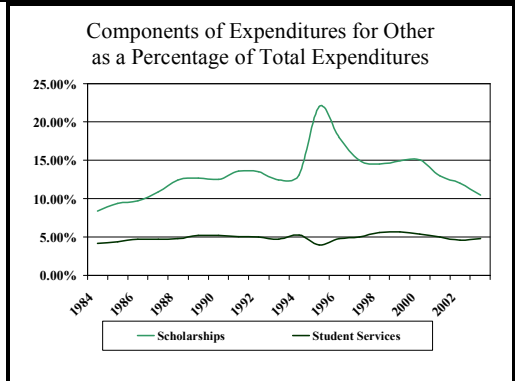
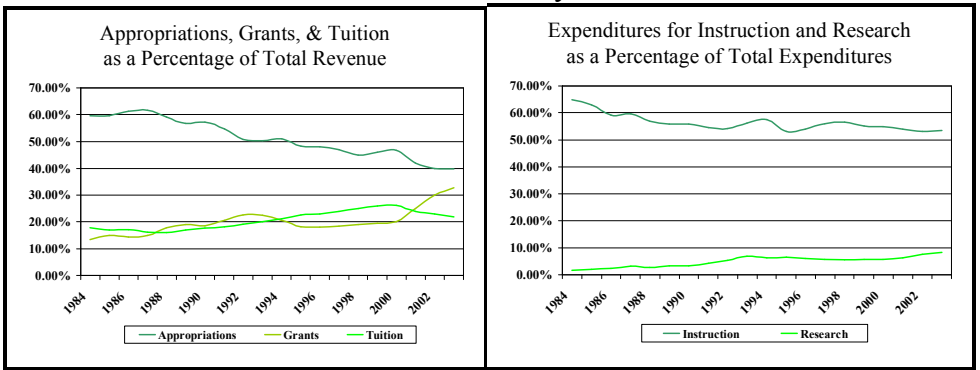
### University # 9



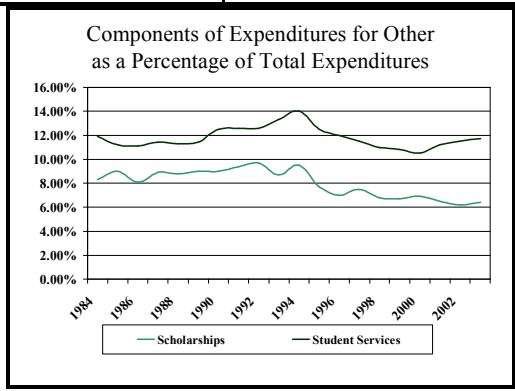
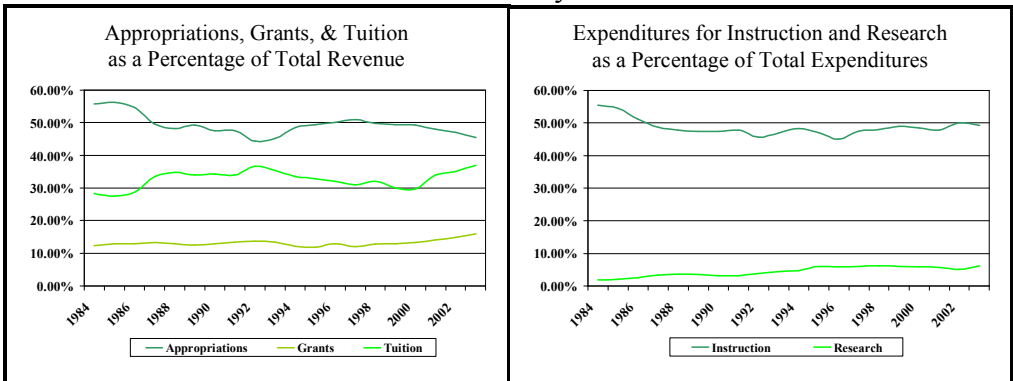
### University # 10



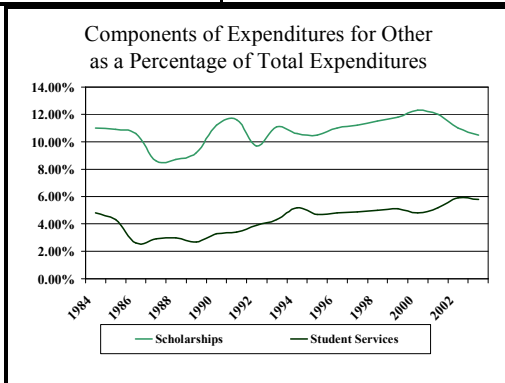
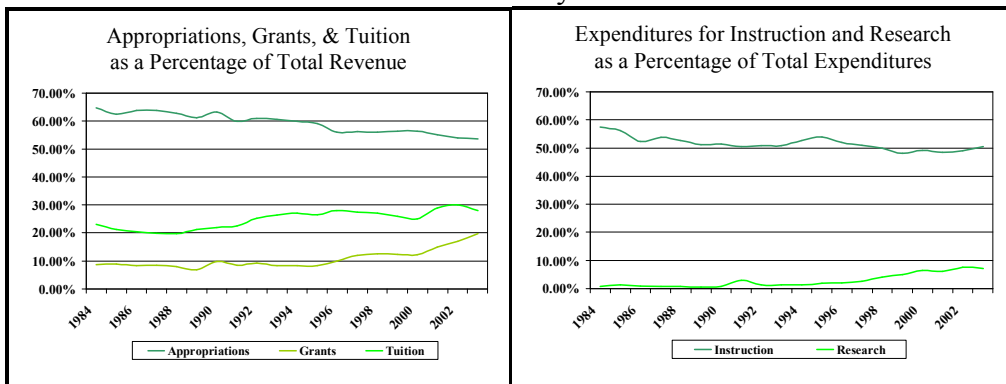
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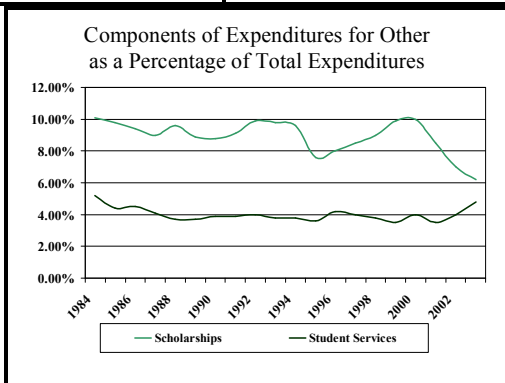
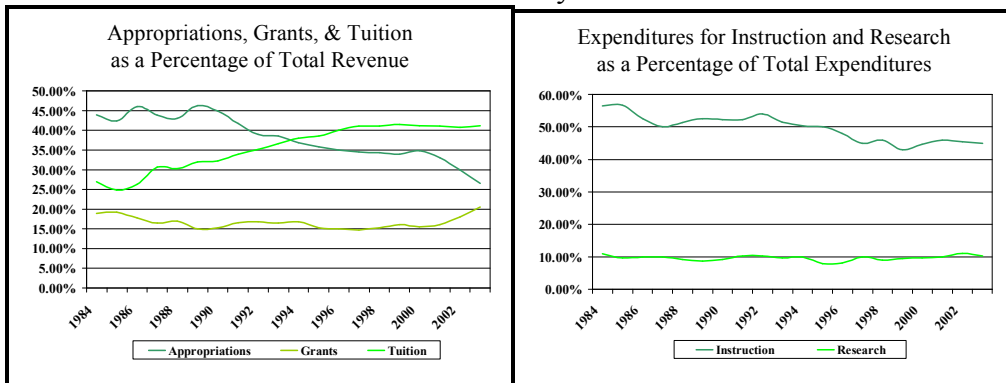
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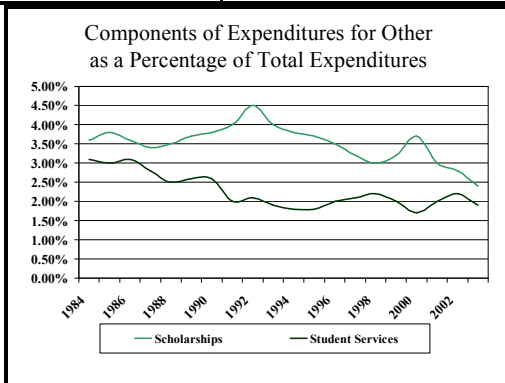
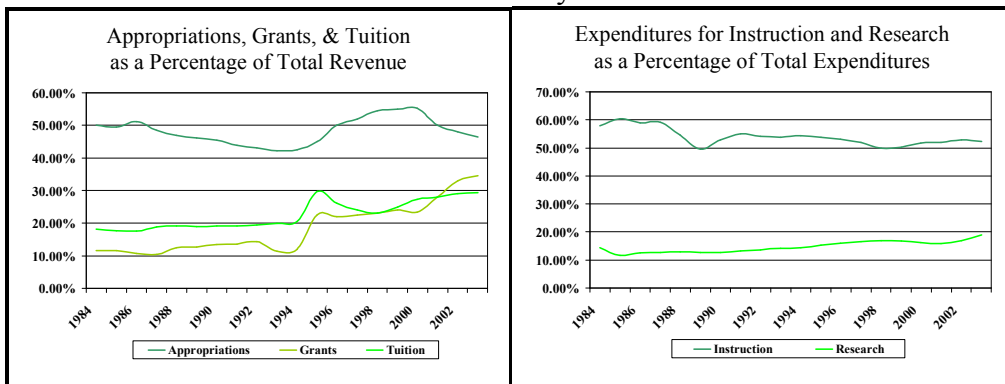
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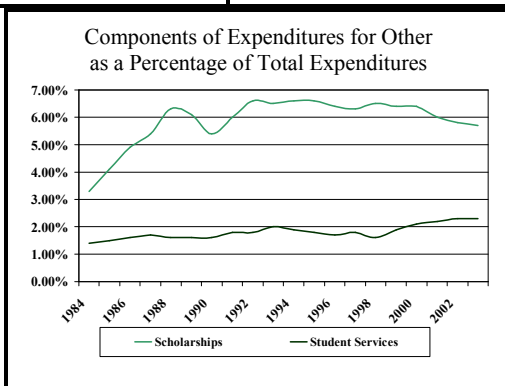
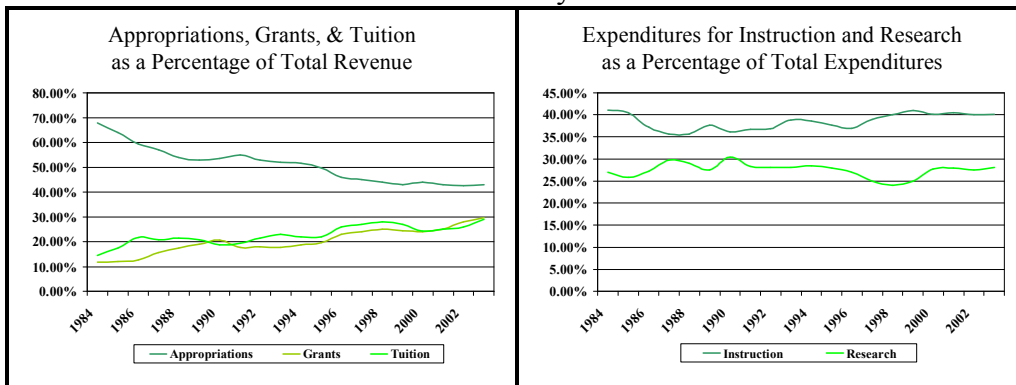
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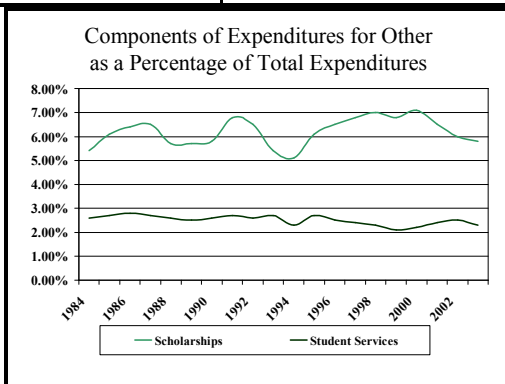
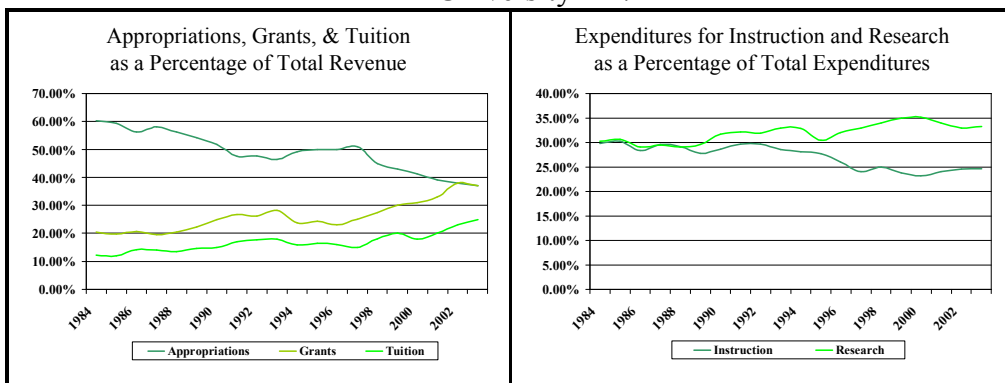
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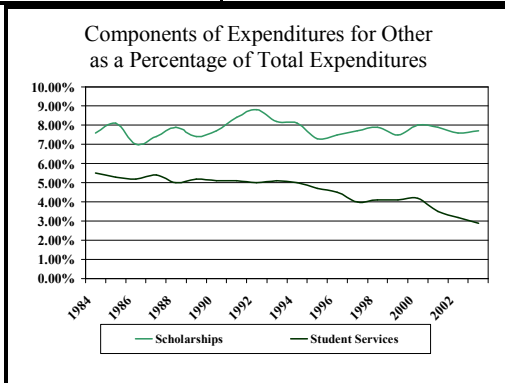
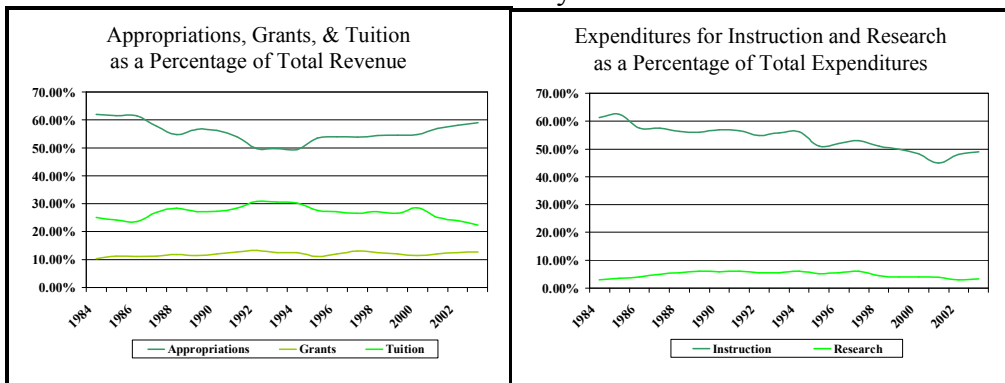
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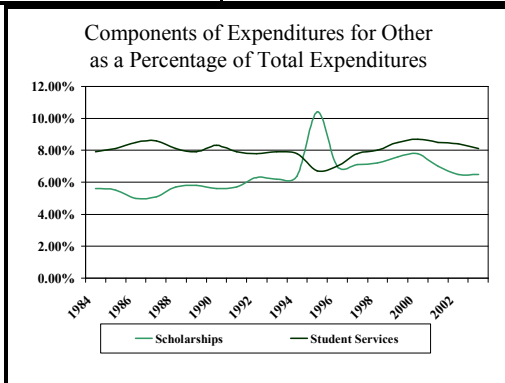
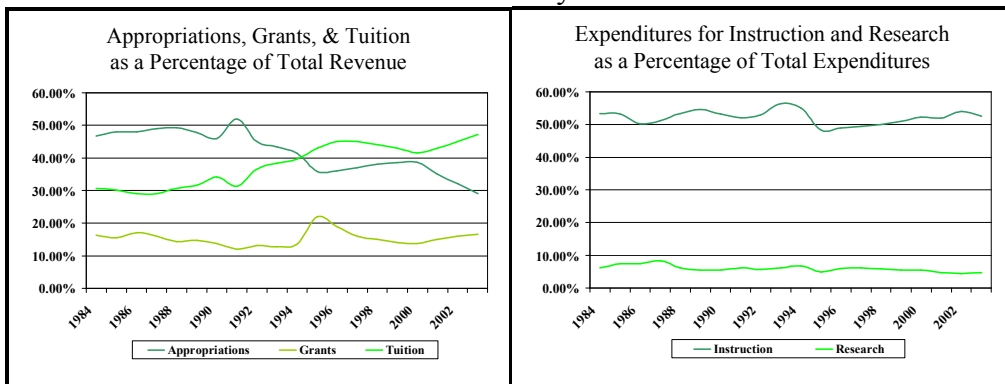


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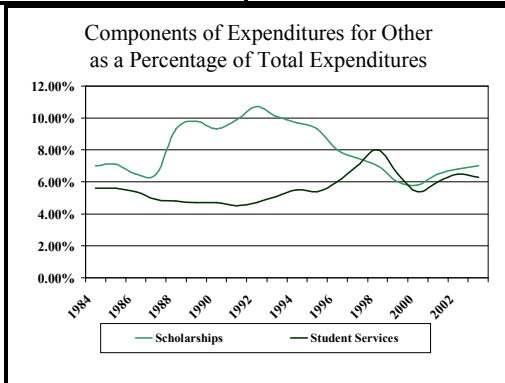
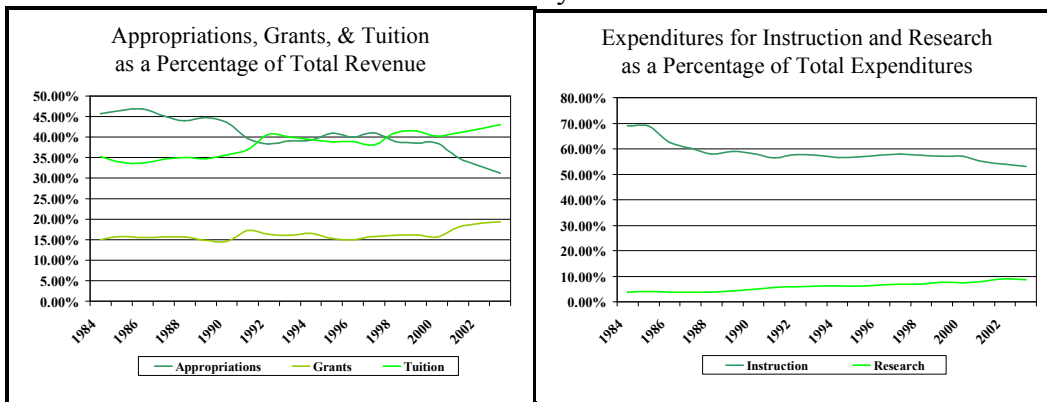




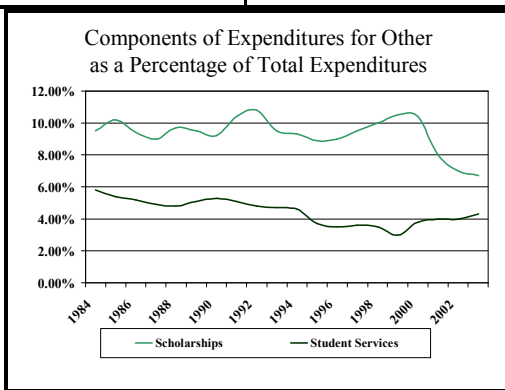
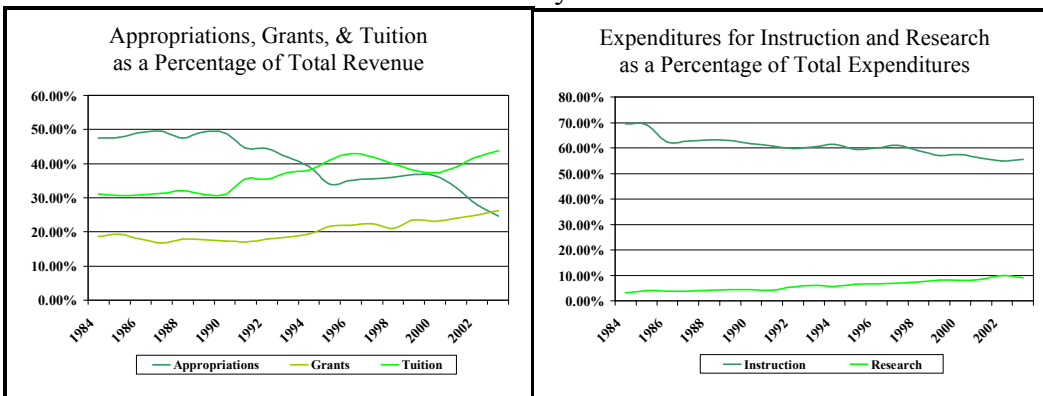
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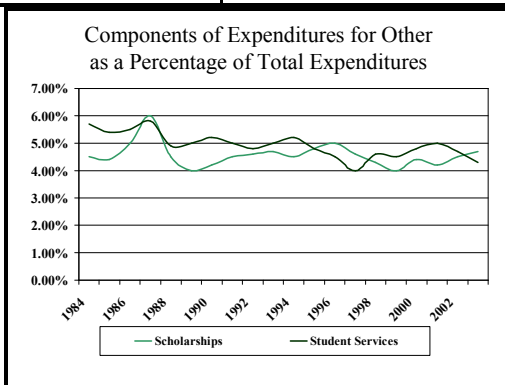
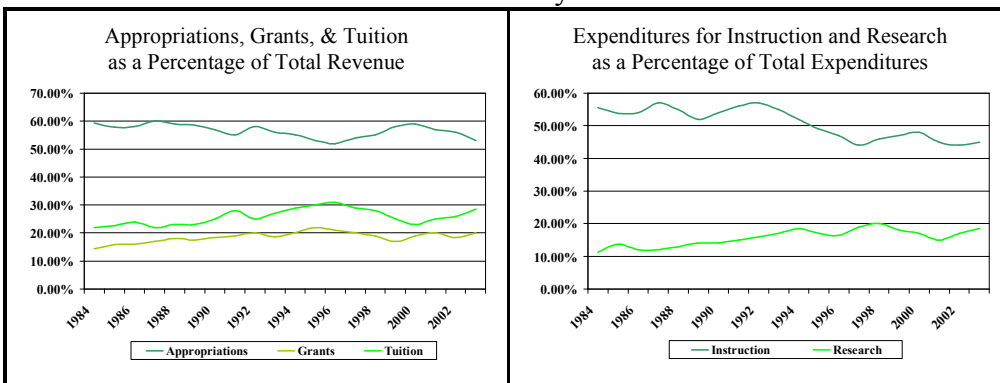
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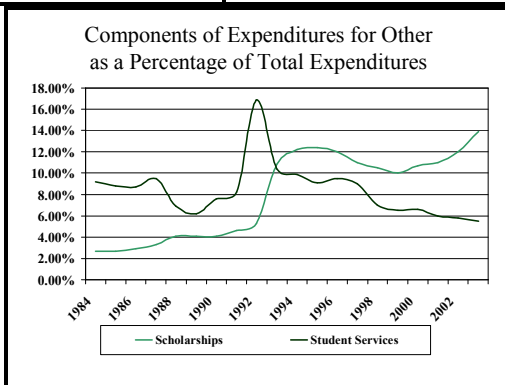
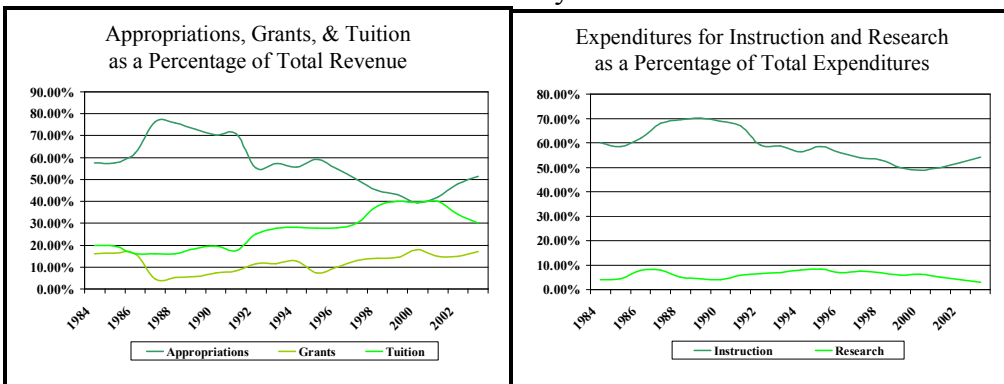
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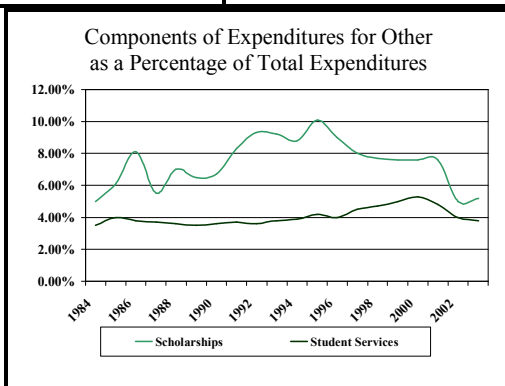
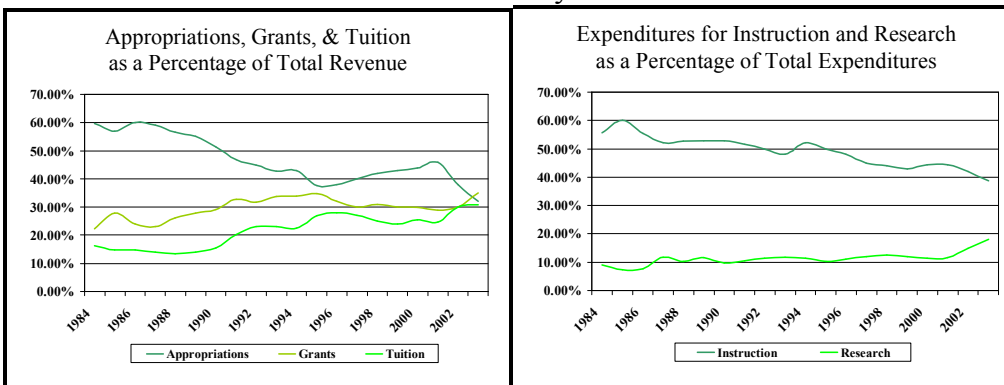
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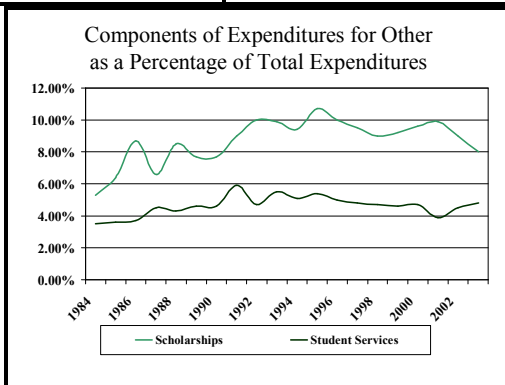
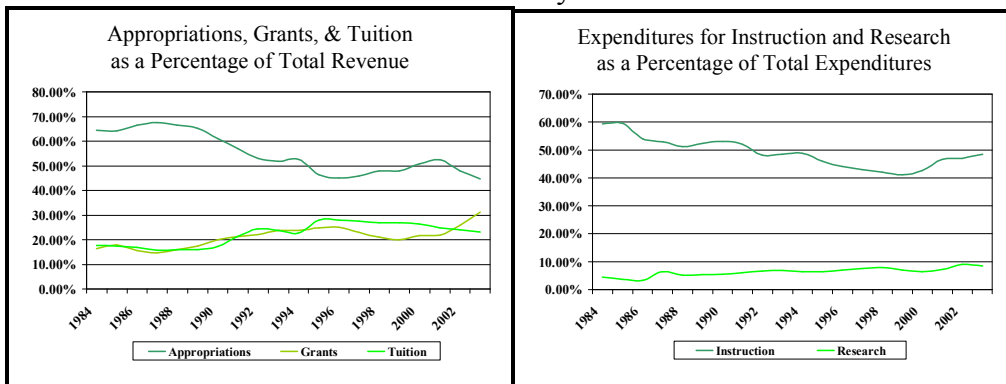
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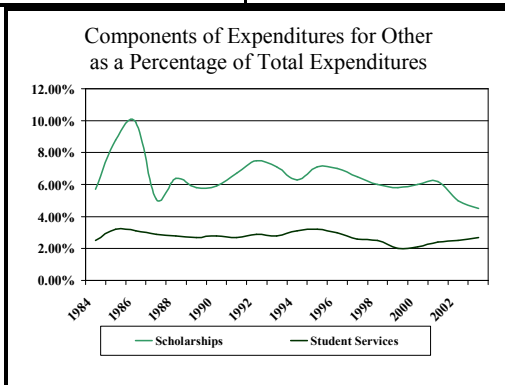
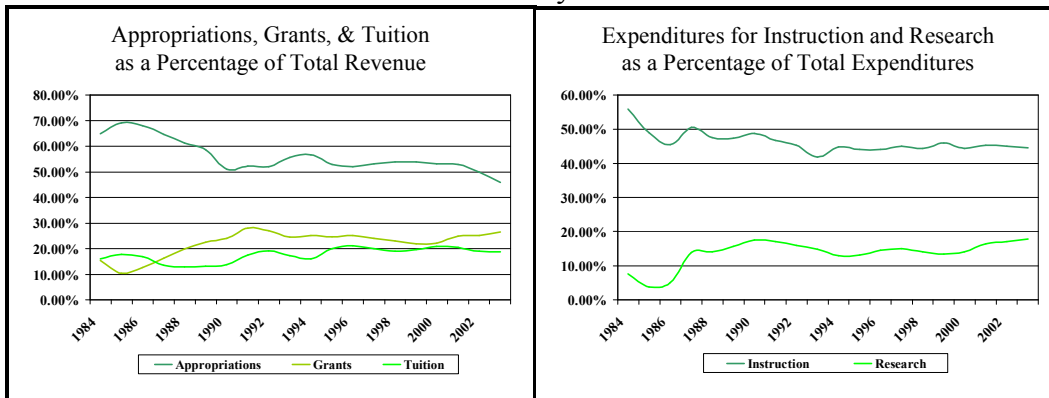
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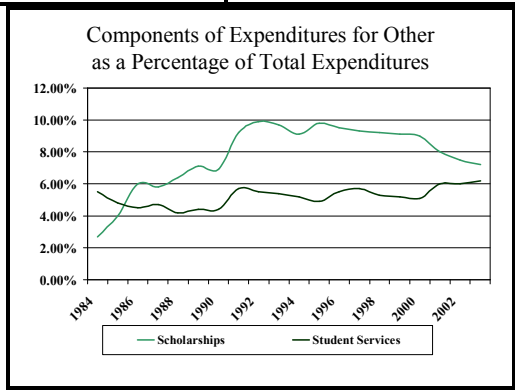
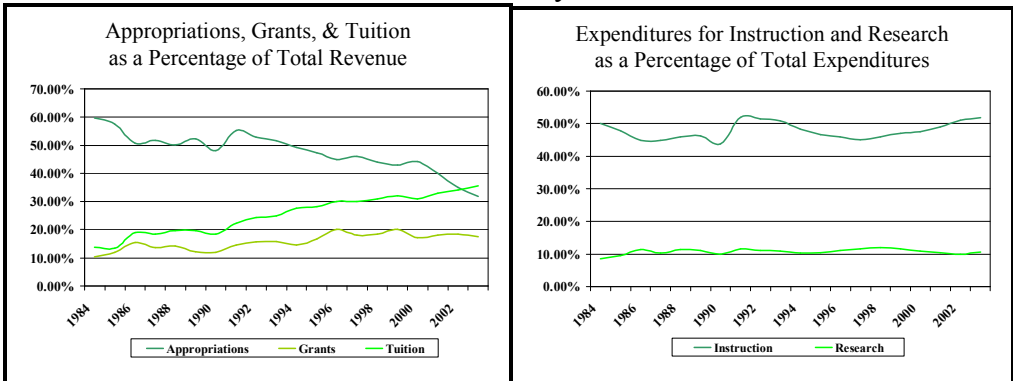
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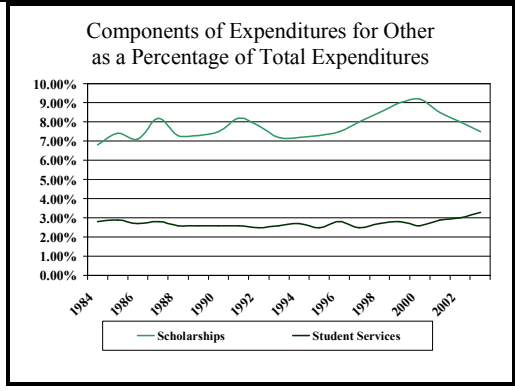
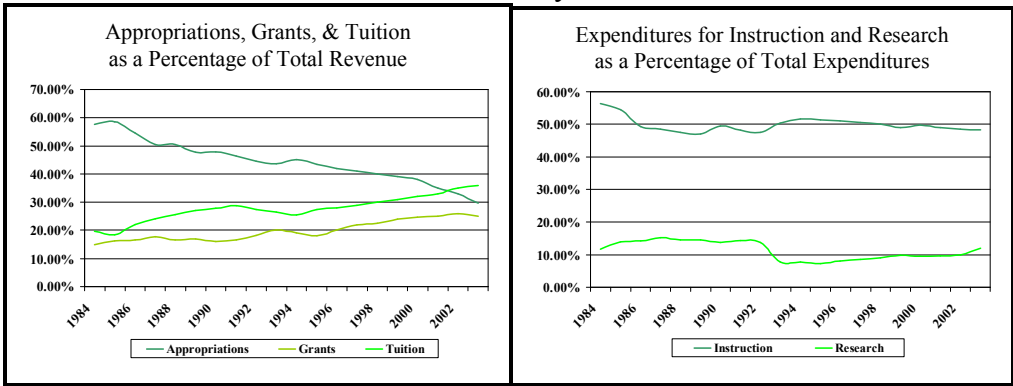
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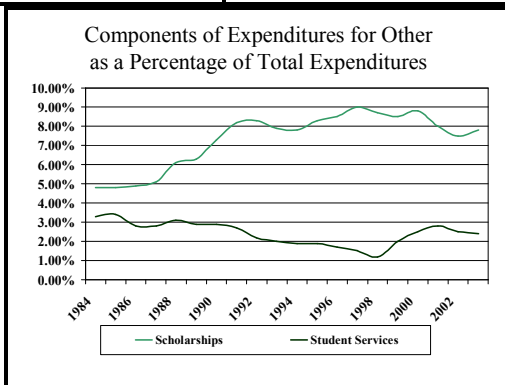
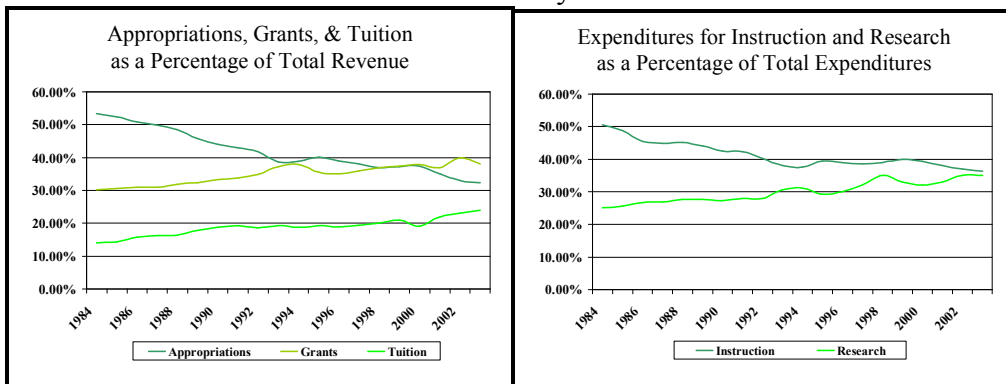
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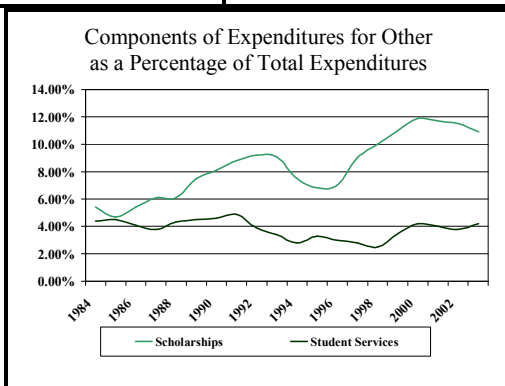
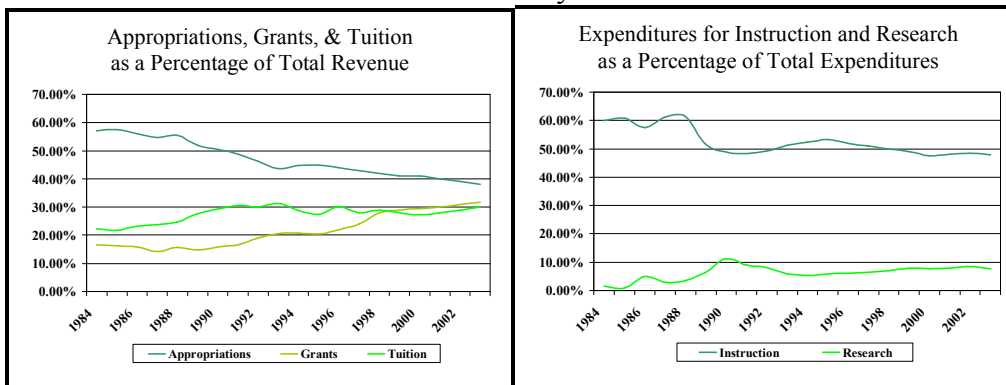
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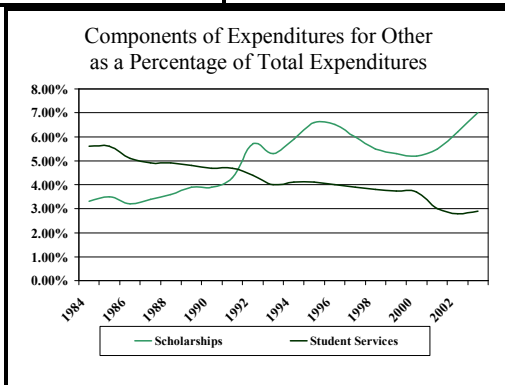
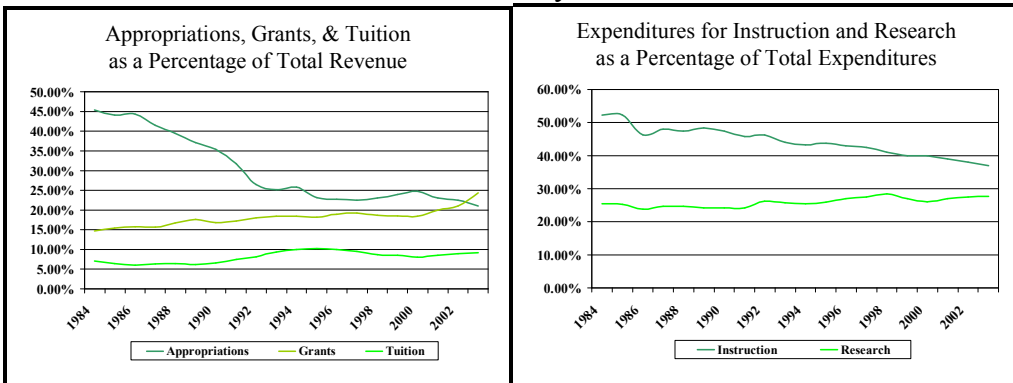
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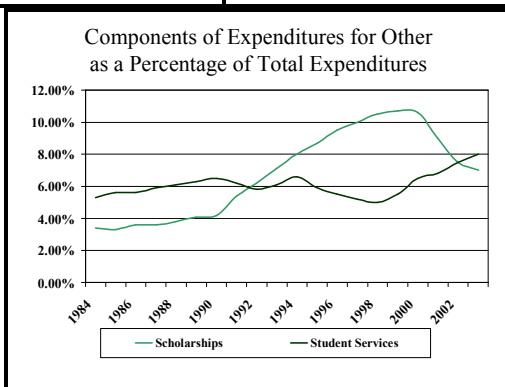
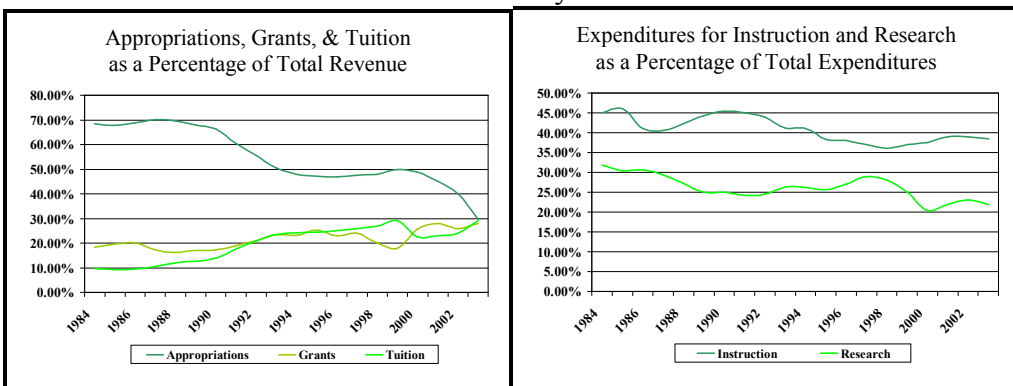
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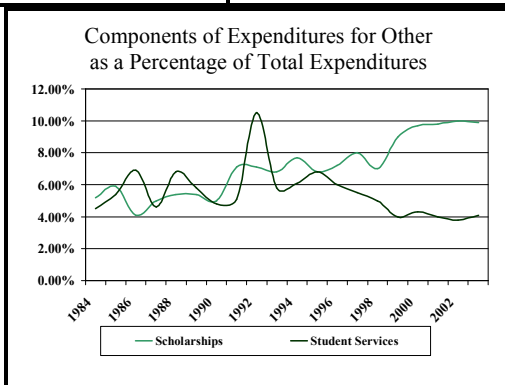
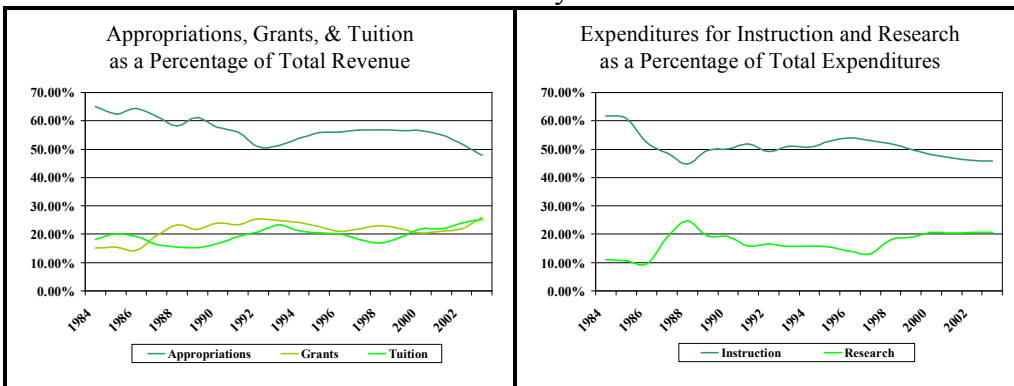
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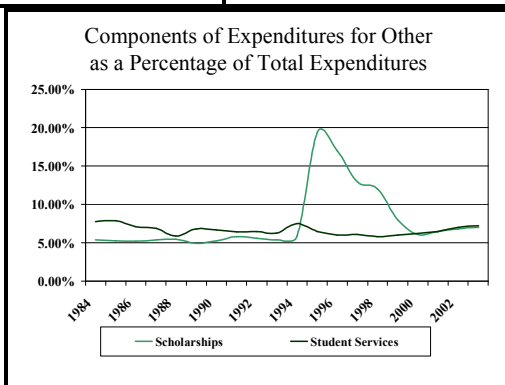
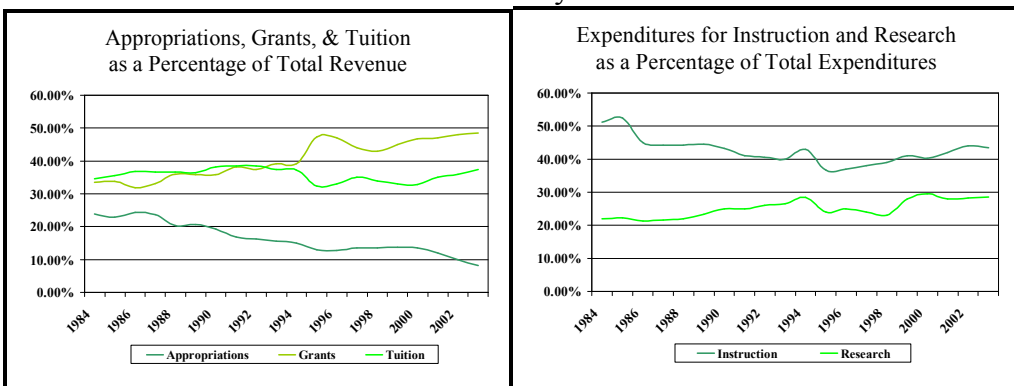
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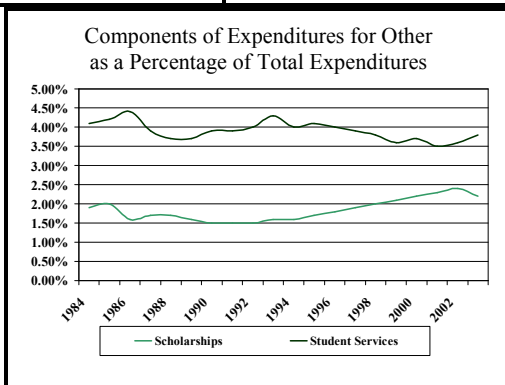
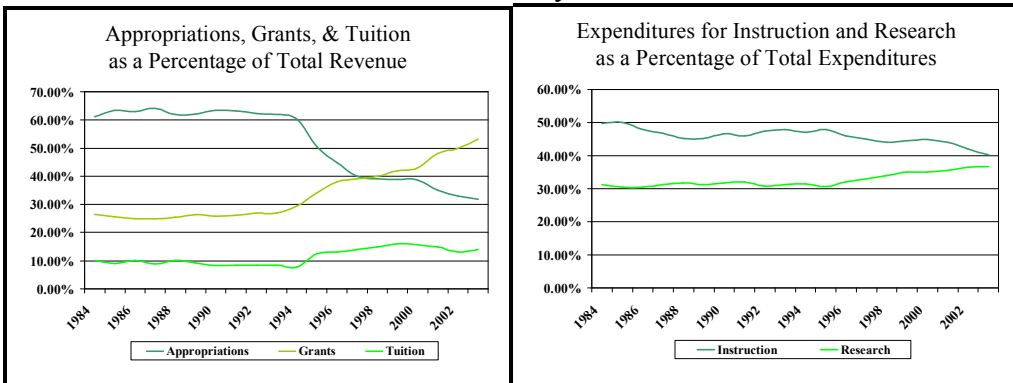


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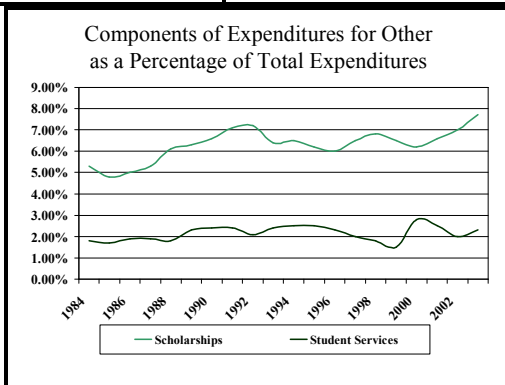
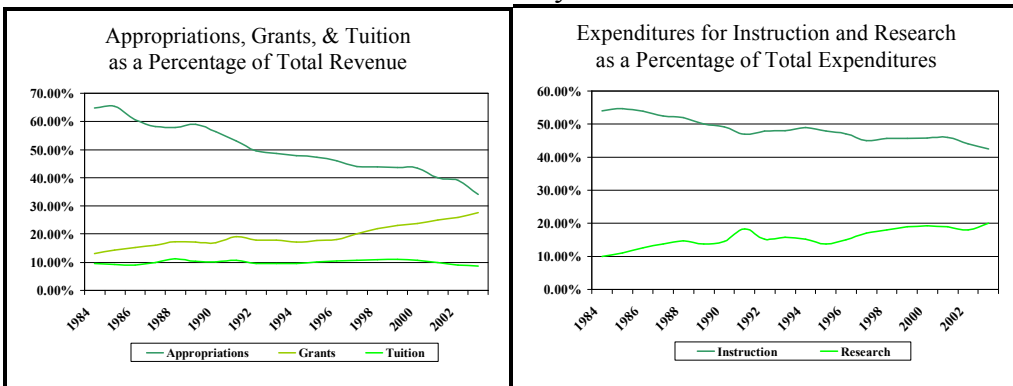




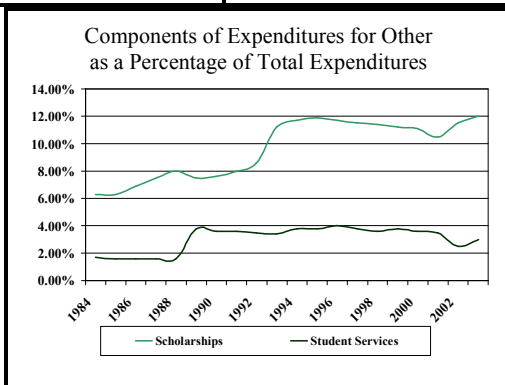
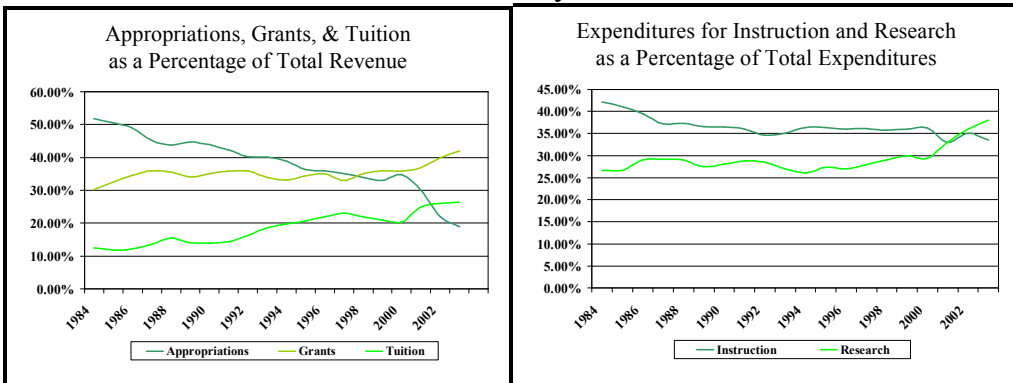
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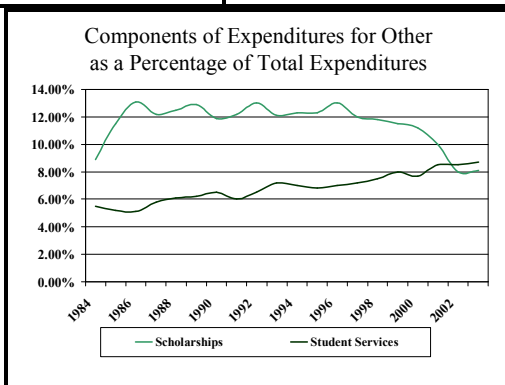
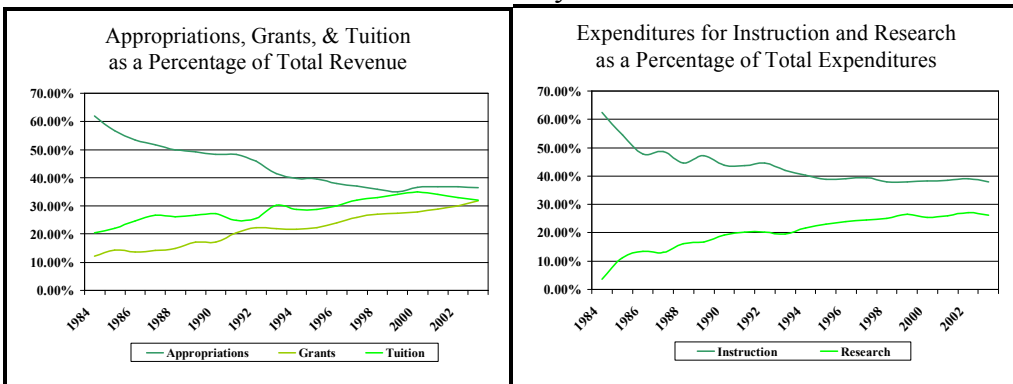
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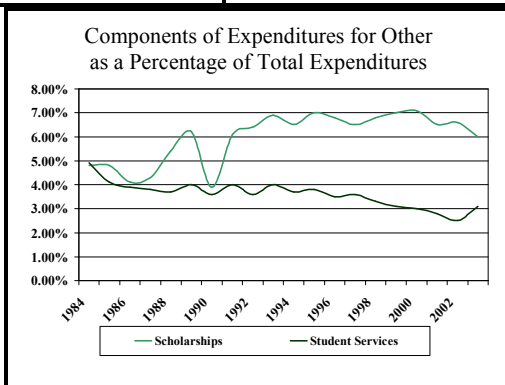
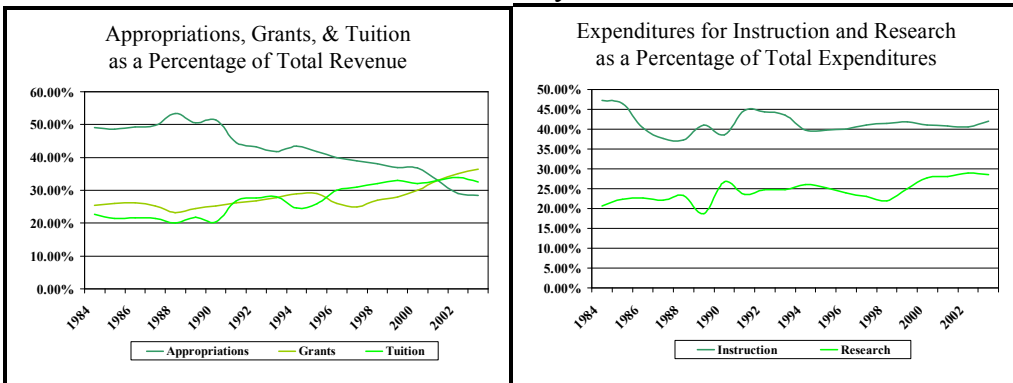
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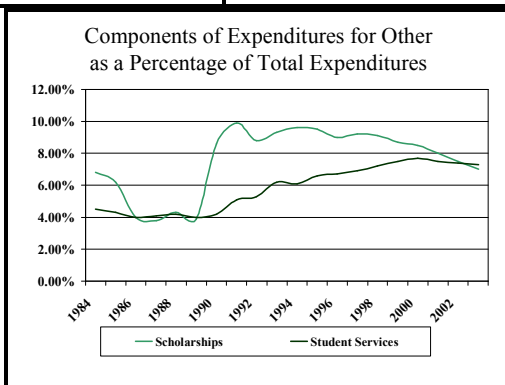
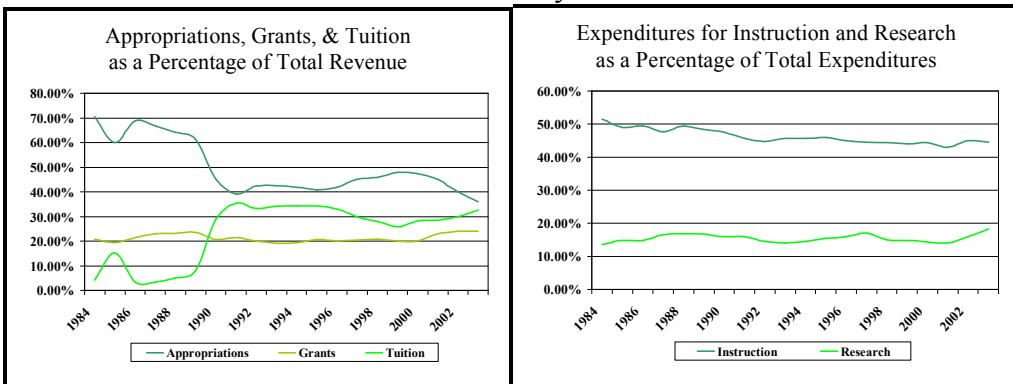
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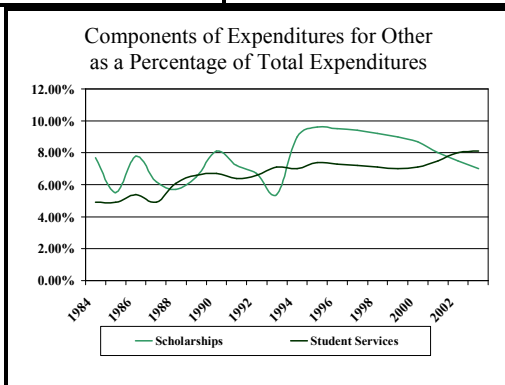
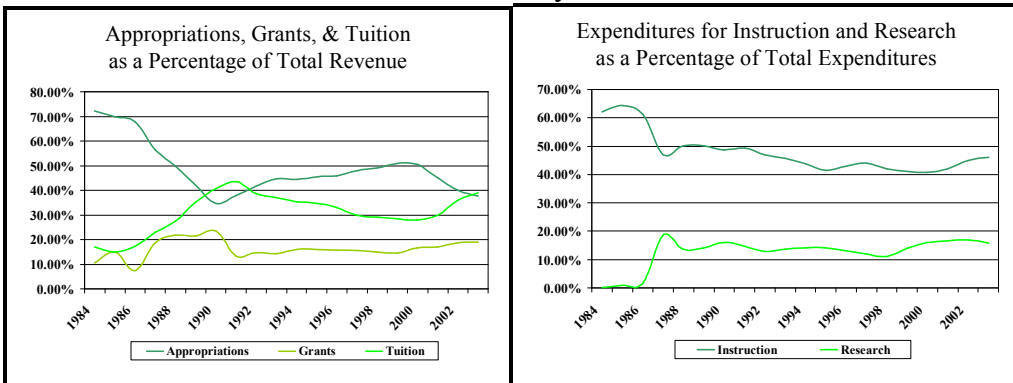
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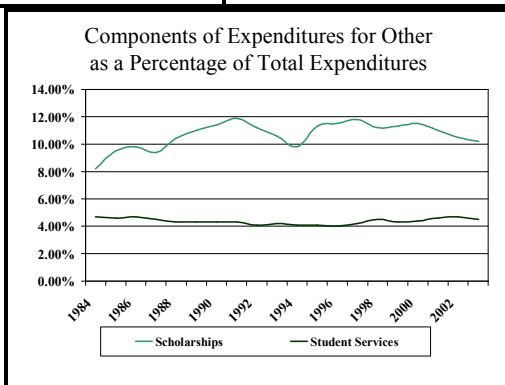
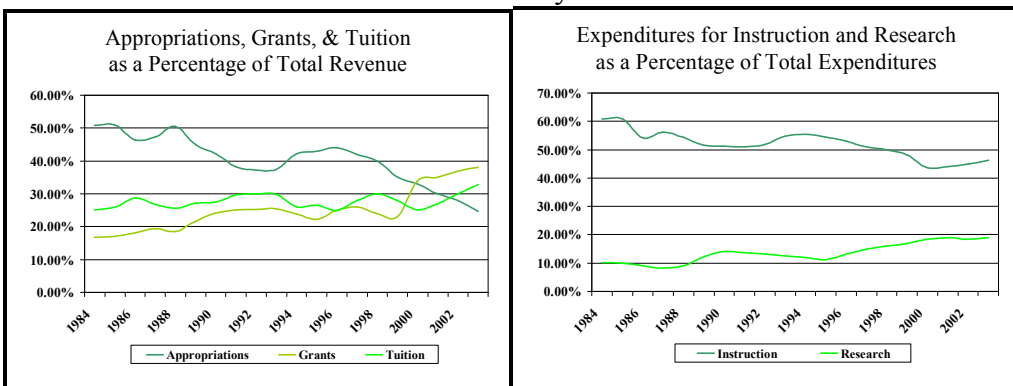
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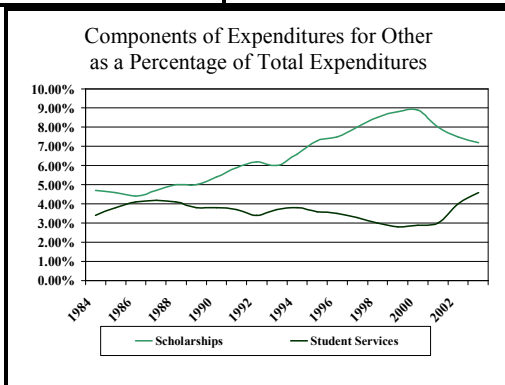
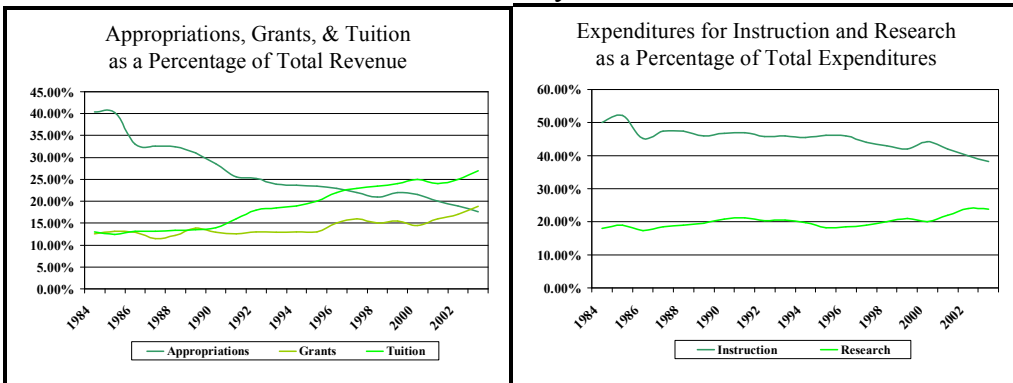
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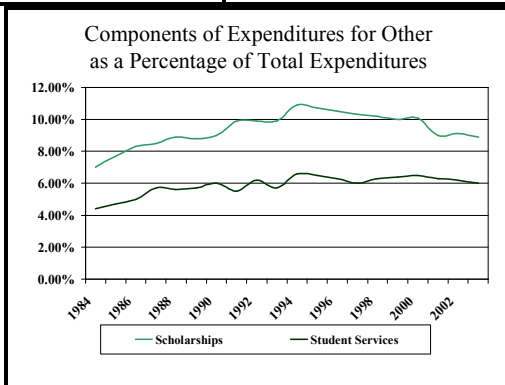
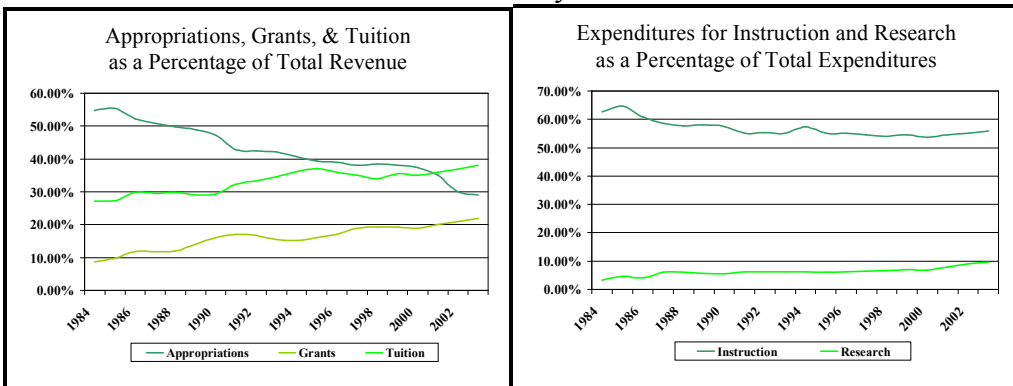
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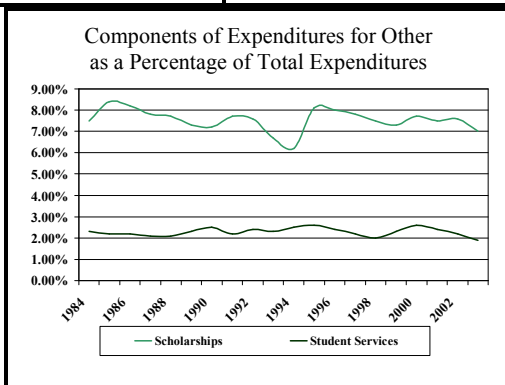
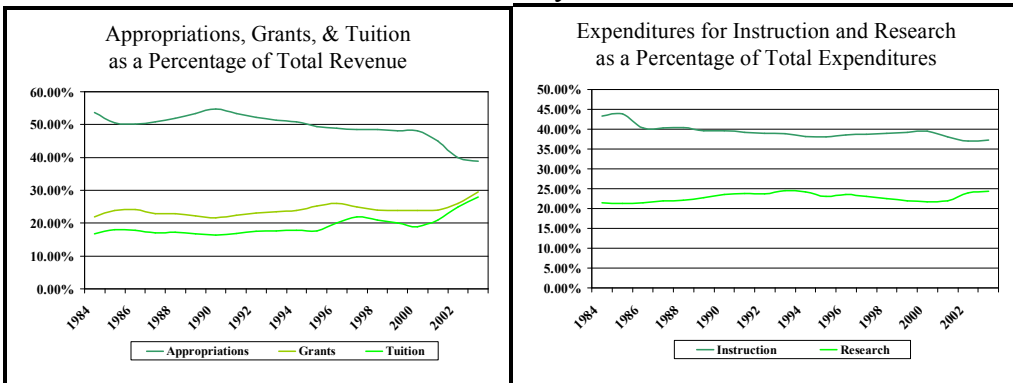
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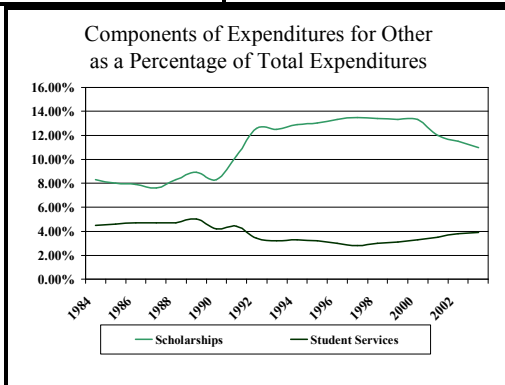
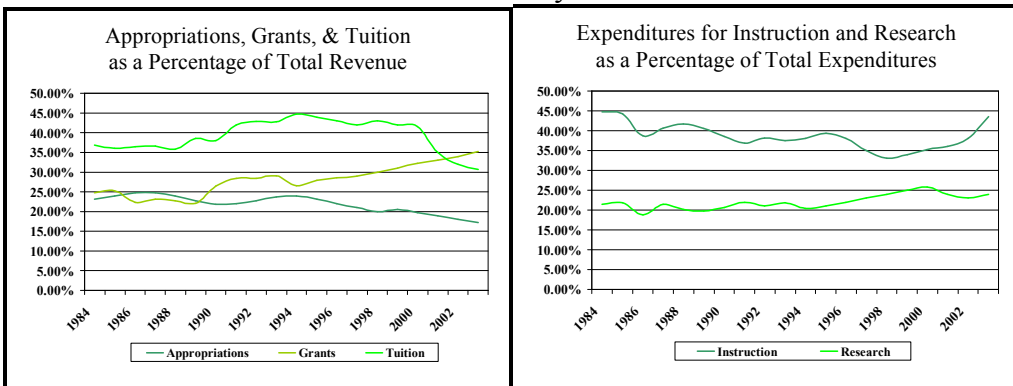
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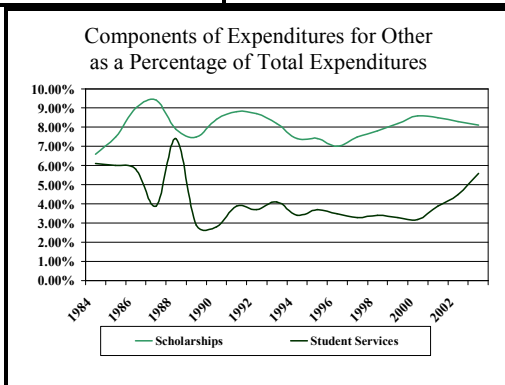
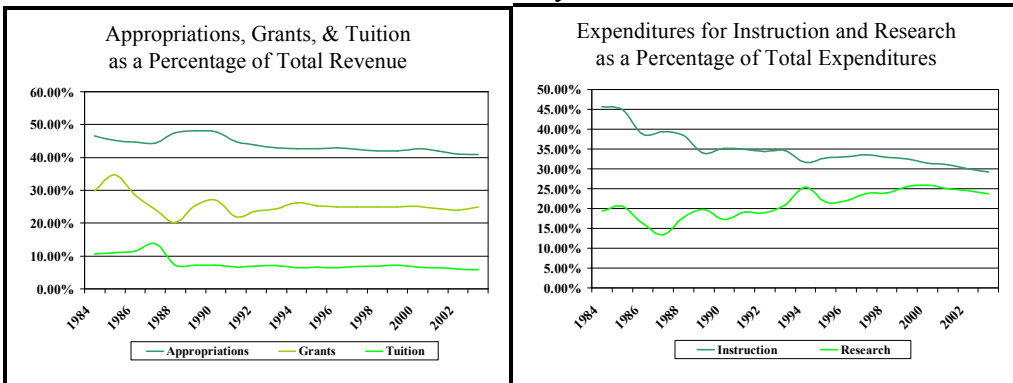
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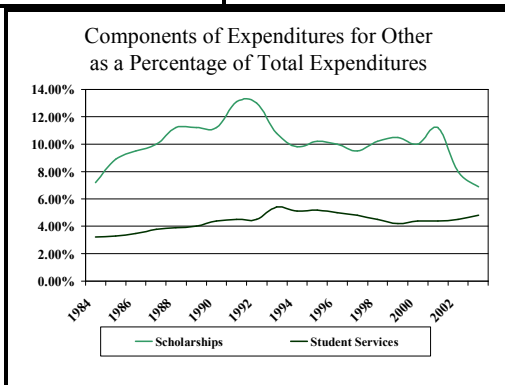
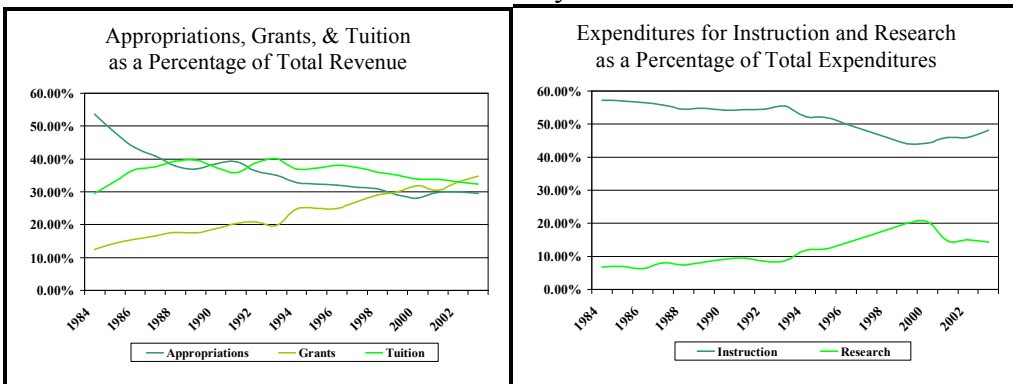
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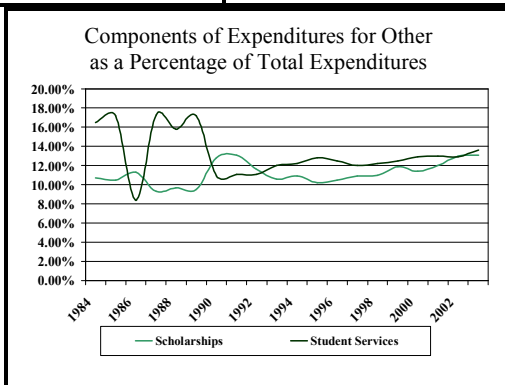
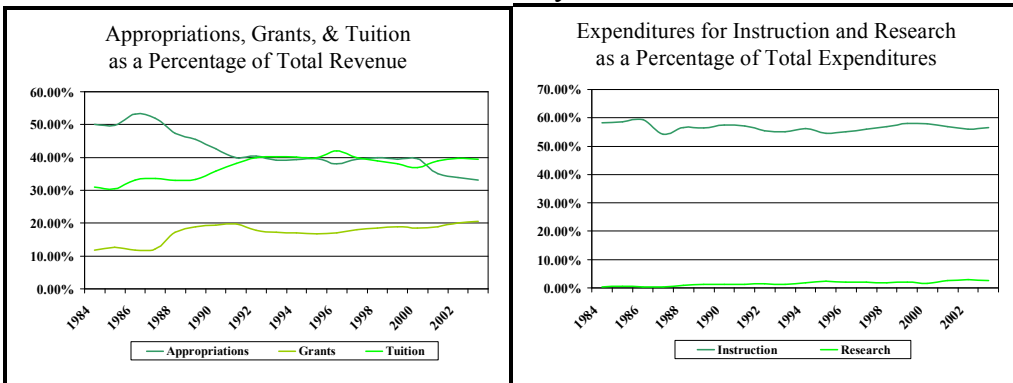
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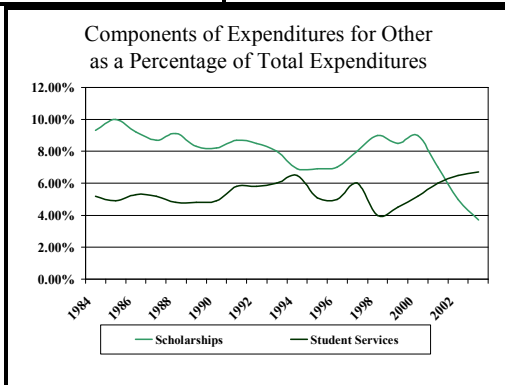
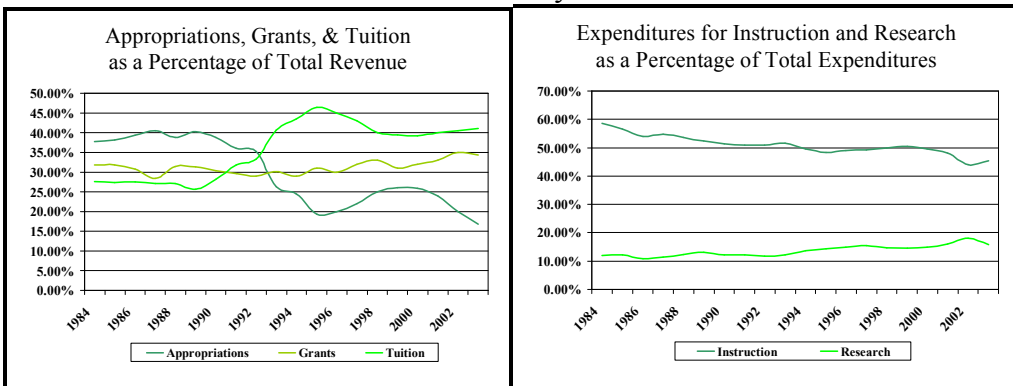
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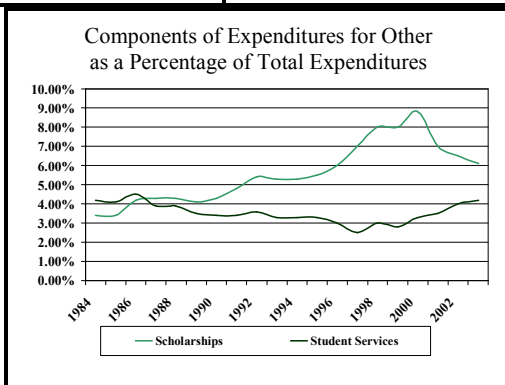
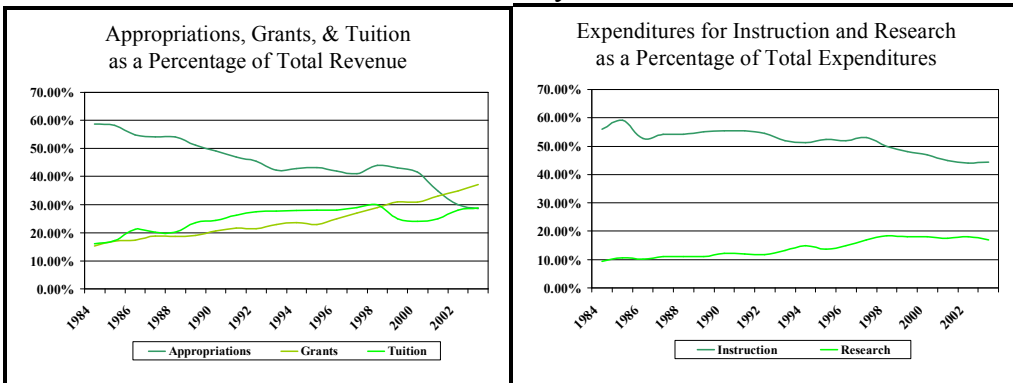


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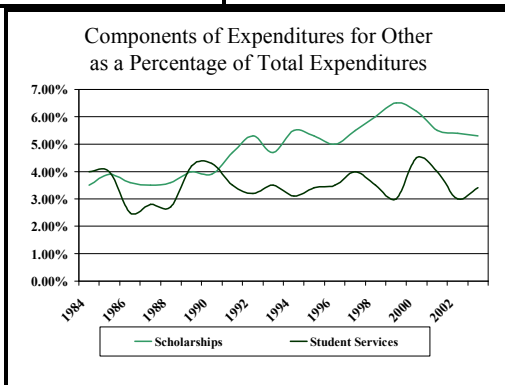
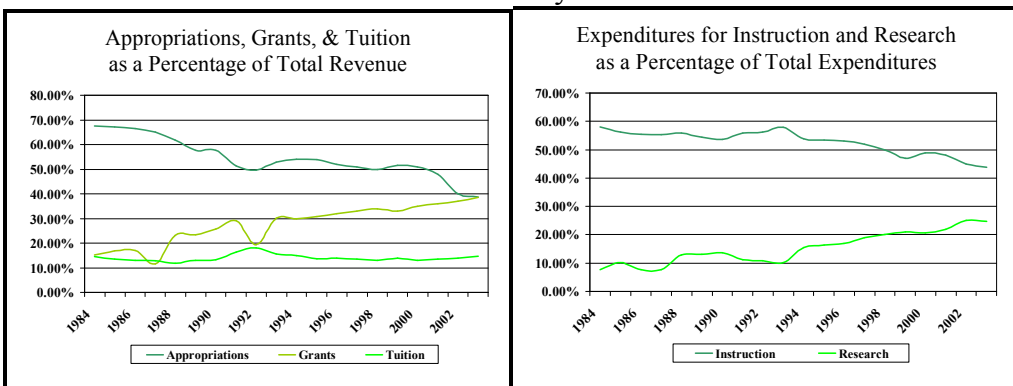




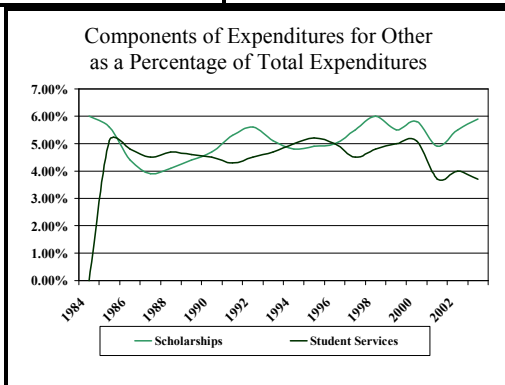
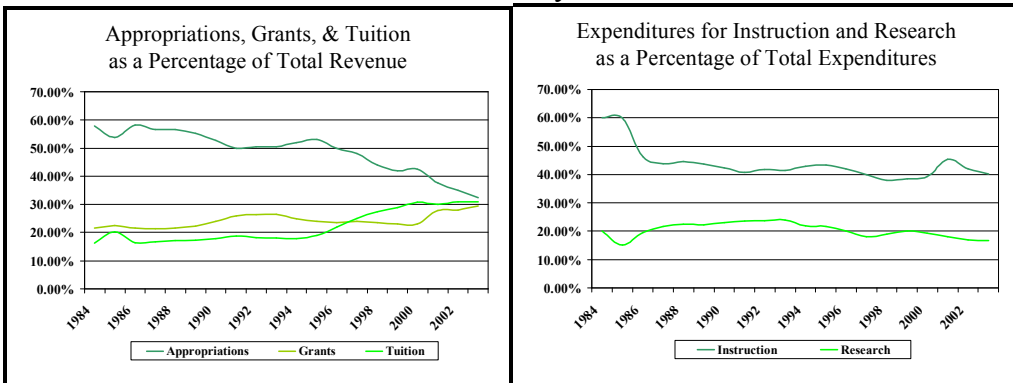
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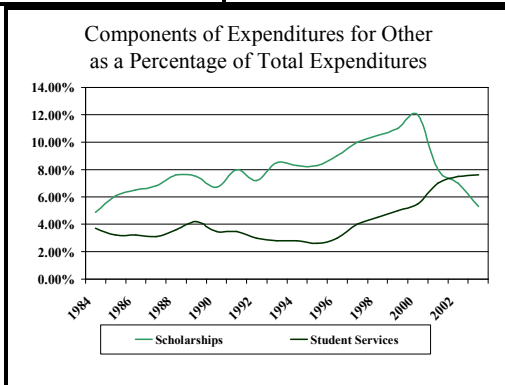
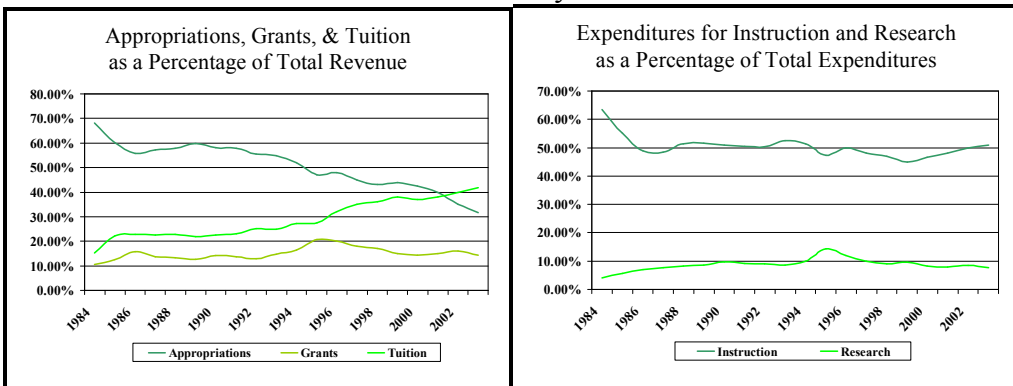
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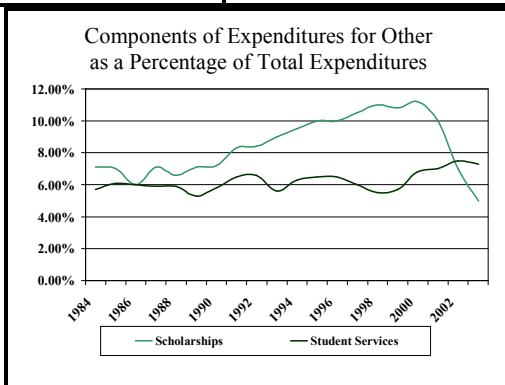
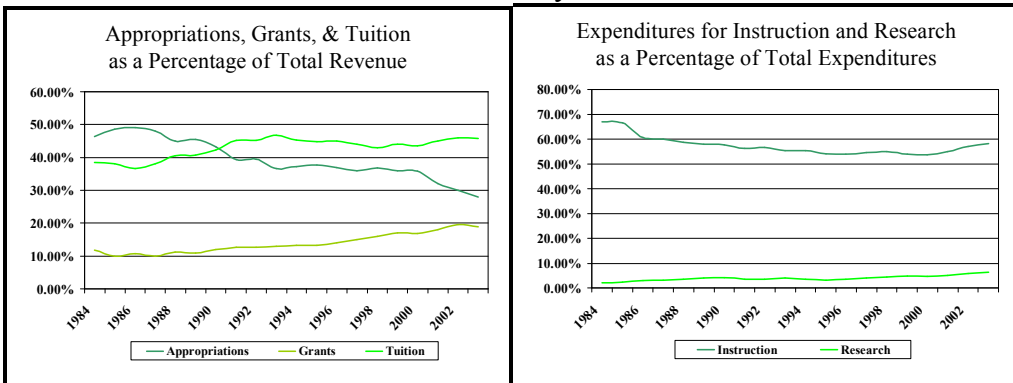
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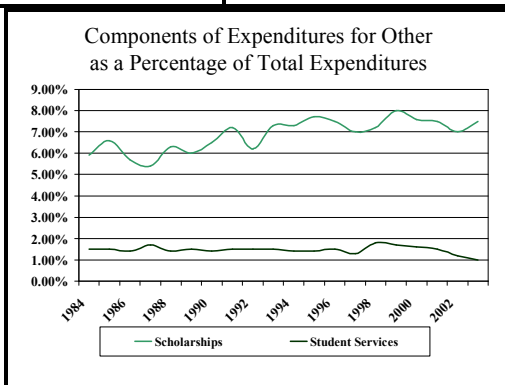
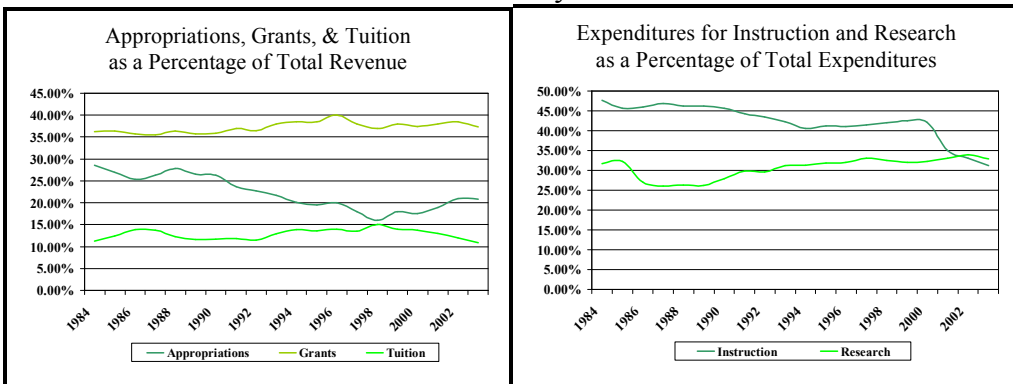
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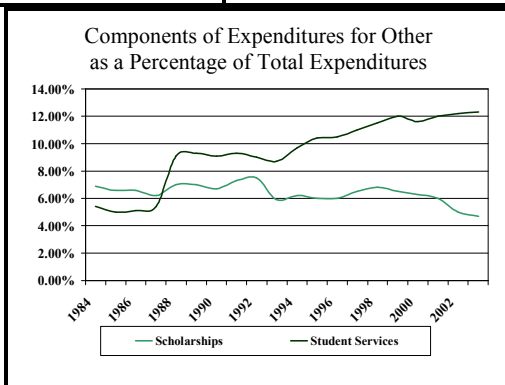
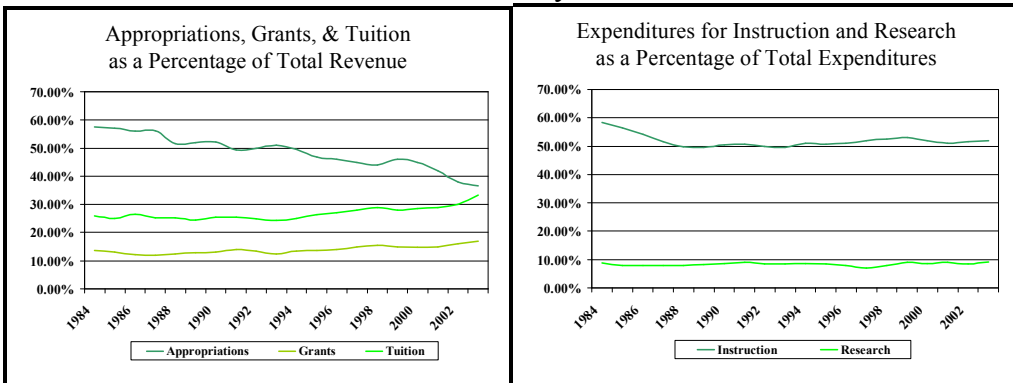
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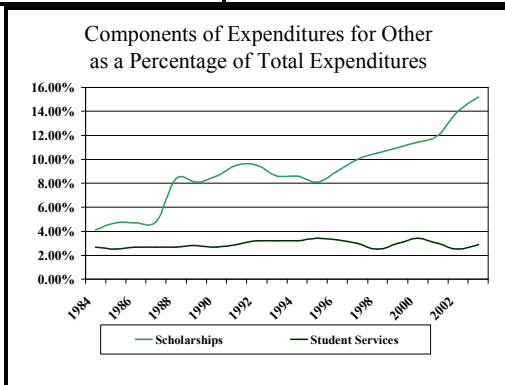
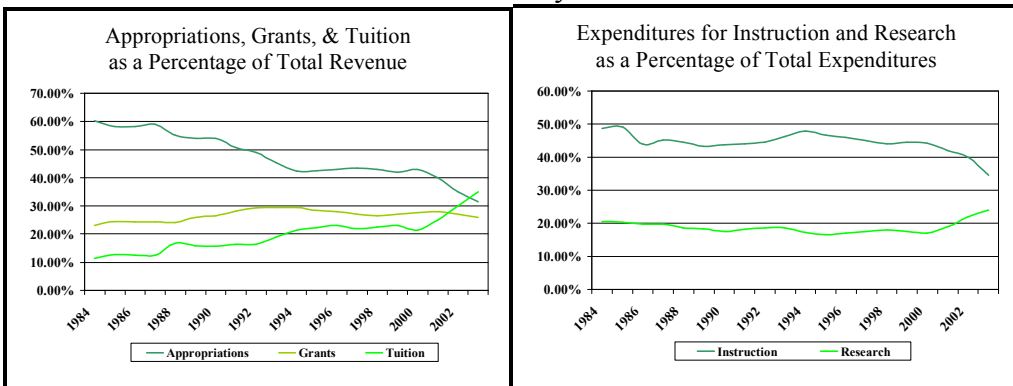
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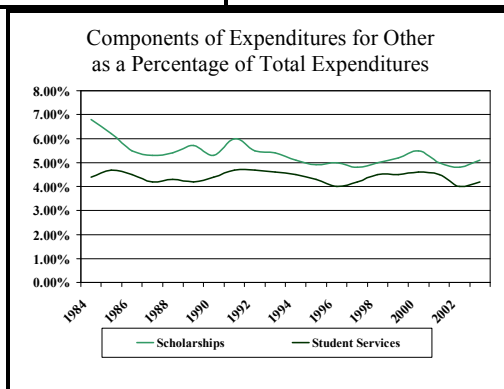
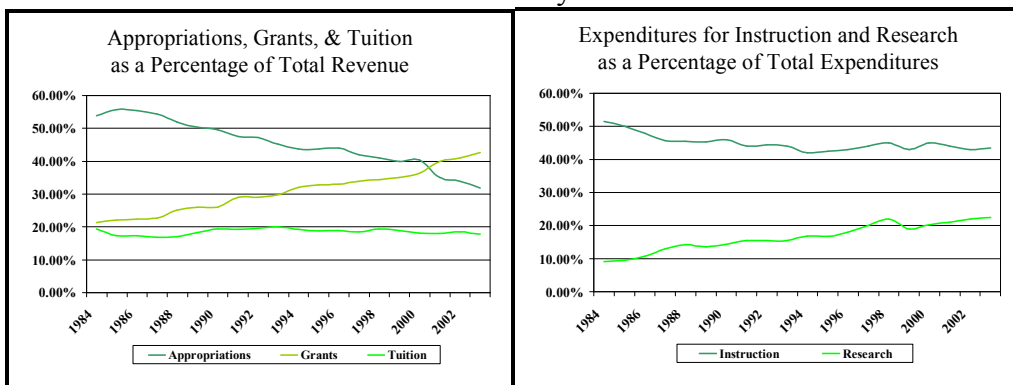
### University # 57



### University # 58



### University # 59



## **Appendix V**

### Themes by Code/Category

## ***Main Theme – Political Environment***

### **Student Unrest:**

Vietnam era

#### Institution #7

In the mid-sixties the campus stood at a dividing point – one foot in the traditional past and one looking toward a new and troubled era

The year 1968 marked the dividing line between then and now in American history

“Activism” was a word heard with increasing frequency

In 1968, students across the country were rebelling against the war

Gallop reported that only 2% of college students were involved in campus unrest

Use of the Gallop poll to change the public mindset

*Vietnam, Cambodia, Kent State, moratorium, and demonstration* were words sweeping campus in the spring of 1970

[The university] was in the grip of intense student unrest

350 students marched on the capitol

Demonstrations reached a crescendo

The protesters’ real goal was to challenge the administration’s authority

Students take over administration building

Fifteen hundred students ringed the ROTC building, causing minor conflicts with police

Activists on campus were intent on a symbolic closing of the university

Felt the possibility of physical violence

Incident stands out as the tensest moment during a tense period

Students holding bricks behind their backs

Grateful students had behaved so well (in response to [the president] meeting with them)

#### Institution #21

In 1966 and 1967, [the university] was relatively quiet

In the context of the 1960s and early 1970s, dissent and protests reached unprecedented heights

Student political activism, especially in protest against the Vietnam War

About five hundred persons, including some faculty and students, marched in a parade supporting resistance to the draft

Individual acts of resistance to the war effort were few in number in October 1968

Military recruiting became inflammatory issue on 26 October 1968

Continued attempts to prevent military and corporate recruiting at the Placement Office

Large demonstrations against the war in many American cities, as well as in Japan and London

The year 1969 was a transition between the growing student restiveness of the late 1960s and the days of rage of the early 1970s

Opposition to the Vietnam War and protests against corporate and military recruiting, continued  
Moratorium Day picked up no support among the general public and certainly did not end the war  
About one hundred picketers outside College buildings urging students not to attend school  
University administration took the moratorium in stride  
The Vietnam War continued on into the 1970s, although the opposition to it at [the university] had declined  
As the Vietnam War intensified, student protests increased in number, size, and stridency  
The years 1970 to 1974 were marked by unprecedented violence on the University campus  
Students and faculty constructed, a series of barricades across the streets surrounding the campus  
The administration secured permits from city authorities to close the streets, thus legitimating the barricades and draining anger from the protesters  
The barricades inspired the strikers as a symbol of their cause but they enraged the strike's opponents  
The barricades were symbols of defiance and, at worst, precursors of violent revolution  
Dislike of the barricades by the public and city officials  
Barricades were more symbolic than anything else  
The mayor worked out a plan for city sanitation workers to remove the barricades  
Officials ordered the tent torn down for a symbolic victory to appease angry constituents  
Officials ordered strikers to disperse, but they remained, arms locked  
The [police] attacked with billy clubs  
In two minutes, thirty strikers were beaten to the ground, and twenty-seven people admitted to hospitals  
Consequences of the police beatings were innumerable  
Sense of bitter reaction among students who had been hitherto uninvolved  
The war protests—as did the war—ran down in 1972  
Little remaining student activism  
If the protesters were attempting to change the University, they were unsuccessful  
“In the end, as in its beginning, the student strike changed little”  
In spite of the noise and violence, the inflammatory rhetoric and the prognostications of apocalypse from right and left, the University was little changed in mission, structure, or personnel as a result of these four years (1970-1974), however important that seemed at the time



Two conclusions about these fevered years seem clear: there were long-term but only brief short-term, effects on the University in terms of its structure and purposes

#### Institution #25

Students engaged in nonviolent activism

In August 1966, some 100 protesters – including a local minister and other area residents – converged to rally against U.S. policy in Vietnam

Visits of military recruiters to campus precipitated several protests

Praised by one faculty member for their nonviolence

The most dramatic encounters occurred when student activism peaked at campuses across the country

Chain reaction of campus unrest

Except for minor damage, the campus saw very little destructive behavior

Nonviolence became the trademark of intense student activism

With the help of several faculty who held the trust of the students, the campus weathered a difficult era without having to call in the local police

For the most part faculty, administrators, and other members of the campus community supported the antiwar movement

[The president] led students, faculty, and staff in a march

#### Institution #31

A kind of social revolution was brewing

[The university] was less a seedbed for rebellion than a place where people consulted on problems as they arose

In 1965 the Academic Senate endorsed the principle of freedom of speech for students and encouraged responsible political participation

Crisis on college campuses, fueled by the Vietnam War

Old-time stability was colliding with rapid social change

Distressed students marched by the hundreds on the administration building

Students were fully engaged in the protests

Americans were deeply concerned about the escalating Vietnam war

Civil rights struggles

Rapidly changing social climate threatened long-held assumptions about national values

Growing tensions in the student body

Protesters were planning a march and mass rally at the State Capitol

Planned the march and rally to the last detail, procuring a city parade permit and meeting with the police

Student cleanup detail moved around with trash bags to pick up litter

The idea of violence met with almost unanimous disgust

Other rallies, sit-ins, and debates took place sporadically over the next three years

Student fears and outrage over U.S. intervention in Southeast Asia continued

ROTC issue split the campus community

Faculty and staff members put concentrated effort into preventing turmoil  
 National antiwar demonstrations continued as the war ground on; students  
 on many campuses had grown weary of rallies  
 In the spring of 1972, as bombing escalated in North Vietnam, the student  
 movement picked up again dramatically

#### Institution #41

Undergraduate opinion on political issues began slowly to emerge, but  
 strong support for U.S. troops in Vietnam was the clearest stance

Administration seemed unaware of the potential of student discontent

A core of activists emerged in 1967 and persisted until 1971

The first antiwar demonstration was peaceful, but criticized by a local  
 politician

Undergraduates began to oppose administration

Antiwar protests began in print and in demonstrations; activists reacted  
 strongly against administrative censorship and controls

At an antiwar demonstration students marched in rally

The Board of Trustees, obviously to the emerging student discontent,  
 voted to make R.O.T.C. mandatory

The administration insisted on enforcing these decisions, regardless of the  
 reaction of the student body

The Student Council championed dorm unrest and opposed the decision

Trustees indefinitely postponed implementation, but refused to credit  
 student protest

Faculty, students, and administrators squared off

Punches between old friends were thrown or almost thrown

Faculty offices were trashed

People called each other "fascist" and "communist"

Students with sympathetic faculty marched through the city streets,  
 demanding an end to the Vietnam War

The campus remained deeply divided

Antiwar speakers and concerts, and the wearing of arm bands and peace  
 buttons intensified

Conservative faculty was outraged

The administration did not react; frustration rose

Defended student rights to political protest on state property

In 1971, the tempo of protest continued

Antiwar protests were dwindling but sprung back into flame in May 1970

Students went on strike, joining a national wave of campus unrest

In a final gesture to the culture of protest, the Student Council voted in  
 1972 to rescind President Richard Nixon's honorary degree

#### Institution #45

The decade 1964-74 was revolutionary on campuses everywhere

Students on college and university campuses were increasingly restless

Restlessness was fired by controversy over the Vietnam War

The war, civil rights, political injustice, and major modifications in sexual and social conventions were bound up together

By 1968 students protests had spread across the country; violence gradually escalating

Rumblings of discontent on the campus

[The president] said in 1968, "when emotions have been running high in cities and on some campuses across the country, our own student leaders have demonstrated a commendable degree of maturity and responsibility."

Students in [this university] were, as usual, slow to participate in national movements; by 1970 they were disturbed

Student dissatisfaction with the status quo and the Vietnam War was reflected in the campus newspaper

The president and vice chancellor for student affairs met with students frequently to communicate one thing: "we are here and available [and we care]"

150 or so students lingered for a couple of hours in the main hall of the administration building but were not violent, destructive, or even discourteous

When they first gathered to do their thing, they had bricks in their hands

Bricks were symbols of Black Power

Students gathered to consider protest alternatives

Fifty students, against the advice of faculty persons, occupied the Military and Naval Science Building

Students asked that University administration back the strike on classes in protest of Nixon's Indochina policy

Not even the bulletin boards in the occupied building has been vandalized

Scheduled classes were being disturbed, and privately he (the president) had begun to fear violence

He (the president) and his associates firmly resisted recommendations that they call in the police

Students told they would be suspended from the University if they remained longer (occupying the administration building)

Student leaders, administration, and staff had acted responsibly

#### Other

##### Institution #7

Although he (the president) disagreed with students (who created a "tent city" to protest), he welcomed their demonstrations and commitment to a cause beyond themselves

##### Institution #21

In addition to protesting the Vietnam War, students became active in other causes in the 1960s

Opposition to the war and assertiveness on behalf of civil rights spilled over into movements on the campus for greater student rights

Social change was not a popular cause for the great mass of Americans

New grievances arose concerning the internal operation of the College

To prevent a comparable protest, the committee recommended solving specific grievances such as long registration lines, paucity of parking spaces, lack of physical amenities, slowness of evaluating transfer credits, and impersonality in dealing with students

The committee concluded the grievances were compounded by “the inability of the student to identify with the College”

#### Institution #25

Students continued to be active for the causes they believed in

Among the hot issues in the mid-sixties were parietal rules, including curfews for women and students living on campus

Students staged a sit-in to protest the judicial board’s punishment of a male student who had hosted a female visitor overnight

Demands for independence and autonomy included more authority in campus governance as well

Students demonstrated in the Administration Building

There was no deliberate destruction or vandalism of the building, despite the intensity of the demonstration

The 1988-89 academic year saw the most intense student activism since the 1960s

The issues had a different focus, including racism, sexism, anti-Semitism, personal safety, and personal freedom

Some 400 students demonstrated against all forms of bigotry after vandals defaced the Jewish Student Union

Rally of about 250 students demanding tolerance for all groups

300-400 students staged a sit-in at the [administration building]

Students protested against CIA recruiting on campus

All-night beer party was attended by students in defiance of state and University drinking-age restrictions

University officers confiscated a beer keg

Students held a sit-in at the [administration building]

Other students opposed the sit-in, argued that administrators responded properly

Several Chinese students demonstrated in front of the Union to show solidarity with countrymen protesting for increased democratic freedom in the People’s Republic of China

#### Institution #31

Baby boomers did not accept the role of the institution in loco parentis without question

Serving as surrogate parent began to seem old-fashioned and unnecessarily restrictive

A general loosening of the old college and university paternalism

The first civil rights sit-ins in the South inspired many young people to take action toward making the world a better place

One of the goals of the student movement of the 1960s had been to change the established order of higher education

Around-the-clock sit-in by students for 30 days in the early 1980s over the institution's investment policy

In 1990 four students went on a hunger strike to demand the establishment of a cross-cultural center

Some of the more vocal expressed the desire for more control over their own lives and education

Other protests criticized a variety of evils centered around alleged racism

Student fee hikes adopted by the Regents in January 1992 brought major demonstration

Student lobbyists gathered by the hundreds on the steps of the state capitol building

#### Institution #41

Major issues facing the university were:

- faculty rights and power in decision-making

- student legal rights and freedoms on campus

- minority hiring and minority students on campus

- general questioning of all authority

A network of antiestablishment faculty had formed to lend support to students increasingly unhappy with the decisions of the administration and with the rules and regulations that left them feeling powerless

The campus was seized with crisis after crisis following decisions impacting on student life

Dress codes were seen as unreasonable infringements on personal choice

Demands for an empowered Student Senate challenged the image of an all-powerful administration

Students lobbied for a hearing process to deal with disciplinary problems

Procedures with representation of students and faculty were instituted

Student attacks on policy turned to personal insult against those in charge  
"Non-negotiable" demands, evidence of student power in action

Student referendum on the performances of administrators, department chairs, and faculty advisers

Student unrest over a mandatory food plan in the dorms, seniors calling for changes in graduation plans, bomb scares, and criticism of bookstore profiteering

The issue of campus racism and minority presence was less dramatic but just a potentially serious a political problem

The early 1970s brought new troubles: tuition hikes, the energy crisis, and challenges to fiscal autonomy

Questioning of authority and development of a sense of the student as citizen

Mandatory class attendance was abolished without confrontation

Issues of personal choice, such as smoking in class or on campus, hiring rock and roll bands for dances instead of traditional orchestras, and dorm curfews exposed conflicts in cultural styles

Lack of dorm space for female students led to a demonstration in front of [the administration building]

Other issues would cause deeper tension on campus

[The president's] authority was being questioned by student leaders

#### Institution #45

The old idea of the University in loco parentis was under explicit attack  
Students were increasingly unhappy with traditional undergraduate regulations

Students at [the university] were for the most part as interested in curriculum changes and in freedom from housing restraints as in foreign policy

A social and sexual revolution had come to the nation and to this university

Parents and others in the state lived by different assumptions

The administration was caught between student restlessness and regent and perhaps parental resistance to change

It was a time of discontinuity

### **Faculty/Human Relations:**

Interdepartmental issues

#### Institution #7

A collegial atmosphere where intellectual ferment was widespread  
Period of great collegiality and gentility among faculty and students  
Exchange of ideas was not limited to one's own discipline but crossed lines of specialties

Almost all the faculty were committed to making [the university] a center for academic productivity and innovation

Anthropology students delighted in disrupting dinners hosted by the Department of Hotel and Restaurant Management

#### Institution #21

The faculty did not over-emphasize research in comparison to teaching  
Even in this time of spectacular developments, most members of the [university] community wanted to proceed quietly with the traditional purposes of the institution

In a turbulent era of higher education marked by riots, demands, protests, strikes, and sit-ins, the issue of rights, responsibilities, and university governance equaled, if not surpassed, the traditional faculty concerns of academic freedom and salaries

Faculty and student government did not change much because of the protests, the curriculum was not altered, and the type of student admitted changed little, if at all

African Americans worked with the community in the development and administration of programs of interest to the black population

The enormous potential for violence and permanent intellectual and social scarring arising out of the antiwar movement was largely avoided

The debate revealed that senior faculty were unwilling to cut their own pay to save junior colleagues

Institution #25

Institution #31

The last three decades of the 20<sup>th</sup> century brought momentous change; some grew out of the phenomenal strides in new technology applicable to academic research and teaching

Diminished opportunities in teaching and research for new Ph.D.s resulted in more part-time faculty

Extraordinary efforts were made in all units to increase efficiency and reduce management costs...it was a truly collaborative process

The campus community was asked to suggest cross-disciplinary initiatives

Institution #41

Legislation called for the merger of the two colleges and the creation of the University

Duplication of courses and administrative functions existed

Every department and office had to be examined and merged in a way that made the best economic and logistical sense

Each decision that had to be made involved a meeting with the faculty members and/or administrators involved in the decision

Undercurrents of disagreements between the campuses on three issues sharpened:

inequities in salary between the two faculties

who would sit on the new Board of Trustees

who would be the first president of the new University

Campuses were forced to cut courses, increase class sizes, lay off staff, and delay upkeep of physical plants

Institution #45

The colleges were as unstable as the front office

In those years one hardly knew who would answer the phone

Divisions of the University were also unstable

Working with administrators

Institution #7

Transformation of academic and financial structures spearheaded by three presidents

The administration announced the abolition of all curfews for women students – finally men and women were treated equally (in curfews, at least)

Institution #21

The presence of student committee members was probably a force in helping to solve the problems of the University community

The College administration walked a thin line between antagonizing the public and alienating the students

The president, other administrators, students and faculty did an outstanding job in preventing violence, injuries to persons, and destruction of property

Hispanics from within and without the University issued the president a three-point ultimatum:

- a full-time director of Chicano Studies
- fifty more Chicano students admitted by the fall term
- a variety of housing, tutorial, and financial aids

The result of the turmoil over retrenchment was the development of mechanisms based on the principle of shared authority

The faculty union and faculty committees assisted the administration in dealing with the financial difficulties

Stress and fear took a toll on morale and energy

#### Institution #25

The university focused on four priorities:

- continuing the growth from a small liberal arts college to a major research institution
- improving undergraduate education
- continuing the growth of campus diversity
- increasing private fund-raising for the university as well as outreach efforts and partnerships within the community

#### Institution #31

[The president] developed a kind of intelligence network to check the student mood and took pains to be both accessible and responsive to student concerns

Every effort was made to incorporate potential dissent into constructive action, to give students as much control over their activities as possible  
A tradition of open communication between administration and students  
Academic Senate added student representatives to 13 of its committees  
Student attitudes impacted the way colleges and universities were run  
“University administration requires consultation and the involvement of many segments—it’s the most decentralized organization in the world”

#### Institution #41

Many faculty perceived [the president] as autocratic and unresponsive to change

[The new president’s] willingness to compromise with the students and his desire to support free speech and freedom of the press helped negotiate antiwar protests and the desire of students for change

Student activism led to changes in college government

The Faculty Senate was expanded to include student and administrative representatives in a College Senate

[The president] generally worked well with student government presidents

[The president] agreed to close the campus for several days to permit students to campaign for antiwar candidates

[The president] was willing to encourage student political activism



## Institution #45

Students gained considerable control over policies and procedures concerning student life and significant representation on important faculty committees

Regular University procedures were honored

Rules and By-Laws needed to be reexamined

Academic freedom remained insecure

During much of the Seventies the administration for the University was unsettled, in part because administrators changed so frequently

The University seemed in administrative turmoil

**Legislative Issues:**

## Government/Public relations

## Institution #7

The legislature, in protest of the protests, voted down a major educational bond issue

Governor came to the university and spent a long time talking to students

Taxpayers supporting the institution would not approve of conducting official university business under prominently displayed symbol of protest (Vietcong flag)

Legislature abolishes the board of regents and creates a state-wide board of education

[The president] worked with the now-defunct board of regents, adapted to the state's new system of governance, and welcomed the university's first modern-day board of trustees

A model federal-state partnership

## Institution #21

Turmoil on the campuses attracted the attention of state legislators

“The public should keep the size of the disruptive vocal minority in perspective—the one percent who attract so much attention and malign the campus’s image while doing it”

Some members of the public were calling for repressive measures

[The president] proclaimed, “I have never believed, and I do not believe now, that force has any place in the academic community

Hostile backlash toward faculty and faculty rights in the aftermath of war protests

Several politicians and many in the public were outraged that faculty who held dissenting views could not be disciplined because they held tenured positions

Other citizens believed faculty were lazy and unproductive feeders at the public trough, whose workloads should be increased substantially

## Institution #25

## Institution #31

Campus administrations struggled with a rapidly growing burden of compliance rules and reporting requirements

Administration became steadily more bureaucratic

State's voters still put off by student demonstrations  
 Second large bond issue for construction of facilities was defeated

#### Institution #41

Local politician raised the question of the right of students to assemble for political purposes on state property

In the fall of 1969, [the governor] championed the idea of student trustees and appointed new members to the board

Senior leaders petitioned [the governor] to find a new president

Series of faculty grievances ended with the firing of the grievant; it became clear that the Faculty Senate was powerless in these matters

#### Institution #45

Many [people in the state] felt alienated from "their university"

A new board of regents unlike any other in the history of the University would frequently show hostility toward the University

[Members of the board] changed from being University cheerleaders to University critics

Although the commission acknowledged the patience with which the May disturbances had been dealt, it suggested that a prompt use of police force would have been preferable, a view that [the president] sharply disputed

The commission recommended that the [administration] seek out the students who have forcefully entered the Military and Naval Science building and take appropriate disciplinary action

The board refused to hire [a graduate student] because of his involvement in nonviolent protests at [another university]

Faculty senate displeased with actions of the board of regents

[People of the state] were showing their displeasure with what they thought they saw happening at the University

The election of [a new governor] and several new Regents clouds the University's future in addition to demonstrating the public's deep disenchantment with the University

Board seemed to be a collection of individuals with individual agendas

The board and the University community of students and faculty saw the world from startlingly different perspectives

Regents immediately confronted the administration, faculty, and students

The first problem of the decade was governance, the second financial, and the third was sociological

Regents questioned the policy of permanent faculty tenure

Attacks on academic freedom and tenure continued

Through the whole decade the relationship of the Board of Regents and the faculty was at best uneven, and frequently hostile

The board felt that its constitutional authority was being usurped (by the legislature)

University relations with the legislature and the governor, often adversarial, had become stormy

## Funding levels

### Institution #7

The close of the 1960s witnessed an extraordinary strengthening of the university's stature and resources

The Institute of Molecular Biophysics opened with a \$3 million grant from the US Atomic Energy Commission

A 1968 NSF grant signaled arrival in science training and research

If funding levels weren't raised by June 1973, serious cutbacks were coming

Major capital campaign initiated

In 1990, the NSF awarded [the university] a research facility for the study magnetic fields

Another major capital campaign began in 1991

Success in raising research dollars and private funds, raising hopes and expectations for the university

Research awards surged

At a time when the federal government steadily decreased support for academic research dollars, [the university's] awards increased

Between 1994 and the end of fiscal year 2002 external funding for research grew from \$68.1 million to \$147.9 million--a 117.2 percent increase

The school's endowment is approaching the top 100 in the country

### Institution #21

Financial difficulties (between 1970 and 1974) surpassed anything encountered earlier in the history of the institution

Fluctuating numbers (of international students) posed a problem for institutional revenues

Overhanging all the struggles and triumphs of the early 1970s was the University's precarious financial position

From 1971-74, there was almost constant discussion of retrenchment, dismissals, and budget reductions

Serious cutbacks were implemented

The state legislature reduced the governor's budget request for 1971-73...which translated into the loss of fifteen full-time equivalency (FTE) positions for 1971-72

The state board declared a state of financial exigency; the decision's most dramatic effect was that it gave university administrators the power to dismiss tenured faculty members

For the 1972-73 year, there would be a loss of 22.6 instructional positions

Advisory Council and the budget and senate steering committees determined the reduction should be 29.3 faculty positions (nineteen teaching faculty and ten administrators with faculty appointments)

A financial crisis appeared again in December 1973

The 1973-74 University budget was reduced

The exigency and retrenchment years were disheartening and destructive in some respects and, certainly, an indicator of the difficult financial times that would lie ahead for the next twenty years

The era was marked by severe financial pressures

Never again was there optimism about [the university's] economic future

In February 1981, [the president] informed the faculty that it might become necessary to declare financial exigency or program reduction

[The state] was in economic depression, the worst since the Great Depression of the 1930s

Legislature had to confront severe trimming of higher education budget

The committee planned for reductions in [the university's] annual budget ranging from \$1 million to \$10 million per year

The governor's budget constituted a \$1-million reduction

Two years later, financial crises again were the talk of the University

In September 1983, [the president] sent a letter to the faculty advising it of "the possibility of the necessity to make a declaration of financial exigency or the need for program reduction"

[The university] would have to identify permanent savings of \$748,000 remaining from the previous fiscal year and an additional \$1,015,000 on a permanent basis

The legislature prohibited raising of tuition

Political impossibility of cutting appropriations for plant maintenance, library, and programs associated with economic development

All of these crises, those of 1971, 1973, 1981, and 1983, reflected the parsimony of taxpayers in supporting public services, especially higher education

By early winter 1992, the budget crisis was again the foremost concern of the University community

The task of reduction was formidable, to trim 20 percent of the forthcoming budget

Until some method of adequately financing the university was acceptable to citizens, the state's future in the higher education realm was bleak indeed

#### Institution #25

By the 1966-67 academic year, faculty salaries ranked third in the nation among public colleges and universities

Among the results of student disturbances of the sixties, and taxpayers' reactions to them, a statewide questioning about the amount of tax money being put into higher education

The campus had to deal with budget problems that were ongoing throughout most of the 1970s

In 1975, statewide budget cuts that had a serious impact throughout the system

Budget was cut by \$310,000

Mission Statement would serve as a guide to campus priorities throughout the difficult financial years and beyond

University put its resources and energy into a few key programs

In 1989, the campus was facing another proposed budget cut

Tuition and fees more than doubled, from \$1,350 in 1990 to \$3,400 in 1995

Between 1990 and 1995, [the university's] funding from [the state] decreased by 15 percent

The share of its total operating budget provided by state support declined from 72 percent to only 42 percent

Gifts to the University increased by 57 percent

The total endowment increased by 70 percent

During 1994-95, externally sponsored research funding at the university topped \$19 million

Funding sponsorship for research more than doubled over ten years

#### Institution #31

In the early 1960s, the economy was strong and money was available for initiatives in many areas

Annual budgets soared during the 1960s

Availability of funding for new programs combined to make almost anything seem possible

The mood of the voters—who had heretofore almost routinely passed bond issues for the university—had soured in the wake of the “troubles;” rising nationwide student demonstrations against the Vietnam War polarized public opinion about the role of educational institutions

The bond issue went down to defeat

In the decade of the 1960s, shifting politics changed academic history, with students in rebellion and a governor at war with administrators

Economic recession accompanied the energy crisis of the early 1970s

The recession brought higher operating costs for institutions and higher unemployment for college graduates

These were years of declining federal support for education

Taxpayer revolt in [the state] and failure of state bond measurements for higher education in the late 1960s compromised plans for further expansion

Tightening federal and state purse strings brought more programmatic grants

University budgets began to suffer in the late 1960s

State legislator continued to trim the university's budget requests

Shrinking federal research funding added to the climate of relative austerity

Campuses were forced to tighten operations

Budget cuts made improvements difficult

The 1970s marked an end to an era of academic expansion

Need for greatly increased private fund-raising

Mandatory fees more than doubled in three years  
Cutbacks in state university budgets during the early 1970s had already impelled researchers to seek stronger links with industry and business  
Unexpected federal budget cuts forced the administration to make some hard decisions  
In 1975, the university continued to suffer budget deficits and the need for alternative funding sources grew  
Public institutions that had long relied on taxpayers funding were forced by economic and political conditions to begin raising money for special projects and even some basic operations  
Private funds from contributors with a strong connection to campus were instruments in strengthening some important academic programs  
Fund-raising became big business  
Donors became instrumental in strengthening many important programs  
Student fees went up  
Some positions and programs were permanently cut  
Focused set of strategies for private fund-raising during the 1980s  
Interest support groups proliferated in response to fluctuating operational budgets in the 1980s and 1990s  
As the lean times of the 1970s gave way to renewed prosperity in the 1980s, public funding for research expanded  
In 1970-71, research grants and contracts made up 12 percent of the operating budget  
By 1980-81, the figure rose to 14 percent (and by 1993-94, to 18 percent.)  
Federal funds remained by far the most significant source in this mix, but private funding of research more than tripled between 1975 and 1984, from \$2.6 to \$11.9 million  
In 1975-76, private funding had accounted for \$4.2 million of the campus budget, with \$2.6 million of that amount expended for research  
A scant ten years later, in 1984-85, private funding accounted for \$15.7 million, with \$11.9 expended for research  
By 1985 [the university] was closely examining ways to put more muscle in its private fund-raising efforts  
Annual campus budget had risen from \$86.1 million to \$583.9 million  
When times were good dollars were flowing freely, but all plans had to be adjusted in the pronounced economic downturn of the early 1990s  
Deepening financial clouds gathered along the horizon in one of the most serious economic recessions in [the state's] history  
Legislative appropriations were slashed  
In ten years between 1980 and 1990, the percentage of the total operating budget derived from state funding dropped from 40 to 30 percent  
In 1990-91 the university suffered an additional 5 percent cut in its administrative budget and state-funded research and public service  
University announced severe budget cuts in every aspect of operations  
From 1991 to 1993, the school lost \$2.5 million in state appropriations

January 1993 was one of the bleakest budgetary times in university history  
The Graduate School of Management was forced to grapple with severe budget problems during the early 1990s

Within less than five years, the percentage of the GSM budget covered by state funding dropped from 90 to 45 percent

Defeat of the bond issue of 1990, plus the state's worsening financial outlook, delayed some scheduled projects

In 1995 state funding began once more to increase

In 1995 the school received a \$5.6 million bequest for student scholarships

By 1996 the school's research budget had grown 35 percent, to more than \$46 million—a significant portion of it from private funding

In 1998-99, nearly 26,000 private donors contributed \$63.7 million to the campus coffers, with a record \$30 million committed to support research

Actions in the political arena slashed the percentage of budgets funded by the state from 70 percent in 1960 to 28 percent in 1992—a level that seemed likely to continue to fall

In 1997-98, [the university] emerged from the financial doldrums

By 1997-98, extramural funding for research had grown to \$195.5 million, a 22 percent increase over five years earlier

State contributions to the budget also increased in the late 1990s

The 1998-99 state budget for the university was the best in nearly a decade

#### Institution #41

Budget problems did not help the merger process

The economy was changing fast: a deep rooted recession beginning in 1985 decimated the area

State-allocated funds for public higher education were cut; tuition rose

Campuses often had to compete for scarce funds

Campus presidents were required to return most of the tuition they collected to the state, then appeal for funds to run their schools, causing tension and inequality of funding among the campuses

As the state began to sink into a serious recession, the legislature turned its attention away from higher education

Campuses turned their focus inward, as they faced the reality of budget cuts in the wake of declining revenues

[The university] was buffeted with bad fiscal news through 1989 and 1990

Tuition and fee hikes absorbed some of the blows but could not keep pace with the constant erosion of financial support for public higher education

Recognition that the campuses could save themselves by banding together rather than competing for a piece of a pie that was shrinking at an alarming rate

#### Institution #45

In the elections of 1970, [a new governor was elected] who viewed the University critically and whose budget was extremely tight

Budget recommendations cast a long shadow over the operations

This university currently faces its most difficult budgetary situation since the depression years of the '30s

The board proposed that the University ask the legislature for considerably less money than [the president] and his staff thought necessary

Regents reject the budget proposed by the president and presented an alternative which was \$2 million lower

In November 1972 the administration again came under fire when [the executive vice president for administration] announced that the current budget was \$1.4 million short of operating costs

The source of money to cover the shortfall was not at all clear

From 1971 until 1976 the state's annual general fund support for the University went from \$41 million to \$94 million

In 1975, the legislature asked for a 3 percent reduction in the current, ongoing budget

Board voted to raise tuition by 11 percent to offset state funding losses

By 1979 the University was in "the worst financial crisis of its recent history"

Money available for operations had declined by 22 percent over the previous ten years even as student enrollment increased by 5 percent and research activity supported by outside grants had increased by more than 100 percent

In 1980 a record \$30 million in grants, contracts, and gifts awarded to the University, \$8 million more than in the previous year and \$11 million more than the year before that

State support for the University dropped a startling 23 percent

In February 1984, the University received \$10 million, the largest single donation in its history

Money was tight

By the mid-1980s the salary scale at the University had become seriously out of phase with those at peer universities

The appropriations committee of the legislature supported a meager 2 percent increase for higher education

Tuition and fees in state colleges and universities had gone up 42 percent in five years

By the summer of 1988 the future of the University looked more promising than it had for at least a decade

In 1991 the board raised tuition by 7 percent

Questions of equity complicated budget troubles in 1997



## ***Main Theme - Diversity***

### **Enrollment:**

#### Enrollment levels

##### Institution #7

Total enrollment surpasses 11,000

Enrollment increased to over 12,000

More than 13,000 students arrived to begin the fall semester

Over 17,000 baby boomers were enrolled during that year

The university has many more students today than in the 1960s

##### Institution #21

College's mid-1960s master plan would permit the growth for an institution comprising 27,500 persons

Lower-than-predicted enrollment in 1971-72 and continued low enrollment for the following year

Under-realized enrollment in the fall term 1973

Estimated a decline of 1,081 full-time students from the previous year

In 1995-96, [the university] had a student body of 14,348

##### Institution #25

Enrollment at the beginning of the spring 1965 semester consisted of 1,717 full-time, 223 part-time undergraduates, and 208 graduate students

In the fall of 1968, University officials welcomed 4,578 undergraduate and graduate students

At the start of the fall 1970 semester there were 4,600 undergraduates and 1,500 graduate students

The University usually exceeded its enrollment targets

In the fall of 1974 there were 6,783 undergraduates and 2,327 graduate students

In the fall of 1990, there were 9,150 undergraduates and 3,052 graduates

##### Institution #31

By the fall of 1967, enrollments surpassed 10,000 for the first time, and a year later leaped upward to 11,450

The campus was suffering growing pains as students flocked here in ever greater numbers

Phenomenal growth of the campus throughout the decade; it was a constant battle to keep up with the yearly surge in enrollments

The campus continued to grow toward its projected "steady state" of about 18,000 students

Women accounted for nearly half of undergraduate enrollments by 1971

Within a decade the ratio of women to men in student enrollments shifted decidedly upward

By the fall of 1980:

female undergraduates outnumbered males, at 51.4 percent of the student body

women accounted for 36.6 percent of all graduate students

in law, women's participation leaped from 9.1 to 52.3 percent

in medicine, from 9.9 to 39.4 percent  
 in veterinary medicine, from 11.6 to 55.6 percent  
 in engineering, from 1.4 to 23.1 percent

By 1970 the campus reported a total of 755 foreign students

About 40 percent of international students were women

Student enrollments had jumped from 12,000 to nearly 20,000

Undergraduate enrollments were capped

Increases in graduate enrollment were deferred

By the third year of the budget crisis in 1993-94...major changes included  
 reduction in enrollment levels in some areas

Student population was projected to reach 26,850 by 2005-06

Total enrollments expected to be nearly 30,000 by the year 2010

#### Institution #41

Between 1975 and 1985, the University experienced tremendous growth  
 with increased enrollment

From 1975 to 1985 enrollment increased by fifty-eight percent

During the 1990s, University enrollments dropped

Declining enrollments due to demographic trends

#### Institution #45

Enrollments increased year by year, from 8,700 in 1960 to 13,000 in 1964  
 to 19,000 in 1968

Enrollment [on campus] was promising to go over 20,000 by 1970

Estimates of student enrollment and tuition had been far off the mark

Enrollment (between 1979 and 1983) was steady

#### Race/ethnicity

##### Institution #7

The president was determined that black students would find the campus  
 hospitable

Administrators had until June to prepare for the racial integration

No one could predict how the black students would be received

It was time to proceed with education for students of all creeds and colors

– the students who arrived were here for an education, not agitation

In September 1965, two hundred students were foreign, a new university  
 record

In 1966, there were no African-Americans on the football team

“He helped me understand what it was like to be black in the South in the  
 late 1960s and early 1970s”

In 1976, the first black homecoming queen is crowned

In 1977, the first African-American vice president is appointed

During the 1980s, colleges across the United States made unusual progress  
 in the area of diversity, especially as it related to minorities and women

Many women returning to campus, after raising their families, as  
 nontraditional students

As the decade of the 90s began, [the university] assertively built a  
 foundation for even greater diversity

## Institution #21

Program announced that would permit the enrollment—of up to a limit of 3 percent of the student body—of students who did not meet the ordinary standards for admission

Although not confined to black applicants, the program was of assistance to them – of these thirty-six men and women, about two-thirds were African American, with the remainder being Hispanic, Native American, or white

African American students continued to voice their concerns in the 1970s Foreign students had always been present at [the university], their presence contributed to the diversification of the University, but their numbers rose to record heights in the 1970s and early 1980s

Hispanic students became a presence starting in late 1980s

Native Americans also organized at [the university] in this era

Members of minority ethnic groups, women, and homosexuals made their case as equal members of the academic community

[The university] led the way (among the state’s institutions) in the quest for equality

## Institution #25

Throughout the late sixties, black and Hispanic students began to work for reform

In 1969, responding to demands from the Afro-Latin Alliance [the president] appointed a group to identify and discuss the concerns of black students on campus

In the mid-1970s, the student body, as well as the faculty, was fairly homogenous, with a great many students drawn from the same areas

To increase student diversity, [the president] enhanced the outreach programs

Between 1975 and 1990, the university dramatically increased campus diversity

The campus included students who had not been included in the past Vigorously recruiting members of diverse racial and ethnic groups in greater numbers

“Our goal is to nurture diversity, then we’ll become a more attractive institution for those who share that goal”

In 1990, 16 percent of students were self-identified minorities, a dramatic advancement since 1976, when only 5.5 percent were from minority groups

In 1994-95, minority students accounted for 19 percent of the undergraduate enrollment

The entering class for the 1995-96 academic year was composed of more than 30 percent minorities

## Institution #31

New kinds of students arrived on campus  
many were part-time

some were older than the undergraduate college norm

The drive to extend higher educational opportunities to minorities

Emerging diversity and activism of the student body as a whole

[The university] had actually been trying to get minority students into the system for nearly 10 years, with limited success

Between 1970 and 1973 minority students increased from 8 to 15 percent of the student body

In 1975-76 [the university] focused on increasing the enrollment of “regularly admissible” students from underrepresented minority groups

Minorities tended to perceive the campus as unwelcoming, situated in a middle-class, predominantly white small town

Students from urban areas with substantial ethnic communities complained of culture shock

Attrition rates of special-admission students remained high, and charges of discrimination continued to surface

Progress of the campus in its first ten years of affirmative action efforts less than fully satisfactory

The schools and colleges hired affirmative action officers to conduct school outreach and organized special summer programs to attract and groom promising minority students

By the late 1980s, [the university] moved steadily toward the diversity it strove for in student admissions

In a few short years the student body had become much more diverse

By the mid-1990s changes in demographics were especially striking in contrast to the student body of earlier years

The student body grows increasingly heterogeneous:

- between 1991 and 1995, the number of students identifying themselves as American Indian, Asian, Black, Chicano, East Indian, Filipino or Latino increased 23%, going from 7,577 to 9,336 (among domestic undergraduates, this group now constitutes 47.6%, up from 38.3% in 1991)
- number of domestic Asian students increased 33% (Asian students represent 26.1% of undergraduates enrolled, up from 19.4%)

The proportion of white undergraduate students fell from 56.6 to 47.0 percent, a trend in line with general population changes in the state as immigration rates soared

Undergraduate student body was 55 percent female, 42.6 percent white, and 49.7 ethnic minority, with a striking rise in domestic Asian students (28.8 percent); but the numbers for underrepresented black and Hispanic students had declined

By 1998 approximately half the student body had at least one immigrant parent, and about a third of undergraduates themselves were born outside the United States

In 1999 the Board of Regents announced a guaranteed place in the university for the top 4 percent of students from any of the state’s high

schools (the measure was controversial but accepted as a positive, if modest, step in reversing the decline of black and Hispanic students)  
[The campus] has become remarkably more diverse in the last decade

Institution #41

African Americans were scarce on campus in 1973  
[A minority faculty member] remembered a good deal of political activity by black students in the Afro-American Student Society  
Racial hostility took many damaging forms  
Refusal by some faculty to call on black students in class  
Civil rights movement focused attention on the treatment of blacks  
[A minority, female faculty member] had to fight long and hard to get regular appointments with the president  
The concept of diversity was officially extended to include sexual orientation in 1990

Institution #45

**Academic Programs:**

Schools and colleges

Institution #7

Institutes of Molecular Biophysics and Space Biosciences created in the 1960s  
Programs for special education becomes a department in 1965  
In 1966 the College of Law opened with 116 students  
The very popular study abroad program began in 1966  
Successfully gained accreditation for the College of Business in the national Collegiate Schools of Business  
Program in Medical Sciences established  
“We had a tremendous School of Music and a wonderful theatre program”  
College of Social Sciences founded in 1973  
School of Motion Picture, Television, and Recording Arts founded in 1990  
New medical school opened in 2001  
International academic programs in multiple locations around the world

Institution #21

Institution #25

Institution #31

By the end of the decade all campus departments had expanded, some more than doubling in size, and several new ones had been formed  
In 1966, there were new schools of law and medicine  
Military science remained on the campus

Institution #41

Institution #45

Academic focus

Institution #7

This period (1960-1970) marked the beginning of several new academic and extra-curricular programs

New-departure courses initiated in Women's Studies, Photojournalism, the Hippie and Society, and Astrology

Named as one of thirty Centers of Excellence in the country by the National Science Foundation

The faculty is much more research oriented

#### Institution #21

More enduring for African Americans was another product of this turbulent era... a Black Studies program

Students could choose from a range of courses:

Peoples and Cultures of Africa

Introductory Swahili

Afro-American Poetry

The establishment of the Women's Studies program is another example of a cooperative endeavor

Preparation in the English language (of international students) at times was inadequate for success in their studies

#### Institution #25

Minority issues spurred the establishment of:

Afro-American and African Studies Department

Black Student Union

Latin American studies program

Jewish Student Union

Special Admissions Program

#### Institution #31

Campus growth brought diversification and enrichment of academic offerings in the College of Letters and Science

New courses and majors were offered

By 1969 students in L&S could choose from some 30 fields of study, including:

Anthropology

Bacteriology

Geography

Greek

International relations

Italian

Latin

Oriental languages

Rhetoric

Russian

Zoologist helped form the Institute of Ecology in 1966 to study complex interrelationships between people, plants, animals, and the environment  
Social sciences rose as an academic presence in the 1960s but remained in the shadow of the physical sciences

Humanities departments continued to be workhorses of the campus, offering general education courses for all undergraduates

Seminars on special subjects and involve students in some decision making about the curriculum

The “Experimental College” began in the fall of 1966 to offer students a chance at nontraditional, experimental, “alternative” learning

Mid-decade, the pendulum in the country as a whole was moving away from political issues toward a renewed emphasis on individual opportunity and achievement

[Students] were compelled to focus more closely on career preparation

Many chose technical fields over general studies in the humanities and social sciences

Colleges and universities struggling to turn out educated citizens found they needed to emphasize breadth requirements

Curricular matters included the wide-ranging reexamination of programs in nearly every field, with the jettisoning of old requirements and creation of new offerings

Growing recognition that many traditional studies did not adequately recognize minority perspectives and achievements

Students re-channeled their efforts toward their studies

Students saw as an imbalance of values between teaching and research

Good teaching began to receive public recognition in the form of awards and citations

Students took an increasingly utilitarian view of college studies as the number of graduates without jobs increased

Shrinking doctoral programs because of declining job opportunities

By the mid-1970s, students were more serious about their studies yet more relaxed in other ways

Many were still unclear about their educational objectives, impatient with specialized training, and longing for personal meaning

In 1989 a number of vocal students called for better support for the ethnic studies programs

Some 70 percent of students continued to major in the sciences or engineering

#### Institution #41

The Afro-American Society wanted courses in Afro-American history and culture and financial aid to spur greater enrollment of black students

Liberal Arts programs grew exponentially in the 1960s and early 1970s

New female faculty were sensitized to the rising feminist movement, which led to the establishment of women’s studies courses

Growing student interest in civil rights and black history stimulated new courses taught by English and history faculties

The University increased programs of study and research activities

#### Institution #45

The University had been committed to research almost from its earliest days

The University curriculum was generally under question in these years

In 1966 a group of students organized a collection of voluntary noncredit courses through which students could study subjects on their own selection, in methods of their own decision, for purposes of their own description

The organization was an attack on what students saw as the irrelevance and inflexibility of standard courses

The curriculum was interdisciplinary and interdepartmental, defined by student interest and open to constant development as student concerns dictated

Such subjects as “Psychedelic Drugs,” “Human Reproduction,” and “Radical Needs in Education” were undertaken by students and a few volunteer faculty

Students in University Studies shaped their academic programs to their individual needs

The Seventies saw a growing commitment to pedagogy in departments that for generations had held themselves aloof from such concerns

### ***Main Theme – Facilities***

#### **New Construction:**

##### General

##### Institution #7

The campus was putting up buildings in every direction

Tremendous growth, almost like an explosion, of campus building

Building continues following a master plan for development

The ever-increasing number of students necessitated further campus expansion

Groundbreaking in 1983 for phase I of a new \$9.1 million building

The University commenced or completed 126 significant capital projects with a total value of over \$887 million

Both students and faculty can take advantage of an infrastructure that a sixties faculty member could not have imagined

##### Institution #21

Federal urban renewal program was one impetus for the College’s new master plan

##### Institution #25

Explosive growth in the sixties cost money and [the governor], a popular ally, poured large sums of money into construction alone

The trustees halted all new construction on state campuses and reassessed authorized construction, allowing only essential projects to continue

A groundbreaking ceremony in 1994 marked the beginning of the university’s first major construction project in a decade

##### Institution #31

New buildings continued to rise on the campus until the early 1970s

Some old buildings were torn down to make way for new ones



Campus administrators drafted a comprehensive five-year, \$354 million long-range facilities plan

The long dry spell for campus construction in the 1980s ended in 1987

In 1989 the 20-year long-range development plan projected expenditures of almost \$900 million in new facilities and improvements

Although work continued on projects already funded, the planned expansion of several academic buildings was put off for several years

By the middle of the 1990s, physical needs and new facilities were high on the campus agenda

A 1998 bond measure provided \$30.5 million for construction and renovation of facilities

By the year 2000 the campus was witnessing a virtual explosion of new building projects

On the immediate five-year horizon were plans to upgrade and expand facilities

#### Institution #41

By 1965 the administration seemed fixated on satisfying students with new programs and buildings

#### Institution #45

When the president left in 1969, he left the University three times larger than he found it

Buildings for laboratories, classrooms, and student housing dwarfed earlier structures

The massive growth in the 1960s transformed the university into the institution it is today

Between 1971 and 1976, capital construction totaled nearly \$100 million

The 1990s saw the start of another building boom on campus, with the construction of large scale facilities

#### Academic buildings

##### Institution #7

Nine new buildings constructed in the 1960s

New fine arts building opened in 1971

The new president envisioned his priorities in the form of four buildings that would house major programs

Center for Professional Development moved into its new conference center in 1982

Annex to the business building

School of Engineering

Science Library

Museum of art built in 1987 to house growing art collections

##### Institution #21

##### Institution #25

A 15-story office tower, a fine-arts addition to the classroom-administration building, an eight-story administration building, a new

infirmary, and a greenhouse were planned for the immediate future (1965-1970)

From 1975 to 1990, the campus developed the physical plant, including the performing arts center and the greenhouse

The \$20 million Academic I facility will house the nursing, education and human development, and the school of management, and undergraduate admissions and enrollment services

#### Institution #31

During the 1960s, the development of the fine arts complex for art, music, and theater, a three-building complex, anchored the area south of the library

In 1966, [the university] received \$20.7 million for veterinary medicine facilities and the new schools of law and medicine

Over the decade of the 1960s, the campus skyline changed steadily as the building boom proceeded:

In 1965 the physical sciences building II and the Primate Center

In 1966 the five-story administration building and the fine arts complex

The new four-level chemistry building was dedicated in March 1966

The engineering building was completed

A new wing tripled the size of library and remediated some of the most glaring problems of the original building

In January 1968 [the biology building] was completed

In June came the facility for the study of large animal physiology

The law school building was finished

In 1969 two new academic buildings replaced the old horticulture building west of the Quad

In 1969 the school's experimental animal facilities were improved dramatically with the construction of 13 new buildings

Temporary quarters for the school were provided by small prefabricated buildings with fold-down walls – these units housed administrative and faculty offices plus a temporary law library containing 35,000 books

Officials decided to use semi-prefabricated Butler-type steel buildings as stand-ins until permanent quarters could be built

In September 1968 the (law) school moved into its \$1.9 million building, next to the new campus administration building

Six major buildings for the sciences were completed in 1971 for the biological and physical sciences

In 1976-77 the School of Medicine moved into its long-awaited new quarters

In 1979 the vet school celebrated the opening of Vet Med II

Few other academic facilities were added on campus between 1971 and 1987

In 1993, the long-awaited engineering unit took its place beside an extensive \$5.5 million remodeling of the engineering building. The \$40.5 million, four-story office structure was designed for the departments of animal science, avian science, environmental toxicology, and nutrition.

Bond funding approved by voters in 1986 and 1988 allowed the expansion of the library and other academic buildings.

A state-of-the-art, \$156 million tower opened in May 1999.

#### Institution #41

In 1977, a \$4.6 million music building was completed.

#### Institution #45

Anchored by the library, three new buildings were added to complete the quadrangle: a music building in 1966, a recital hall in 1970, and a performing arts center in 1990.

In 1970 a ten-story faculty office building was completed.

A new \$4 million engineering building, funded by state and federal money, under construction in 1970.

A new building at cost of \$3 million for the school of Social Work.

In 1983, \$24 million was spent for new buildings, including a \$9 million veterinary science complex, and \$4.5 million was spent on a new campus union.

#### Housing facilities

##### Institution #7

A new apartment-style dorm was built to house graduate students.

New home constructed for the president.

The learning community was initiated in the fall of 1997 when first-time college students were selected to participate in a unique living-learning community.

##### Institution #21

##### Institution #25

Four dormitory "third-world corridors" were established at the request of black and Puerto Rican students who wanted to share a corridor of rooms. Between 1975 and 1990 the campus added graduate housing and other residential units.

##### Institution #31

The decade brought greatly improved student living accommodations and recreational facilities.

##### Institution #41

On-campus housing did not keep up with the explosive growth of the University.

No new dorms were added.

Hundreds of students were on the housing waiting lists until new housing was built in the late 1980s.

##### Institution #45

In 1966 contracts were let for three more enormous residence halls.

**Facilities Maintenance:**

## Institution #7

Projects involved new construction and renovation as well as the expansion or rehabilitation of the utility/infrastructure systems that serve the university

## Institution #21

## Institution #25

In 1965, \$2 million worth of site utilities and new access roads were in progress

## Institution #31

Seismic replacement funds allowed construction of a new academic office building in 1976

The campus committed \$47 million worth of alterations, replacements, and additions to be funded by a combination of state bonds, campus allocations, and private gifts

Overhauls of several older buildings were required to conform to new state seismic safety standards

Major cutbacks in maintenance, instructional equipment replacement, and library support took their toll on operations

Improving state revenues and greater voter optimism helped loosen the backlog of delayed maintenance

## Institution #41

Campuses were forced to delay upkeep of physical plants

## Institution #45