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Community college finance: current funds revenue sources in 11 Midwest states in the decade of the 1990s

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**Community college finance: Current funds revenue
sources in 11 Midwest states
in the decade of the 1990s**

by

Carol Noel Piper Kenton

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

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2003

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For the Major Program

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ABSTRACT

Twelve current funds revenue sources utilized by 212 community colleges in 11 Midwest states during the decade of the 1990s were analyzed, using data from the Integrated Postsecondary Education Data System (IPEDS), available on the Internet. Comparisons were made by state as well as time, using the two-way analysis of variance. Of particular interest were trends in the proportions of student tuition and fees, and state and/or local appropriations from 1990 to 1995 to 2000. Also examined was the states' use of alternative funding sources to compensate for a possible reduction in government appropriations. Different funding models within the 11 states were identified. They were evaluated in terms of their success in sustaining or increasing revenue income without a disproportionate increase in student tuition and fees.

Significant differences were found among the states in the proportion of total current funds revenue attributed to the 12 sources, especially for tuition and fees, state appropriations, and local appropriations. The community colleges in the study were not actively utilizing alternative funding sources. The proportion of total current funds revenue was less than .05 for each of 6 revenue sources (federal appropriations, local grants, private gifts, endowment income, sales and service of educational activities, and other sources of revenue).

Overall, a significant difference in funding was found between the years 1990 and 1995 for state appropriations and student tuition and fees. For the decade, eight states reported a proportional decrease in state appropriations. Six of these states had an increase in tuition and fees. Two states indicated an increase in local appropriations. A continuing trend of reduced proportion of state support was found. Statistically significant state by year

interaction results existed for state appropriations, sales and service of educational activities, and other sources.

Four models of current funds revenue funding were revealed. All four models generated revenue in excess of the Higher Education Price Index (HEPI) for the period. Only one model did not increase its proportion of current funds revenue attributed to student tuition and fees.

CHAPTER 1. INTRODUCTION

The American Community College

The course of higher education in America has been influenced greatly by three important historical events (Parnell, 1985). First, land grant universities were established in the 1860s, adding practical education to the theoretical education curriculum. Second, in the mid-1940s the G.I. Bill was enacted as policymakers "...began to see education as an investment in human-resource development" (Parnell, 1985, p. 83). Third, the contemporary community college was formed.

Community colleges in America were founded to preserve and advance American democracy by making higher education available to the populace. The formation of what is now known as the comprehensive community college dates to the 1947 United States President's Commission on Higher Education. Though two-year institutions (e.g., Joliet Junior College), had been in existence prior to 1947, they did not fill the roles of the current institutions known as comprehensive community colleges. President Truman stated, "This commission... will be charged with an examination of the functions of higher education in our democracy and of the means by which they can best be performed" (President's Commission on Higher Education, 1947, vol. 1, p. v).

The Truman Commission stated that a new college system was needed in America in order to preserve our democratic society, and Congress supported this in 1963 with passage of the Higher Education Facilities Act. This Act authorized 22% of its higher education funds to be used for public community college facilities, requiring only that there be state or local matching funds (Wattenbarger & Cage, 1974). This action evidently paved the way for the pending growth of community colleges in America. For several years during the period

from 1960 to 1970, an average of one new community college per week was opened. Since 1975 approximately half of all first-time college students have enrolled in community college (Blau, McVeigh, & Land, 2000; Warford, 2001/2002). According to the American Association of Community Colleges, more than nine million students took credit courses at community colleges in 1996-97 (Warford, 2001/2002).

Community colleges were established on an “open door” policy, as well as on financial policies that included large state appropriations and low student tuition in comparison to four-year institutions of higher education. This made higher education accessible and affordable to many who otherwise would not be able to obtain a postsecondary education.

Community College Finance

Community colleges derive their funding for current operating expenditures from several revenue sources, such as state government, local government, student tuition and fees, federal and state grants, and endowments. In most states the major sources of current funds is either state or local governments. In recent years, community colleges have experienced reductions in state appropriations (Harvey, Williams, Kirshstein, O'Malley, & Wellman, 1998; Jenkins & Glass, 1999; Watkins, 2000). For example, Watkins (2000) found that in 1994 the mean percentage of total revenue from state appropriations was 38.5%, a decrease of 4.9 percentage points since 1989 (p. 100). Despite this, however, the major source of community college revenue is still from state government. According to Bowen (1996), “Most community colleges derive their funds mainly from appropriations of state and local government” (p. 124).

A decrease in state funding may prompt community colleges to seek funding from other sources, one of them being an increase in tuition and fees. Collins, Leitzel, Morgan, and Stalcup (1994) determined that the decrease in state funding has prompted institutions to seek more funding from local sources and to increase tuition. Their study indicated that 88.9% of the institutions increased tuition and fees. However, their study did not address the issue of the degree of increase in tuition and fees.

Because of the community college mission of open access, many authors expressed warnings about the effectiveness of increasing tuition and fees. For example, Watkins (2000) cited a “bothersome trend in college revenue.” He asserted that “...rising inflation-adjusted student tuition and fees cause many people to worry about student accessibility to postsecondary education, particularly at public community colleges” (p. 104).

In addition to the concern over endangering the open access mission of community colleges, increasing tuition and fees raises questions about the value of a higher education. Davis (1995) said, “Citizens are beginning to doubt whether college pays dividends” (p. 17). According to Watkins (1998), “Reports that tuition and fees at U.S. colleges and universities continue to rise at a rate higher than the rate of inflation have many people questioning the costs of higher education” (p. 479). The Institute of Higher Education Policy (1998) reported that the “...public dialogue about higher education has fundamentally changed, moving away from a broader understanding of the array of public and private benefits derived from higher education, and increasingly zeroing in on its private economic effects” (p. 5).

An increased reliance on tuition and fees could adversely affect open access, a key element of the community college philosophy. It could even threaten the preservation of our democratic society (President’s Commission on Higher Education, 1947).

Another relatively new method for community colleges to replace shrinking state appropriations is through establishment of foundations and fund-raising activities. Because state revenues, local taxation, student fees, and tuition are being pushed to the limits, more and more community colleges are recognizing fund-raising as an alternative funding source (Jenkins & Glass, 1999). Fund-raising has long been an important activity for four-year institutions; however, community colleges only recently have begun to see the value or necessity for these efforts (Glass & Jackson, 1998).

Alternative fund development could become critically important in the twenty-first century because “[p]ublic funding as a percentage of total budget, has been going down for years...” (Gaskin, 1997, p. 84). The performance of fund-raising efforts by community colleges has been sporadic and lacking in comparison to four-year institutions. In 1990, philanthropic endeavors by community colleges generated less than two percent of the annual revenue, compared to 12% for public four-year institution (Glass & Jackson, 1998).

Jenkins and Glass (1999) found that “[b]ecause having a foundation in community colleges is such a relatively new concept, research in the area is sparse” (p. 596). As indicated by the literature, additional information is needed to determine how many community colleges are obtaining funds through the establishment of a foundation and how significant the amount of revenue from this source has been.

Resource Dependency Theory

Resource dependency, a social organizational theory, speaks to external constraints of organizations and argues that administrators attempt to manage those constraints to acquire, if possible, more autonomy and freedom from them (Pfeffer, 1982). Resource dependency theory “...seeks to explain organizational and interorganizational behavior in terms of those

critical resources that an organization must have in order to survive and function” (Johnson, 1995). It departs from economic organizational theory because it considers resource uncertainty apart from considerations of efficiency (Pfeffer, 1997).

Pfeffer (1982) explained that this theory tried to introduce more concrete, material, externally based explanations for organizational behavior. Organizations can either change their activities, or face the real prospect of not surviving, when environments change (Pfeffer & Salancik, 1978). This study will attempt to investigate traditional funding sources as external constraints, and to determine whether public community college administrators are seeking alternative sources of current funds revenue, which could decrease the dependency upon appropriations. Different funding models may exist that have been able to sustain their levels of revenues over the decade.

Need for Study

Limited published research exists in the area of community college current funds revenue sources to determine if state appropriations have decreased to a statistically significant degree, if tuition and fees increased to a statistically significant degree, and if institutions are utilizing new sources to replace state funding. In fact, published research about trends in community college current funds revenue sources is sparse. Researchers have analyzed and compared institutions from the Carnegie Classifications including those from Research I institutions to Baccalaureate II, but they have stopped short of including Associate of Arts institutions. This may be because there are so many institutions of this type. According to the Integrated Postsecondary Education Data System (IPEDS) database there are 1269 public two-year institutions. This same database accommodates only 700

institutions for a comparative group study. Special and extensive extra effort on the part of a researcher would have to be made to study all 1269 public Associate of Arts institutions.

Purpose of Study

This study will address the financial status with regard to current funds revenue sources for 244 public community colleges in 12 Midwest states. It will investigate whether these states have experienced external constraints through a significant decrease in traditional funding sources and if alternative funding has increased. The study also will attempt to discover different funding models and if each has been able to sustain its level of revenues over the past decade.

Questions to be addressed are as follows. Have state appropriations been decreasing for community colleges? If so, to what extent and how are community colleges adjusting for the “lost revenue?” If the proportion of current funds revenue from state appropriations has decreased significantly, what alternative sources of revenue community colleges are utilizing? Are policymakers and community college administrators and governing boards just increasing tuition and fees? What other sources of current funds revenue have been increased? What new sources of revenue are being utilizing? An attempt will be made to discover different funding models being utilized by the various states. Are some funding models more effective in sustaining current funds revenue over the past decade?

Research Questions and Hypotheses

Research Question 1: Do the 12 states differ in the proportion of total current funds revenue derived from each of the following 12 revenue sources for community colleges?

- a. tuition and fees
- b. federal appropriations

- c. state appropriations
- d. local appropriations
- e. federal grants
- f. state grants
- g. local grants
- h. private gifts
- i. endowment income
- j. sales and services of educational activities
- k. auxiliary enterprises
- l. other sources

Null hypothesis: There will be no difference among the states in the proportion of current funds revenue derived from the 12 revenue sources for community colleges.

Research Question 2: Among community colleges in the 12 states, did the proportion of total current funds revenue derived from each of the following 12 revenue sources change between 1990,1995, and 2000?

- a. tuition and fees
- b. federal appropriations
- c. state appropriations
- d. local appropriations
- e. federal grants
- f. state grants
- g. local grants
- h. private gifts

- i. endowment income
- j. sales and services of educational activities
- k. auxiliary enterprises
- l. other sources

Null hypothesis: There will be no difference by year (1990, 1995, 2000) in the proportion of current funds revenue derived from each of the 12 revenue sources by the community colleges.

Research Question 3: For each of the following revenue sources, does the change in funding proportion over time (1990, 1995, 2000) differ significantly by state? In other words, for each revenue source, is there a statistically significant interaction between state and time in terms of the proportion of funding represented by the revenue source?

- a. tuition and fees
 - b. federal appropriations
 - c. state appropriations
 - d. local appropriations
 - e. federal grants
 - f. state grants
 - g. local grants
 - h. private gifts
 - i. endowment income
 - j. sales and services of educational activities
 - k. auxiliary enterprises
 - l. other sources
-

Null hypothesis: There will be no state by time interaction in terms of proportions of current funds revenue for each of the 12 revenue sources.

Research Question 4: If there are different models of funding within the 12 states, are there any models that have provided sustained or increased revenue expressed in constant 1990 dollars?

Null hypothesis: There will be no significant different models of funding current funds revenue for the community colleges in the 12 states for 1990-2000.

Variables

In addition to state appropriations other relevant sources of current funds revenue for community colleges listed by the National Center for Education Statistics (NCES) and the Integrated Postsecondary Education Data System (IPEDS) will be utilized by this study. These revenue sources include: tuition and fees, federal appropriations, state appropriations, local appropriations, federal grants, state grants, local grants, private gifts, endowment income, sales and services of educational activities, auxiliary enterprises, and other sources not covered by a separate specified source. These 12 revenue sources are dependent variables for this study. Total current funds revenue will be used in the calculation of proportions. The definition of each revenue source as provided by IPEDS is Appendix A. Year (the years 1990, 1995, and 2000) and State (12 Midwest states) are the study's independent variables.

Methodology

The National Center for Education Statistics (NCES) and the Integrated Postsecondary Education Data System (IPEDS) will provide the data for this study. A background explanation of IPEDS and the surveys it conducts is enclosed in Appendix B.

Specifically, the 12 current funds revenue sources supplied by the Finance Survey for the survey years of 1990, 1995 and 2000 for community colleges in the Plains Region states (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota; N=96) and the Lakes Region (Illinois, Indiana, Michigan, Ohio, and Wisconsin; N= 148) will be utilized. According to the IPEDS web page, the Finance Survey collects each institution's current fund revenues by source annually.

The Finance Survey cover page and Current Funds Revenues by Source page are enclosed in Appendix C. According to the cover page, "The completion of this survey, in a timely and accurate manner, is **MANDATORY** [upper case and bold are in original] for all institutions which participate or are applicants for participation in any Federal financial assistance program authorized by Title IV of the Higher Education Act of 1965, as amended. The completion of this survey is mandated by 20 U.S.C. 1094(a)(17)" (National Center for Education Statistics, 2000). This database is available through the Internet. Information obtained for the states included in this study will be downloaded to the *Statistical Package for the Social Science* (SPSS) for statistical analysis (Green, Salkind, & Akey, 2000; SPSS Base 10.0, 1999).

For this study the mean of the proportion of total current funds revenue attributed to each of the various revenue sources of interest for each of the 12 states for the years 1990, 1995, and 2000 will be computed and tested for statistical significance. Methods of comparison and interaction will be conducted using the two-way analysis of variance (ANOVA) for research questions 1-3, and the one-way ANOVA for research question 4. Appropriate follow-up tests will be conducted if significant differences are found in the overall effects and the interaction effect. A level of significance, or alpha level, of .05 has

been selected for this study because it is generally used for educational research (Agresti & Finlay, 1997).

Significance

The ability to obtain and maintain revenue enables organizations to accomplish their mission and goals. Community colleges were created for the specific reason of making higher education financially accessible to the populace. The community college mission is one of accessibility as opposed to the higher education tradition of limitation. In order to accomplish this accessibility mission, it has been necessary for community colleges' primary funding to come from sources other than student tuition and fees. The Institute for Higher Education Policy (1999) stated that with every \$100 increase in tuition there is a 0.5-1.0% decrease in college enrollment. A disproportional rise in student tuition and fees would be in conflict with the community college mission.

Information about the status of state appropriations for community colleges during the past decade, and about where community colleges are finding funds to replace any "lost" revenue from state appropriations, would assist decision makers in funding the community college mission. According to Wattenbarger (1985), "...most researchers have not attempted to establish a connection between the special mission of the community college and the financial support of these institutions" (p. 65).

Solid links must be established between planning and budgeting, especially during long-term financial stringency (Brinkman & Morgan, 1997; McClenney & Chaffee, 1985). Part of proactive planning is budgeting (McClenney & Chaffee, 1985). Utilization of a planning process that ties the mission of the institution to its financial resources would assist

institutions in attempting to meet the goal of keeping college affordable and accessible, while being financially accountable (Hay, 1990).

Because the details for the creation of community colleges were left to the individual states by the President's Commission (1947), it may be possible that some states are utilizing models of funding that have been sustaining in nature. Identifying current fund revenue funding models, which have been sustaining over time without a disproportionate increase in student tuition and fees, would assist community college stakeholders and policymakers in their attempt to meet the accessibility and affordability mission of these institutions of higher education.

Assumptions and Limitations of the Study

Because the completion of the IPEDS Finance Survey forms is mandatory for all institutions participating in any federal financial assistance program authorized by Title IV, it is assumed that this is the best and most comprehensive source of public two-year community college current funds revenue data. It also is assumed that the IPEDS Finance Survey forms have been completed as accurately and completely as possible by the various institutions. Moreover, it is assumed that these forms have been completed with consistency of interpretation of each current fund revenue source for years 1990, 1995 and 2000.

The 11 sources (tuition and fees, federal appropriations, local appropriations, federal grants, state grants, local grants, endowment income, private gifts, auxiliary enterprises, sales and services of educational activities, and other sources) of current funds revenues in addition to state appropriations were selected because they are categories utilized by the IPEDS survey form. Two other IPEDS categories (hospitals and independent operations), which typically are not current funds revenue sources for community colleges, will not be

part of this study. This study does not attempt to explain the causes for the changes in revenues generated from the various sources of current funds revenue because it is assumed that the reasons would be of such great variety and complexity that it would warrant a separate study employing qualitative research methods with contacts and interviews at each institution.

The study may be limited in its ability to generalize. Because community colleges were created at the state level, they are controlled and governed by the various individual states. Generalization may be limited to only those other states having similar histories and organizational structures for their public community colleges.

Summary

This study will begin with a review of literature related to the community college system, historic community college funding, the importance of an educated populace for a democratic society, organizational theory regarding the relationship between organizational mission and budget allocations, previous studies related to community college current funds revenue sources, and planning processes for public educational institutions. The methodology for this study will be outlined in Chapter Three and the results of the study will be presented in Chapter Four. Chapter Five will conclude the study with a discussion of the findings, recommendations for further study, and possible implications for practice.

CHAPTER 2. LITERATURE REVIEW

Introduction

An important contemporary financial issue of higher education is ever-increasing tuition and fees. The price students are paying for an education is of special concern for community colleges because of their originating mission. While literature on higher education revenue sources exists, little has been published recently specific to the community college situation. This chapter presents a review of pertinent literature regarding the founding and funding of the community college. Attention has been given to its mission and the implications for future financial planning.

Education and Democracy

Earning a living along with being capable of making intelligent decisions are attributes for a contributing and productive member of a working, democratic society (Diekhoff, 1950). In a democracy it is necessary for every human being to be allowed to develop his or her fullest potential. Human development is a continuous, lifelong process and is essential to democratic life (Roueche & Baker, 1987).

Following World War II, the preservation of a democratic society was a concern. This concern led to the formation of the President's Commission on Higher Education in 1947. The Commission recommended the creation of what is now known as the comprehensive community college. The purpose was to make higher education financially accessible to those who might otherwise not be able to afford postsecondary education. The underlying objective was for the preservation of a democratic society (President's Commission on Higher Education, 1947).

The need for education in a democracy has long been accepted. Plato's *Republic* reflected a "...dialectical relationship between education and democracy..." and Socrates believed "...that education could *teach* [italic in original] citizens how to be democratic..." (Nelson, 2001, p. 331). America's first president, George Washington, urged the promotion of educational institutions, as it was "...essential that public opinion should be enlightened" (Diekhoff, 1950, p. 5). John Adams specified:

Education is more indispensable, and must be more general, under a free government than any other. In a monarchy, the few who are likely to govern must have some education, but the common people must be kept in ignorance; in an aristocracy, the nobles should be educated, but here it is even more necessary that the common people should be ignorant; but in a free government knowledge must be general, and ought to be universal. (Diekhoff, 1950, p. 5)

The preparation of democratic citizens who could preserve individual freedom and engage in responsible self-government was the rationale for public schooling during the times of our founding fathers. Probably the most noted of our founding fathers advocating the need for an educated populace for the formation and preservation of a democracy was Thomas Jefferson (Arrowood, 1970; Foner, 1944; Halliday, 2001; Rayner, 1832; Severance, 1998).

The importance of educating the populace for the preservation of democracy continued to be voiced by others (Altbach, 1998; Astin, 1997; Ehrlich, 1997; Menand, 1997; Orrill, 1997). As early as 1797, William Manning wrote arguing for education as the only remedy against anti-democratic evils (Griffith & Connor, 1994). Manning insisted that history proved it was the unreasonable attitudes and views of the few, and the ignorance and

carelessness of the many that caused free governments to fall (Merrill & Wilentz, 1993). The future American community college system was actually described by Manning when he called for "...every state to maintain as many Coledges in convenient parts thereof as would be attended upon to give the highest Degrees of Larning...in the cheepest & best manner possible [spelling and punctuation as in the original]" (Manning, 1922, p. 35).

Progressive educators such as John Dewey, Henry Adams and Charles Merriam viewed education as the "keystone of democracy" (McDonnell, 2000, p. 3). Alexander Meiklejohn founded his Experimental College at the University of Wisconsin in 1926 on the belief that citizens needed to have knowledge to be democratic, and to use their freedom wisely (Nelson, 2001).

Eells (1940) proclaimed, "American education democracy may eventually insist upon college opportunity for all at public expense" (p. 36). Myers and Williams (1948) stated, "It is apparent that the main bulwark of a democracy is an informed and an intelligent citizenry...the teaching of this citizenry is the major task of education in a democracy" (p. 233). In his works on community college finance, Garms (1977) wrote, "Better educated individuals may be better citizens, enriching the lives of those around them, operating our democracy more wisely and fairly..." (p. 25). Pangle and Pangle (2000) also stated that, "...democracy, as 'government of the people, by the people, and for the people,' depends ultimately on the political wisdom and civic spirit of the people" (p. 21). According to Vaughan (2000), "Today's community college embodies Thomas Jefferson's belief that education should be practical as well as liberal and should serve the public good as well as individual needs" (p. 1).

By the end of World War II, and with an apparent threat to democracy posed by communism, the Truman Commission proposed that in order to preserve our democracy, higher education needed to be made affordable and accessible to the populace (President's Commission on Higher Education, 1947). Significant reductions in state appropriations to community colleges causing a significant increase in student tuition and fees could result in threatening the preservation of American democracy.

Evolution of America's Community College

The community college is a "unique American invention" (Breneman & Nelson, 1981, p. 1; Cain, 1999, p. 10) with its origin dating to the turn of the twentieth century. However, its roots are buried in the values and principles that Americans hold for higher education and democracy. Referred to as "democracy's institution," the "people's college," (DiCroce, 1995, p. 80; Diekhoff, 1950, p. 201), or "opportunity college," (Medsker, 1960, p. 18) the community college requires substantial governmental support to fulfill its mission of accessibility to higher education. Because of the need for sufficient state and/or local financial support, it is urgent for all Americans to understand what these institutions do and the unique role they play in higher education (Griffith & Connor, 1994). To understand the community college as a unique institution of higher learning, it is helpful to review the evolution of higher education in America. As suggested by Gleazer (1994), "A knowledge of history – of the circumstances and forces that have brought this American institution to its present state – can be a valuable resource in considering future directions" (p. vi).

Age of the College

"The Age of the College—from the founding of Harvard through the Civil War" (Diener, 1986, p. 3) was an age of educating young men in classical learning to prepare them

for the ministry, the professions of law and medicine, and for leadership in government (Diener, 1986; Duryea, 1987; Hofstadter, 1952; Rudolph, 1990). America's first college, Harvard, was founded in 1636, only sixteen years after the Pilgrims from England landed at Plymouth (Eells, 1931). Many of the first men to arrive in Massachusetts had been educated at Cambridge where Puritan theology had been nurtured (Brubacher & Rudy, 1976; Rudolph, 1990). Several other colonial colleges followed Harvard's example and were created as an arm of a church. Nonsectarian colleges did not appear until a century later, with the founding in 1740 of what is now the University of Pennsylvania (Abrams, 1993).

Age of the University

"The Age of the University—from the 1870s through World War II" (Diener, 1986, p. 3) was a period of scientific investigations in virtually all fields of human endeavor. The American university with its researchers, laboratories and experiment stations helped create the knowledge explosion of the twentieth century. It was a time of expanding course and program offerings for an expanded student body, which included various levels of social status, women, and minorities (Diener, 1986; Rudolph, 1990; Veysey, 1965).

By the 1800s the German school system of kindergarten, normal school, "Gymnasium," graduate school, and the technical institute influenced American education (Brubacher & Rudy, 1976; Hillway, 1958; Koos, 1925). The university also sprang from national efforts to "...industrialize, not only our cities but our farms" (Diener, 1986, p.5). With the passage of the Morrill Act in 1862, which established land-grant colleges, the traditional curriculum with its classical courses expanded to include instruction in agriculture and the mechanic arts. It was a time of enacting the recognition that many should be allowed the benefits of higher education (Diener, 1986; Duryea, 1987; Rudolph, 1990).

The Junior College Movement

An important fact in understanding the formation and purpose of the contemporary community college is that the current American education system is not the result of a systematic, comprehensive master plan. Community colleges developed outside the educational continuum that begins in kindergarten and ends with graduate school (Griffith & Connor, 1994). Only two states had attempted to coordinate the activities of their public institutions of higher learning by 1915 (Metzger, 1987).

In early colonial times, primary level training and college training existed, but with very little formal training linking them as colleges and universities were usually established before secondary education systems (Ratcliff, 1994). The earliest writings of the theory favoring the two-year college concept have been traced to Du Pont de Nemours (Witt, Wattenbarger, Gollattscheck, & Suppiger, 1994). His book, *National Education*, written in French at the beginning of the nineteenth century and translated into English in 1923, describes in detail a secondary school, which he calls a “college” (Du Pont de Nemours, 1812/1923).

During America’s agrarian period a grammar school education was sufficient for most people. In fact, in the early nineteenth century it was not necessary to have college training to become a doctor, lawyer, or teacher (Hofstadter, 1952). Gradually, the mandatory level of free education increased into the high school level with the onset of industrialization. Coinciding with industrialization, the junior college movement “...was born in the American heartland...and spread rapidly throughout the expanding West” (Witt et al., p. 1).

By the late 1800s, when a college education became the goal of more students, colleges began to see the need for setting acceptable levels of preparation for their

prospective students. One approach was to create a “junior college” that was a “feeder institution” to a university. In 1902 President William Harper of the University of Chicago proposed the creation of Joliet Junior College, the earliest two-year institution of higher education still in existence. His purpose was to separate the first two years of college from the last two years, which were viewed as being more specialized and demanding (Bogue, 1957b; Gleazer, 1968; Hillway, 1958; Richardson & Leslie, 1980).

Prior to President Harper’s success at establishing Joliet Junior College, Henry Tappan (Michigan, 1852) and William Folwell (Minnesota, 1869) both advocated transferring the first two years of college to the secondary schools (Eells, 1940; Fields, 1962; Gabert, 1991). Edmund James (Illinois, 1905) recommended modification of the work of the university by a “...continued growth at the top and a lopping off at the bottom” (Eells, 1940, p. 11). Presidents Harper, Tappan, Folwell, and James were advocates of “university amputation” (Eells, 1931; Eells, 1940).

This elitist approach, modeled after the German system, called for students to remain in a secondary school two additional years (Witt et al., 1994). By today’s standards, this would seem impossible. However, Koos (1925) found that “for four consecutive years beginning in 1792, the average age of the students on entering college was sixteen years and two months...nearly a third were under fifteen when they entered” (p. 191). The typical Harvard freshman in 1825 was two years younger than in 1916 (Koos, 1925).

Universities began to set expectations for the high school to produce students who were adequately prepared for the rigors of a college education, by dictating an acceptable high school curriculum. At the turn of the 20th century with the advent of industrialization and by following the German Gymnasium model with 14 years of pre-college preparation, an

effort to increase the mandatory level of American education to the 13th and 14th years was initiated (Koos, 1925). A fundamental reorganization in American education was slowly evolving, and another "...new institution of large future importance" (Cubberly, 1931, p. ix) was taking shape.

Junior colleges began appearing from four different origins as a result of "...the struggle between American liberal and conservative thought during the first half of the twentieth century" (Koltai & Thurston, 1971, p. 3). In addition to "university amputation," President Harper also promoted "college decapitation," by urging weak, four-year denominational institutions to give up their often-inefficient junior and senior work, and concentrate on two years of really effective work (Eells, 1940; Rudolph, 1990).

Communities far removed from college locales, but wanting further educational opportunities for their youth, became part of the "high school elongation" (Eells, 1931; Eells, 1940) process by offering two additional years with local school board governance. In addition there were junior colleges of "independent creation" (Eells, 1931; Eells, 1940).

As a result of these four origins, universities, high schools, and independent boards all provided two years of education beyond the high school level (Clark, 1960; Hillway, 1958; O'Connell, 1968). Within these origins were two strong traditions and "...two points of view that have been with us for a long time: one looks at how ideas create and influence our society, political, and economic realities. The other looks at how human needs and demands...generate ideas" (Griffith & Connor, 1994, p. 113).

The entire junior college movement was fueled by America's expanding democracy (Witt et al., 1994). The significant difference in the Age of the University and the Junior

College Movement is that, “Whereas universities fought to remain exclusive, junior colleges measured their success by inclusion” (Witt et al. p. 3).

Age of the Community College

“The Age of the Community College—from the 1960s through the last decades of the 20th century” (Diener, 1986, p. 3) and beyond, is a continuation of the American dream for prosperity in a free society. Rather than being a history solely of sweeping social movements or the influences of great individuals, the history of community colleges is “...a testimony of political commitment to providing educational opportunity to the many who would not otherwise be served” (Witt et al., 1994, p. 276). The land grant movement was the great innovation in higher education in the nineteenth century. The great innovation of the 20th century was the community college movement (Kerr, 1985).

Over the years a furthering of education has been valued, and seen as a means to prosper by being better prepared to earn a living. O’Connell (1968) predicted that a high school education would be inadequate preparation for any but the most menial job. At the same time, an increase in demand for technicians and sub-professionals existed. This demand surpassed the need for professionally trained people. The evolution of the comprehensive community college in the twentieth century was an adaptation to meet this real social need and it “...was the next logical extension of educational opportunity after the common school, land grant college, and high school” (Gabert, 1991, p. 8).

Community College Characteristics

The community college with its open admissions and multiple functions distinguish it from earlier higher educational institutions. These functions are the result of America’s determination to preserve its democratic society by bringing higher education to the people.

Mission of the community college. The mission of the earliest two-year institutions, (e.g., Joliet Junior College) was solely for the purpose of providing the first two years of college to recent high school graduates. These graduates could then transfer to a four-year college or university. This transfer mission was the most significant function of the public junior college and its successor, the community college, until the mid-1960s or early 1970s (Eaton, 1994b; Richardson & Leslie, 1980).

Most early two-year colleges did not have vocational/technical continuing education, community service, and remedial/developmental education as part of their mission. Training for employment became important during and following World War II as technology expanded and created thousands of new job categories requiring education beyond high school (Witt et al, 1994). The shift from “junior” to “community” college and the accompanied increased emphasis on vocational education coexisted with the earlier liberal arts and transfer function (Eaton, 1994a). As stated by Richardson and Leslie (1980), “Despite the dominance of the academic transfer function, the history of the first eighty years of the American public junior college is a story of adaptation and evolution as these institutions responded to new clienteles and added the programs required to attract and serve them” (p. 3).

One of the clearest definitions of the college’s role in the community is in the report urging the creation of these colleges. The report of the President’s Commission on Higher Education (1947) called for colleges that are centers “...of learning for the entire community, with or without the restrictions that surround formal course work...[gearing their] programs and services to the needs and wishes of the people [they] serve...” (vol. 1, p. 69).

Baker, Dudziak, and Tyler (1994) credit the GI Bill, the “baby boom,” and Sputnik as the forces that stimulated thinking about educating the masses, community needs and services, open access, and vocational/technical education. It was nearly a quarter of a century after the President’s Commission report that the community continuing education function of the community college emerged with a variety of services being provided (Witt et al., 1994). Thinking in terms of lifelong learning, education for economic development and institutional services were triggered by the social context of the 20 years from 1960 to 1980 (Baker et al., 1994).

Through adaptation to meet the needs of the people, by 1980 community colleges had several functions. Academic transfer; vocational/technical; developmental/remedial; continuing education; community service; adult education; and assessment, skill training and placement had become some of the functions of the community college (Richardson & Leslie, 1980; Tillery & Deegan, 1985; Wajngurt & Jones, 1993). Legislation in most states include academic transfer, vocational/technical education, continuing education, community service, and remedial/developmental education as the curricular functions necessary for community colleges to meet the needs of the communities they serve (Cohen & Brawer, 1996). It appeared that the community college was attempting to be “everything to everybody” (Seater, 1995, p. 5).

An overriding issue is whether community colleges will be able to keep their multiple functions. As community colleges suffer budget cuts, they may lose their ability to be comprehensive enough and flexible enough to change as needs change. They also may be forced into being solely a transfer-oriented college with “...the specter of admission requirements, which would mean closing the open door” (Griffith & Connor, 1994, p. 128).

Open door philosophy. The establishment of an open door policy and financial policies that included large state appropriations and low student tuition in comparison to four-year institutions of higher education made higher education accessible and affordable to many who otherwise would not be able to obtain a postsecondary education (Cohen & Brawer, 1996). Besides accommodating the veterans and the “baby boom” generation, community colleges pioneered the open door philosophy, which sought to bring higher education to even larger numbers of people (Breneman & Nelson, 1981). According to George Boggs, president of the American Association of Community Colleges, “Ensuring equal access to a college education...is the cornerstone of the community college mission” (as cited in Larose, 2002). This philosophy is rooted in the belief that a “...democracy can thrive, indeed survive, only if its people are educated to their fullest potential” (Vaughan, 2000, p. 4).

The community college is “...expected to admit all applicants, without regard to ability, type of curriculum completed in high school, or any other aspect of background. It is to have an open door” (Clark, 1960, p. 45). Rather than having the “...less flexible attitude that higher education is a product or commodity for a restricted proportion of individuals” (Fields, 1962, p. 69), the community college provides programs to meet the needs of the various groups within the community. They are “*deliberately inclusive*” [italics in original] (Griffith & Connor, 1994, p. 6). In fact at least one advocate of community colleges has referred to them as “the Ellis Island of higher education” (Vaughan, 1983, p. 9).

The open door admissions policy assumes that students should be given the opportunity to try (Gleazer, 1968). In the early 1960s “...open admissions was defined as the ‘right to fail’” (Richardson, 1988, p. 28). However, it is “...one of the most misunderstood

characteristics of community colleges” (Gabert, 1991, p.15). It needs to be understood that “[a]lthough publicly supported community colleges are predominantly open-door institutions, admission to programs *within* [italics in the origin] the college is on a selective basis” (Gleazer, 1968, p. 50).

Concern for the continuation of the open door philosophy began to be expressed in the 1980s (Demaree, 1986; Nigliazzo, 1986). Swail (2002) expressed concern that continued increases in tuition and fees at rates double that of inflation would significantly impair the ability to keep higher education affordable to low- and middle- income families. Since the 1990s

...community colleges have been hard-pressed to maintain their historic commitment to the open door...a general crisis in finance of state governments has caused states to look for ways to limit access to the largest and perhaps most important portal to achieving and maintaining socioeconomic status – the community college. (Katsinas, 1994, p. 22)

Community Centered. The community college has its meaning rooted in serving the needs of community life (Gleazer, 1968). Higher education institutions dedicated to addressing the needs of the community were sorely needed, if the goal of increased educational opportunities was to be met (Diener, 1986). One of the community college functions became serving the community by being the educational and cultural focal point of its service area (O’Connell, 1968; Vaughan, 2000). In this role community colleges have come to be viewed as change agents for their communities (Anderson & Snyder, 1993). Because of this central function, it is “...no accident that *community* [italic in original] is part of the community college’s name” (Vaughan, 2000, p. 6).

These multiple features of this unique institution have been compared to those attributed to the success of a Wal-Mart store. The community college:

conveniently located, with lots of parking, offering something for everyone, maintaining good quality at low prices, with hours that allow for flexible shopping, and a commitment to personal service, the community college, like the discount chain, seeks to make itself indispensable to the neighborhood....A community college comes to you. (Cain, 1999, p. 2)

Governmental Influence and the Community College

The course of higher education in America has been greatly influenced by three important historical events. Land grant universities were established in the 1860s adding practical education to the theoretical education curriculum. In the mid-1940s the GI Bill was enacted as policymakers began to see education as an investment in human-resource development (Parnell, 1985). Formation of the contemporary community college was the third major event according to Parnell (1985). However, “[u]nlike the models of research universities and liberal arts colleges that were imported from Europe, community colleges were designed from the ground up to serve American priorities” (Cross, 1997, p. ix).

The history of American community colleges tells of the importance of governmental support for these institutions of higher education. Community colleges in America were founded to preserve and advance American democracy by making higher education available to and affordable for the populace. Though two-year institutions of higher education (e.g., Joliet Junior College) were in existence prior to World War II, they did not fill the roles of the current institutions known as comprehensive community colleges. They were merely the

“junior college” mentioned earlier, which served as feeder institutions for the university (Richardson & Leslie, 1980).

Servicemen's Readjustment Act (The GI Bill), 1944. The end of World War II created enormous social and economic problems for the United States, as too many servicemen were returning from the war to be absorbed into the workforce. The Servicemen's Readjustment Act (the GI Bill) of 1944 provided funds for veterans to attend college, creating a means of slowing their entry into the workforce (Diekhoff, 1950). Though the Servicemen's Readjustment Act did not directly support only the community college, it did have an enormous affect on its growth. Combined with the open door admission policy, and the change in demographics due to the “baby boom” period, this Act explains much of the rapid growth in numbers of community colleges and the “explosion” in enrollment figures of the 1960s and 1970s (Baker et al., 1994).

With the financial assistance from the GI Bill, World War II and Korean War, veterans flowed into the higher education system. The period from 1947 to 1958, according to Hansen and Stampen (1987):

marked the ascendance of higher education to a new level of prominence in American society. Colleges and universities had been instrumental in easing the transition from a wartime to a peacetime economy...[and with] knowledge of the important contributions of academe during World War II...people came to believe that colleges and universities could be instrumental in resolving other national problems. (p. 110)

Many people attended college who might not have otherwise. This demand for a college education played a major role in the growth of the community college in the 1960s and 1970s.

Commission on Higher Education, 1947. Another result of World War II was the fear of the spread of communism and the apparent need to take steps to preserve our democratic society. The Commission set a new direction for two-year institutions. President Truman stated, "This commission... will be charged with an examination of the functions of higher education in our democracy and of the means by which they can best be performed" (President's Commission on Higher Education, 1947, vol. 1, p. v). Financial barriers to college attendance were to be removed by providing loans, grants, and work-study opportunities based on need (Hansen & Stampen, 1987).

The time [had] come to make education through the fourteenth grade universally available throughout the country just as free high-school education [was] available...the time [had] come to provide monetary assistance to competent but needy students...the time [had] come to make education at every level accessible to all Americans who [could] benefit from it. (Hillway, 1958, p. 2)

Specific questions the Commission on Higher Education addressed were:

ways and means of expanding educational opportunities for all able young people; the adequacy of curricula, particularly in the fields of international affairs and social understanding; the desirability of establishing a series of intermediate technical institutes; the financial structure of higher education with particular reference to the requirements for the rapid expansion of physical facilities. (President's Commission on Higher Education, 1947, vol. 1, p. v)

The need for the Commission was at least two fold – accessibility of higher education for the populace, and a concern for the preservation of our democratic system of government. Limited higher education opportunities for a large portion of the nation’s citizens was an expressed concern in the Commission’s Report (Parnell, 1985). America’s higher education was still modeled after those of European aristocracies with access limited to the wealthy and privileged few. The Commission’s Report notes that, “It is a commonplace of the democratic faith that education is indispensable to the maintenance and growth of freedom of thought, faith, enterprise, and association. Thus the social role of education in a democratic society is at once to insure equal liberty and equal opportunity to differing individuals and groups...” (President’s Commission on Higher Education, 1947, vol. 1, p. 5). The report stated further, “Education is the foundation of democratic liberties. Without an educated citizenry alert to preserve and extend freedom, it would not long endure” (vol. 1, p. 25).

According to Diener (1986), the Commission reported that, “Community colleges, dedicated to reflecting and meeting the needs of their service areas, were sorely needed in the United States if the goal of increased educational opportunities was to be reached” (p. 137). The Commission urged these new colleges to adopt the name “community” rather than “junior” to emphasize their expanded mission (Diener, 1986; Gabert, 1991).

Higher Education Facilities Act, 1963. The idea stated by the Truman Commission that a new college system was needed in America in order to preserve our democratic society led to landmark legislative action in 1963 with passage of the Higher Education Facilities Act (Gleazer, 1968). This Act authorized 22% of available funds for public community college facilities, requiring only that there be state or local matching funds (Wattenbarger & Cage, 1974). It marked the first time federal legislation made specific reference to the public two-

year institutions (Gleazer, 1968). This action paved the way for the pending growth of community colleges in America. For several years during the 1960s and 1970s, an average of one new community college per week was opened (Breneman & Nelson, 1981). Since 1975, approximately half of all first-time college students have enrolled in community colleges (Blau et al., 2000; Warford, 2001/2002).

Basic Education Opportunity Grant (BEOG), 1972. A federal student financial system, which provided grants to students based on their financial need, emerged in 1972 with the passage of the Basic Education Opportunity Grant. This national need-based grant system enabled the realization of a goal that had first been proposed by the Truman Commission almost a quarter of a century earlier (Hansen & Stampen, 1987). The higher education amendments of 1972 redefined the higher education system by transferring federal student aid to the student from the institution. They also broadened the definition of eligible institutions that could receive students with federal aid by including non-degree-granting postsecondary institutions. (Peterson & Dill, 1999).

Expansion of the Public Two-Year College

Since no public two-year colleges existed prior to 1900, “[t]he public junior college is entirely a twentieth-century phenomenon” (Clark, 1960, p. 3). While the first public junior college still in existence is in Joliet, Illinois, California took the first step of passing legislation permitting the creation of separate junior colleges districts. This enabling legislation was passed in 1907 allowing local school boards to offer the first two years of college work (Clark, 1960; Gabert, 1991; Vaughan, 2000). Fresno Junior College, the first California publicly funded school of its kind, opened in 1910 (Boggs & Cater, 1994).

California, unlike eastern states, lacked an extensive system of small four-year colleges. This allowed California to be "...fertile ground for the junior college movement" (Witt et al., 1994, p. 32.) However, the major activity of the first 18 years of the movement was centered in the Midwest, with at least 13 junior colleges and six-year high schools, virtually all of which were connected in some way with the University of Chicago (Witt et al., 1994). Most of them were private liberal arts colleges in Texas and Missouri that had dropped their upper division as part of the "college decapitation" advocated by President Harper (Eells, 1940).

By 1915 there were 19 public junior colleges (Starrak & Hughes, 1954), but their total enrollment did not exceed 600 students (Clark, 1960). In the short period of two decades an educational institution, practically unknown at the opening of the 20th century, had multiplied to such an extent, that by 1920 the number of public and private junior colleges exceeded 200 (Koos, 1925).

A growth spurt for public junior colleges in 1921 was caused entirely by developments in California (Koos, 1925). By 1922, 70 public junior colleges existed, with California having the most (Gabert, 1991). The strength of the public junior college movement was definitely in the Middle West and in California (Eells, 1931). The 1930s saw 178 colleges and 45,000 students (Clark, 1960; Starrak & Hughes, 1954). Strong programs were in Illinois and Texas, but California, with 15,000 students in thirty-four junior colleges, led the nation (Boggs & Cater, 1994).

By 1940, 261 public two-year colleges existed with 168,000 students (Clark, 1960; Starrak & Hughes, 1954). The period of most rapid growth for public two-year schools, 1942 to 1970, was just beginning (Blau et al., 2000). After World War II, higher education

in general expanded rapidly, with perhaps the most astonishing being the growth of two-year colleges (Seater, 1995). The growth trend continued with 329 colleges and over 450,000 students by 1950 (Clark, 1960). Enrollments had grown from 592 in 1915 to 456,291 in 1950, causing Starrak & Hughes (1954) to write, "The continuing growth of the junior college movement...when measured both in terms of number of institutions and of their enrollments, has been nothing short of spectacular" (p. 24). Predictions in 1957 were that enrollments would double in the next 10-15 years (Bogue, 1957a). Events of the next decade proved Bogue's prediction an understatement.

During the 1960s, community college enrollment quadrupled, reaching 2.3 million (Eaton, 1994a). Richardson (1968) claimed that, "The 'instant' college is a way of describing one of the unique characteristics of two-year institutions" (p. 3) when the American Association of Junior Colleges identified 72 new institutions which opened their doors in the fall of 1967. In the ten-year period between 1958 and 1968, 500 new community colleges emerged (Gleazer, 1968). Nationwide a total of 1,091 junior colleges existed by 1970. After accounting for colleges that were dropped, America had built nearly one community or junior college per week for a decade. By the end of the decade of the 1960s, junior colleges were operating in all 50 states with slightly fewer than 2.5 million students (Witt et al., 1994).

The phenomenal growth of the community college during the 1960s certainly has to be attributed to the combination of federal legislation discussed earlier, and other Acts, such as, the National Defense Education Act of 1958, the Vocational Education Act of 1963, the Higher Education Facilities Act of 1963, the Civil Rights Act of 1964 and the Higher Education Act of 1965. Together these Acts helped to produce a two-year college that by

1970 was significantly different than the junior college of the early 20th century (Eaton, 1994a). Their growth most surely came from social forces, such as the peak in the number of baby boomers and the end of school segregation in the South (Vaughan, 2000). Their open admission policies, their geographic distribution, and their usually low tuition policies are also contributing growth factors (Carnegie Commission of Higher Education, 1970).

By 1992, two-year colleges enrolled 39% of all undergraduates, up from 27% in 1970 (Seater, 1995). Gabert (1991) predicted that there would be about 6 million students in more than 1,200 two-year colleges by the year 2000. According to the American Association of Community Colleges (AACC), 1004 public community colleges with 5.4 million credit students were in existence in 2001 (AACC, 2002).

The period between 1940 and 1980 saw American higher education in general move "...from an elite to a mass base" (Abrams, 1993, p. 22), as the population increased less than twofold while an eightfold increase in higher education enrollments occurred. In addition to general population expansion, several possible reasons can be given for the increase in community college enrollments. Cohen and Brawer (1996) suggested that physical accessibility; older students' participation; financial aid; part-time attendance; and high attendance by low-ability, women, and minority students were also factors in this growth.

Blau et al. (2000) studied the expansion of public two-year schools between 1942 and 1970, the period of their most rapid growth. They concluded that a large manufacturing sector, and a diverse economy demand a labor force with varied skills, which supports the vocational training function of the community college. In addition, because community colleges could be built and opened quickly, they were assumed to be a cost-effective way to provide the necessary expansion of higher education (Breneman & Nelson, 1981). After

many years of researching community college finance, Wattenbarger (1994) concluded that, “Almost all the literature relating to financing community colleges assumes that educational opportunity offered by community colleges is a valid expenditure of public funds” (p. 334).

Patterns of Control and Community College Finance

While “...questions about how best to finance community colleges [are] as old as the community college movement itself,” (Martorana, 1978, p. 1) trends in financing community colleges have followed the shifts in institutional purpose and mode of organization. Their title implies a legal affiliation with some type of local tax district. Because the early junior colleges had been organized as extensions of the secondary schools, they were generally supported by public school districts and not given state appropriations. In the early 1900s public junior colleges received 94% of their resources from local tax funds (Smith, 1994). The usual pattern was for the local district to provide a fixed sum of money per student in attendance (Cohen & Brawer, 1996; Medsker & Tillery, 1971; Richardson & Leslie, 1980; Wattenbarger, 1994).

When independent community college districts were organized, the source of funding was no longer through the public school systems. However, because of their local orientation, their support continued to come primarily from local tax funds (Wattenbarger & Starnes, 1976). State aid was less than 5% of all public college revenues in the 1920s (Cohen & Brawer, 1996).

The significant state interest in two-year colleges dates from the post World War II period and was fueled by the impact of the mushrooming school enrollments on the local property tax rate (Richardson & Leslie, 1980). By 1955 state aid accounted for 34% of public community college revenue (Martorana, 1978). This period witnessed the emergence

of still another form of control, the regional two-year institutions fully controlled and maintained by the state (Medsker & Tillery, 1971). By the late 1950s most states had enacted legislation establishing community colleges as separate institutions between public schools and institutions of higher education (Wattenbarger & Cage, 1974). Following this change in control, the portion of community college revenue derived from state aid increased to 58% (Martorana, 1978).

Hyde and Augenblick (1980) cited several community college financial studies completed in the 1950s. Medsker's 1956 study (as cited in Hyde & Augenblick, 1980) found three patterns of state funding and concluded that since these colleges did not conform to the established patterns of the institutions above them or below them, public junior college finance was in a state of confusion. In 1958 Martorana (as cited in Hyde & Augenblick, 1980) attempted to discover a relationship between financing systems and three organizational patterns – extensions of public schools, local junior college districts, and state controlled institutions. This study found local support decreased as local control decreased, but that tuition remained low as a proportion of all revenues under each of the three systems. Lombardi's study (as cited in Hyde & Augenblick, 1980) tracing tuition changes between 1929 and 1968, which found an increased reliance on that source of revenues. From these studies Hyde and Augenblick (1980) concluded that:

Generally, then, between the early part of this century and 1970 the financing pattern for community colleges changed significantly; the reliance on local funds had been reduced with a concomitant increase in state funding and the use of tuition and fees had become commonplace at levels that were considered relatively high by community college supporters. These changes indicate general trends although they

mask the fact that wide variations in the methods of providing state support and attitudes toward tuition existed among the states. (p. 62)

In 1970 the Carnegie Commission on Higher Education recommended that "...states should expand their contributions to the financing of community colleges so that the state's share amounts, in general, to one-half or two-thirds of the total state and local financial burden..." (p. 45). Studies related to sources of support revealed that over a period of years community colleges that were once locally supported institutions had become parts of state systems and received most of their support from state-level sources (Wattenbarger, 1985). Because educational systems are the responsibility of each state with no single national governance pattern, a variety of forms for the provision of the community college came to be. Medsker and Tillery (1971) found that by 1969, "...12 states totally administered these institutions through some agency of the state, 28 did it through a combination of state and local control, and nine states placed the colleges under the jurisdiction of a university [South Dakota had no community colleges at this time]" (p. 106). The decade of the 1970s was a financial turning point for community colleges, as a majority of them began to experience a gradual erosion of their state funding support (Wattenbarger & Vader, 1986).

Some organizational arrangement within the state department of education or public instruction was the most prevalent means of state coordination. Of the 11 states in this study (excluding South Dakota), Iowa, Kansas, Michigan, Missouri, Nebraska, and North Dakota, were controlled by their state department of education or public instruction. Illinois had both local and state control under a separate board for community colleges. The two-year institutions in Indiana were under the jurisdiction of two state universities. Minnesota was under a separate governing board for community colleges. The board responsible for other

higher institutions also provided oversight for the community colleges in Ohio. Wisconsin had split responsibilities with part being overseen by the university system and the vocational schools under the state board for vocational education (Medsker & Tillery, 1971). These diverse state organizational systems resulted in various state methods of allocating funds to community colleges (Wattenbarger & Starnes, 1976). Generalizations about sources of community college revenue are misleading. Because states have such widely varying revenue sources, each must be considered separately (Morsch, 1971).

Wattenbarger and Stepp (1978) in their biennial state financing survey identified four state funding models. The funding approach of the *negotiated budget* is an annual (or biennial) negotiation to seek additional funds for special programs and students. With the *unit rate formula* approach, state allocations are made on a dollar per unit of output basis, such as full-time equivalent enrollment or number of student credit hours. A third model, *minimum foundation*, is a modification of the unit rate formula approach. Its intent is to equalize state funding by taking into account differences in local wealth. The fourth model, *cost based program funding*, uses actual expenditures in cost centers as the basis for state allocations. States from this current study were found in each of the four models.

Most states fund on a flat grant-per-pupil basis, which raises a major concern with financial planners because cost differentials exist at any institution where a variety of courses are offered (Wajngurt & Jones, 1993). As mentioned earlier, the community college offers courses ranging from academic through occupational, vocational, developmental, and community services. Each type of course has a different cost basis.

Other major concerns have "...usually focused upon the fact that financial support is generally unrelated to the stated mission of the institution...[and] that there is always a

search for the magic formula” (Wattenbarger, 1985, p. 64). According to Wattenbarger (1985), the mission should be the primary factor in the basis of state allocations. In most states the community college mission is in the law, and funds usually are allocated in appropriations bills by the legislatures. However, there is not always a direct relationship between the two. Further more, “...most researchers have not attempted to establish a connection between the special mission of the community college and the financial support of these institutions” (Wattenbarger, 1985, p. 65).

Whatever their source of funding, “[f]ew American colleges have achieved the general public support that has been given to community colleges. Viewed by some educators as the answer to the problems of educating a large population rather than small, select groups, these colleges have presented a diverse pattern of institutional commitments, as well as a varied pattern of support” (Wattenbarger & Cage, 1974, p. 1).

Change in Funding Philosophy

Over the years shifting proportions of revenue coming from state aid, local taxes, federal aid, and tuition have marked community college funding. For the years of 1918, 1950 and 1999 local aid moved from 94% to 49% to 18% respectively. In 1918 there was no state aid to public two-year institutions. In 1950 and 1999 states were contributing 26% and 39%, respectively, of the revenue. Federal aid appeared in 1950 with 1% and was at 13% in 1999 (Cohen & Brawer, 1996; Vaughan, 2000).

The passage of massive federal student aid programs resulted from a shift in public policy from the widely held thought “...that the best way to provide postsecondary opportunities for students was to maintain adequate institutional support so that tuitions could be kept low” (Richardson & Leslie, 1980, p. 24). Early literature advocated free tuition at

public junior colleges (Eells, 1931; Koos, 1925). This proposed extension of free education into the 13th and 14th years was a further thrust of the social policy of the nation (Carnegie Commission on Higher Education, 1970.) Some states had policies to keep community college tuition at zero, but by the late 1960s economists labeled these policies as a waste of scarce public resources, because all students, not just the needy, were being aided by low, or no tuition (Richardson & Leslie, 1980).

The 1970s witnessed an educational environment where taxpayers were showing increased resistance to new or additional taxes at all levels (Henderson, 1978). Henderson (1978) expressed the opinion that, "Our days of operating virtually unquestioned, and of being both autonomous and affluent, may well be a phenomenon of the past" (p. 27). Nine of the 12 states of this current study responded to a 1977 national survey by McGuire (1978). All but one (Indiana) gave indications that state revenues to community colleges had either stabilized (Illinois, Iowa, Minnesota, Missouri, and Nebraska) or decreased (Michigan, Ohio and Wisconsin). The states of Kansas, North Dakota and South Dakota did not respond to the survey. McGuire (1978) viewed this financial situation as a change agent, as "[m]ore and more state community college boards [were] finding it necessary to keep legislators well informed of the services that two-year colleges [were] providing" (p. 25).

The Wattenbarger and Stepp (1978) financing survey disclosed that tuition had become an increasingly important financing source, with 29 of the 36 states reporting that tuition composed more than 10% of operating budgets. Wajngurt and Jones (1993) found that during the 1980-1990 decade, tuition and fees increased steadily. They expressed the belief that this policy change affects students' willingness to enroll at the public community

college. Concern for accessibility stems from the increase of student tuition from 6% to 20% during the 1918-1999 period (Vaughan, 2000).

Katsinas (1994) expressed this concern:

Given the well-documented 25 percent decline in the inflation-adjusted purchasing power of federal student aid between 1980 and 1992, the result is a philosophy that says that since the student is the primary beneficiary of higher education, the student should pay for it....This represents a dramatic philosophical shift from the 1960s and 1970s, when the federal government decided that it was *good* [italic in original] for the nation to have an increasingly educated population. (p. 24)

This move to increasing student tuition is also in contradiction to the recommendation of the President's Commission on Higher Education (1947) that education through the 14th year be made available tuition free to all able and willing to accept it. The arguments for public support of community colleges come from both efficiency and equity concerns. The efficiency argument is based on the public good that extends beyond individual benefits. The equity argument is a belief that access to education should not be limited only to those who have the ability to pay for it (Breneman & Nelson, 1981).

Though student access to a community college education, the cornerstone of the community college mission, continually seems to be threatened, Leitzel, Morgan, and Stalcup (1993) concluded that "...the open door is not easily closed" (p. 494). In their study of the results of mandated budget reversions and overall funding reductions from state and local sources, administrators reported that they were using coping strategies that did not directly limit enrollments. Limiting the number of course sections, and increasing maximum class size were two frequently used strategies (Leitzel et al., 1993).

A second study on declining revenues and increasing enrollments (Collins et al., 1994) found the most frequent strategies used were: forging additional partnerships with business and industry; increasing grant development/private foundation initiatives as additional sources of revenue; and increasing the number of part-time faculty appointments. They concluded, "For now, it looks as if institutions will attempt immediate, short-term strategies, hoping that funding through new avenues will offset declining state support" (Collins et al., 1994, p. 41). A large number of institutions in the study reported tuition increases, causing it to be the "...single most critical issue impacting the open door philosophy in community colleges today" (Collins et al., 1994, p. 41). Administrative decisions made as a result of problems created by changes in sources of revenues could dramatically change the traditional open door philosophy of the community college (Wattenbarger & Vader, 1986).

Planning

Higher education has entered a period of significant change driven by market forces including a limited resource base (Duderstadt, 1999). In 43 states, state revenues lag behind projections causing state budget deficits (Conklin, 2002, Hammock, 2002). With declining tax revenues federal and state grant programs are shrinking (Hammock, 2002). Research data indicate that funding from traditional sources will continue to decline (Roueche, Roueche, & Johnson, 2002).

Community colleges are striving to maintain a national goal of keeping college affordable for all who wish to obtain a post secondary education, while being subjected to public pressures to provide financial accountability. This places the community college

system in the difficult position of having to reconcile external funding constraints with its mission (Burstein, 1996; Katsinas, 1994).

Duderstadt (1999) asserted that, "Only a concerted effort to understand the important traditions of the past, the challenges of the present, and the possibilities for the future can enable institutions to thrive during a time of such change" (p. 156). During these times, colleges and universities must also strive for a greater understanding between the costs of higher education and the prices that students are charged (Stringer, Cunningham, Merisotis, Wellman, & O'Brien 1999).

Planning, which is any form of anticipatory decision making, should assist in deciding what to do and how to do it (Neufeld, 1999). Four basic concepts can describe most planning processes. The two planning dynamics are goal-centeredness, and decision-making and analytical style. The two types of planning participation are, expertise and representation (Peterson, 1999a).

In addition to strategic planning (discussed later), Peterson (1999a) and Neufeld (1999) summarized various planning models that have been used by educational institutions. The rational planning model, which was the basic paradigm of the 1950s, attempts to prepare and implement a comprehensive long-range plan. It formulates an institutional mission, develops goals and objectives, and establishes broad program and resource strategies.

The organizational development model has its roots in human relations and assumes the need for an open/participatory planning process as a requirement for implementing change successfully. Philosophically, it is in direct contrast to change imposed autocratically. The underlying view is that the organization is a human system with human

needs, abilities, attitudes, and activities that make up a culture. Because of its participatory nature, this planning model is both educative and instrumental.

Advocacy planning focuses on policy issues and downplays mission and goals. It is an openly competitive mode of planning, which recognizes that both the planning process and the planners are not politically neutral. The assumption is that the basic units of an organization are interest groups, which may be “winners” or “losers” in the decision making process.

Incremental planning is probably best used in combination with long-range planning models. Its advantage is that it makes annual adjustments toward a preferred condition by achieving small changes that are consistent with some long-term goals. If used alone, it would have very limited, and inconsistent results.

A planning process used by the defense and energy industries is based on group or expert judgment techniques, resulting in the development of alternative scenarios of the future. Three hypothetical scenarios – stable, turbulent, and chaotic – are developed to focus attention to various causal processes and decision making time frames needed to be more adequately prepared for future events and changes (Whiteley, Porter, Morrison, & Moore, 1999).

Peterson (1999b) suggested that long-range planning was the predominant planning process from 1950 to 1975. Strategic planning became the preferred process into the 1990s. He advocated that it is time for contextual planning, which “...is more holistic than strategic planning and deals with redesigning the *context* [italic in original] both in the external environment and within the organization” (p. 63). It may incorporate elements of long-range

and strategic planning, but it does not assume that environments are uncontrollable. It assumes that the environment may be changing, but it also can be influenced.

Utilization of a planning process that ties the mission of the institution to its financial resources would assist institutions in attempting to meet the goal of keeping college affordable and accessible, while being financially accountable. Within an organization the mission is the purpose for existence (Hay, 1990). A mission statement sets the overall purpose of the organization...and is the beginning of planning for the operation of an organization (Anthony, 1985).

Strategic Planning

Though Peterson (1999b) may have advocated a move to contextual planning, Presley and Leslie (1999) said strategic planning "...has returned with a vengeance..." (p. 83). Many authors state that the recommended planning process for organizations is considered to be strategic planning (Kaplan & Norton, 2001; Morrow & Hitt, 2000; Rowley & Sherman, 2001; Sporn, 1999). Strategic planning is a managerial process, which examines the organization as a whole (Birnbaum, 1990). It differs from regular planning in purpose, time frame, scope, and resource commitment (Anthony, 1985). It brings planning, resource allocation, and accountability together in one organizational process (Thomas, 1996). It involves both the formulation and the implementation of strategy through an analytical, comprehensive, and continuous process (Valentine, 1991). Strategic planning is a mode of communication from within an institution to its constituencies and from them to the institution (Burkhart & Reuss, 1993).

Although planning serves many functions, the primary purpose of strategic planning is to aid in institutional adaptation by assuring an alignment between an institution and its

relevant and often changing environment (Peterson, 1999a; Rowley & Sherman, 2001; Schmidlein & Hilton, 1999). An integral element of strategic planning is “[t]he idea that an institution can understand itself and its environment and anticipate future changes” (McClenney, 1995, p. 343). If it is true that state appropriations have decreased for community colleges, then they are indeed experiencing a need to adjust to this external environment, which is both relevant and changing.

Most organizational resources are expressed in terms of financial expenditures. Therefore, the strategic plan ultimately must be tied to the budget (Bryson, 1998). Within the strategic planning process, budget considerations are decided after the organization’s mission or purpose has been established (Bryson, 1988). The starting point of strategic planning is the mission, which defines why the organization exists (Kaplan & Norton, 2001).

The recent use of strategic planning has focused on strategy – where an organization is going and how it gets there. This is in contrast to the 1980s efficiency and downsizing emphasis, and the 1970s rational, quantitative focus. It includes proactive plans for changes within the environment (Valentine, 1991). Strategic planning in this new form is just “...one tool in a kit of approaches to strategy formation” (Presley & Leslie, 1999, p. 102). Strategic planning no longer has just an internal focus. Strategies must be developed for relations with state government, which has the powerful role of determining how much funding is available. Ways must be generated to find the resources to do old things better and to do entirely new things (Presley & Leslie, 1999). Strategic planning emphasizes the positioning of resources so as to maximize opportunities in the institution’s environment (Cope, 1981).

A concept within strategic planning is the SWOT model, which is a process for analyzing an organization’s internal strengths and weaknesses, and its external opportunities

and threats (Birnbaum, 1990; Bryson, 1988; Lawrence, 1995; Mintzberg, 1994). The amount of importance placed on outside trends and forces depends on the degree of dominance of external factors (Peterson, 1999a). The SWOT evaluation aids in preventing or reducing anticipated threats from external environments (Espy, 1986; Gmelch & Miskin, 1993). One of the major economic external environmental factors for community colleges is the supply of resources available to produce their services (Hay, 1990). Historically, the majority of community college financial resources have come from state and local appropriations, that is, sources external to the organization. This gives state government, in particular, a powerful role in determining program (Presley & Leslie, 1999). A decrease in state appropriations for community colleges is an external constraint for these institutions (Sporn, 1999). For community colleges the key to efficient and effective use of limited resources is a coupling of environmental scanning with sound program planning (Blong & Purga, 1985).

Strategic thinking needs to influence operational planning and actions, which in turn "...should influence the allocation and reallocation of institutional resources" (McClenney, 1994). Mintzberg (1994) pointed out that "...just as strategy is supposed to drive the budget, so too does the budget constrain the strategy" (p. 179). A reduction in state appropriations for community colleges is an external threat to the accessibility and affordability mission of these institutions. The mission and function of the comprehensive community college system is traced to the President's Commission on Higher Education (1947), which recommended that higher education be accessible and financially affordable to those who might otherwise not obtain a higher education. A reduction in state appropriations to community colleges ultimately threatens the American democratic society, if strategies are

not developed for establishing favorable relations with state government, and for finding additional sources of funding.

Financial Management

Whatever the planning process, strategic or otherwise, budgets become the mechanism for implementing the plans of the organization. The financial resources available to an organization, "...whether in times of scarcity or plenty, require strengthened financial management" (Smith, 1994, p. 353). Solid links must be established between planning and budgeting, especially during long-term financial stringency (Brinkman & Morgan, 1997; McClenney & Chaffee, 1985). Mintzberg (1994) discussed three forms of linkage between planning and budgeting: content linkage (comparing the contents of the planning document and the budget document); organizational linkage (coordination between the units responsible for both); and timing linkage (concerning the sequencing of the two).

Nonprofit Organizations

The world of nonprofits includes a broad range of institutions and can be divided into three types depending upon whether their work is focused outwardly or internally. Type 1 includes those that operate to serve the public good, such as hospitals, schools (including community colleges), libraries, and homeless shelters. Type 2 organizations serve both the public and their members. Examples are churches, public interest groups, and civic leagues. Type 3 organizations such as social clubs, business leagues, and labor unions focus their activities on fulfillment of member services (Blazek, 1996).

Nonprofit organizations are differentiated from business because their bottom line is not their primary concern (Hay, 1990). That is, their purpose is not to realize a profit. However, as long as the mission of exempt purposes is served, there are no laws prohibiting

the accumulation of excess funds, or capital (Blazek, 1996). Nonprofits do something very different than either business or government. Business produces goods or provides a service in an attempt to make a profit. Government controls. The product of a nonprofit institution is "...neither a pair of shoes nor an effective regulation. Its product is a *changed human being* [italics in original] (Drucker, 1990, p. xiv).

Stated another way, "Nonprofit organizations exist to serve a constituency or cause; to do so successfully, they must show a positive bottom line. For-profit companies exist to show a positive bottom line; to do so, they must meet the needs or wants of a particular constituency" (Gelatt, 1992, p. ix). The value theory of budgeting, a microeconomic theory for nonprofits, holds that a nonprofit "...seeks to maximize *subjectively* [italic in original] determined utility instead of *objectively* [italic in original] determined profit" (Massy, 1996b, p. 67).

This distinction has an impact on how nonprofit organizations and institutions view financial management. They tend to be unwilling to face up to critical choices, because they consider everything they do to be serving a cause. They tend to be unable to redirect their resources even when a program is no longer producing results. Generally, they exhibit difficulty in abandoning anything, though it may be more necessary for nonprofits than for business. It is theorized that nonprofit institutions are likely to behave more like a business when financial stress increases or is prolonged (Brinkman & Morgan, 1997).

Collecting data on inputs and presenting them as evidence of results is a common weakness among nonprofits (Schmaedick, 1993). Part of this behavior is due to the fact that performance and results are far easier to measure and control in a business than in a non-

profit institution (Drucker, 1990). In many cases the results of nonprofits are nearly impossible to quantify (Schmaedick, 1993).

Though a nonprofit's financial goals are secondary to its mission, financial success can enhance the institution's success in fulfilling their purpose. Balancing the mission and the finances can make a nonprofit organization's planning processes very complex (Blazek, 1996). However, as with other organizations (including businesses), "[p]rior to spending the first penny, [the nonprofit] must understand its dreams and define its mission and the accompanying mission-oriented goals" (Blazek, 1996, p. 57). It must never be forgotten that nonprofits exist for the sake of their mission (Drucker, 1990).

Nonprofit organizations receive billions of dollars from the public every year to accomplish their missions. It is the responsibility of these organizations to use these resources to the maximum benefits possible (Schmaedick, 1993). Nonprofits need to keep track of their resources. They can serve better if they understand what practices or programs make the most difference and concentrate their resources on them (Cook, 1993).

Managing Community College Finance

Emphasis upon accountability and the measurement of outcomes for community colleges was predicted over a quarter of a century ago (Wattenbarger & Starnes, 1976). In past decades, both the level of public funds allocation to higher education institutions, and the criteria of allocation have undergone substantial changes (Jongbloed & Van Der Knopp, 1999). Criticisms about higher education's quality, relevance, and costliness have become commonplace (Massy, 1996c). Public community colleges, as nonprofit institutions, are being challenged to improve performance, contain costs, and demonstrate sound resource utilization (Lorenzo, 1994).

Political figures and the general public wonder why industry's lead in improving productivity cannot be followed by colleges to reduce taxpayers and tuition payers burden (Massy, 1996a). External constituencies control financial accountability, because much of community college funding comes from public sources (Valentine, 1991). In practice, government, as the major financial supplier, can exert controls on public higher education budgetary items (Fonte, 1993). This increase in concern for fiscal accountability and control by state government is of importance because of its effect upon the community college's degree of autonomy in fulfilling its mission to be responsive to local needs (Voogt & Volkwein, 1997).

Strategies in coping with the shrinking state financial support have varying degrees of effectiveness. Their effectiveness is influenced partially by the prior experience of rapid community college growth, the local and state economies, the type of fund allocation used, the amount of contingency planning carried out, and the extent of diversification of revenue sources (Wattenbarger & Vader, 1986). Previous community college management psychology has centered on the ideas of more students, better equipment, more supplies, and more services (Sussman, 1978). A "bigger is better" philosophy prevailed (Alfred, 1978).

The mid-1970s was the end of the period of expansion and the beginning of the era of retrenchment (Blong & Purga, 1985). It was advocated that community colleges needed to change by substitution rather than addition (Richardson, 1978). According to economic theory of nonprofits, decision makers maximize benefits subject to a limit on total expenditures. Instead of reducing total cost, the model suggests growth by substitution (Massy, 1996b)

Richardson (1978) stressed that planning was essential for community colleges to remain adaptive and to be able to anticipate rather than react. Planning needs to be reality-based, which is described by Sussman (1978) as "...a series of alternatives designed to meet a variety of possibilities, any one of which could become a reality" (p. 42). A community college will be most successful in carrying out its mission, while coping with reduced resources, if it has an institutional program of action plan (Wattenbarger, 1978). This proactive approach should be driven by programmatic considerations, rather than expectations of funding (Knoell, 1978).

The proactive planning process needs at least two elements – accurate and timely information, and appropriate budgeting methods (Sussman, 1978). In the past most community colleges did not compile adequate information in order to make sound decisions related to academic programs (Wattenbarger, 1978). The colleges should continuously analyze community needs to have a realistic basis for evaluating the continued relevance of existing programs, or to establish new programs (Wattenbarger, 1978).

Part of proactive planning is budgeting (McClenney & Chaffee, 1985). Many community colleges have used an incremental budgeting process, which merely changes last year's budget by adding a percentage increase to each cost center to produce a new budget (Blazek, 1996). In times of financial reductions this process is no longer adequate (M.T. Miller, 1995; Wattenbarger, 1978). The management of institutional funds requires more stringent analysis and accountability during times of financial uncertainty (M.T. Miller, 1995). Zero-based budgeting, the building of a budget from a zero base, "...forces scrutiny of every college operation. It reinforces the need to establish priorities for each program as the benefits of each are weighed against its cost" (Sussman, 1978, p. 42). It asks the

question: “What goals and objectives do you want to address in the next fiscal year, and what will it cost to achieve those goals and objectives” (Gelatt, 1992, p. 114). This rational budgeting process calls for increases and decreases in the budget framework based on shifting priorities (M.T. Miller, 1995).

Community College Resource Development Research

With shrinking revenues from state and local sources, and the possible negative impact of increased tuition on their open door philosophy, community colleges have to look for other funding sources (Jenkins & Glass, 1999; Phillippe & Eblinger, 1998; Thomas, 1996). According to Hammock (2002), “The future belongs to those colleges with a clear focus on the communities and constituencies they serve ...” (p. 15).

Resource development identifies resources needed to accomplish the objectives flowing from the institutional mission. Grant seeking and private fund-raising are two aspects of resource development (Jackson & Keener, 2002). Because the need to seek alternative sources of revenue is relatively recent, research on any kind of external funding by public community colleges “...is in its infancy” (Jackson & Keener, 2002, p. 1).

An example of the lack of research on public community college finance is found in Stringer et al., (1999). Included in the section on, “Institutional Cost Considerations” the chart showing the “Average Expenditures per Student Credit Hour, by Carnegie Classification” (p. 19), includes Research, Doctoral, Comprehensive (Masters) and Baccalaureate, but does not have results for Associate of Arts. Another chart reports the results of a study of Arkansas Public Institutions on the “Average Expenditures per FTE Student” for the year 1996-97 (p. 19). This includes information about Arkansas’ Associate of Arts institutions relative to its other higher education institutions. Because of the

limitation of the IPEDS database to accommodate large numbers of institutions, researchers are left with the choices of not including data on Associate of Arts institutions, researching only small segments at a time (by region, by state), or transferring all the information to another database for computation.

The *Digest of Education Statistics, 2001* has tables of expenditures and revenues for postsecondary institutions. Table 331, "Current-fund revenue of public degree-granting institutions, by source: 1980-81 to 1996-97" gives historical revenue information, but does not break it down by type of institution. Table 335, "Current-fund revenue of public degree-granting institutions, by source of funds, and by type of institution: 1996-97" does give the information by type of institution, but it is only for one year. Another limitation is that the data were five years old at the time of publication (Snyder & Hoffman, 2002, pp. 374, 378).

There is limited relatively current information about community college finances. Harvey et al. (1998) report that for public two-year colleges, "...total costs per student increased by 52 percent between 1987 and 1996, from an average of \$5,197 to \$7,916. Sticker prices increased 85 percent, from \$710 to \$1,316...subsidies...declined for part of this period" (p. 5). Watkins (2000) studied the economic effects of the 1991 recession on the inflation-adjusted current funds revenues of public community colleges utilizing the annual Integrated Postsecondary Education Data System (IPEDS) Finance Surveys for the years 1989-1994. Only the 470 community colleges that were "...judged to have reported reliable enrollment and revenue data for each year of the five-year time period" were included in the study (p. 97).

Watkins (2000) found that the mean percentage of total revenue from state appropriations decreased 4.9 percentage points to 38.5% in the 1989-1994 five-year period

(p. 100). Kenton (2001) studied 72 public community colleges included in the IPEDS Plains Region states and found that there was not a statistically significant difference in the mean percentage of state appropriations between 1990 and 1999. However, there was a significant decrease in local appropriations and significant increase in student tuition and fees for this same period.

Resource Development

Private support for higher education dates to Harvard College in the seventeenth century. Since public community colleges are an innovation of the twentieth century, the history of private support for them is much shorter. Most community college foundations have been created since the late 1970s (Angel & Gares, 1989). The increased number of foundations corresponds with the beginning of a change in state resource allocation. For community colleges, the early 1970s marked the end of the "...heyday of almost unlimited resource expansion" (Brightman, 1989, p. 57). A survey by the American Association of Community Colleges conducted in 1977 indicated that 92% of the responding community colleges either had an active foundation, or were starting one. The number of community colleges with endowments increased by 175 between the years 1989 and 1995 (Phillippe & Eblinger, 1998).

Public community college foundations differ from those of traditional public or private four-year institutions in significant ways. Community college trustees are not active participants in the fund-raising process (Ryan, 1989). Community college alumni have not been active in giving economic support to their institutions (Seater, 1995). Many community college presidents are threatened by fund-raising or are unwilling to give it the time needed

(L.S. Miller, 1994). According to Zeiss (2002), college leaders need to "...learn a new skill, that is, how to sell. All fund-raising...requires an expertise in selling" (p. 14).

Alumni relations at public community colleges have not been emphasized until recently (Bauske, 1985). Rationale for this is that the alumni may not be "...sufficiently well established...to be of benefit to the institution" (Pokrass, 1989, p. 29). Major contributors have been individuals not affiliated with the college, and local business and industry, while alumni account for only 5% of total contributions (Phillippe & Eblinger, 1998). Friend-raising, rather than fund-raising, is recommended in the early years of alumni programs. Financial contributions are likely to follow later (Pokrass, 1989). These friends can be valuable as lobbyists. Many colleges find students, parents, and graduates are their best lobbyists ("Colleges Seek," 2003).

Other sources of alternative funding could come from contract training for business, industry, and public agencies (Lestina & Curry, 1989; Luskin & Warren, 1985). Proactive community economic development activities coincide with the great expansion growth of community colleges. In many states the economic development function is tied to the community college's ability to train, or retrain, employees to meet industry needs (Maradian, 1989; Russell, 2001). Industry leaders often credit community colleges for providing the best tools for rapid economic development (Anderson & Snyder, 1993).

Community colleges can have successful revenue diversification by taking advantage of available physical assets (such as, kitchen equipment, libraries, computers) to create a profit-making service (Brightman, 1989). The commercial development of excess land also could be achieved to create another new revenue source (McDowell & Lindner, 1989).

Many colleges, unable to generate enough support from the traditional sources are turning to auxiliary enterprises for their profit potential (Stumph, 1985).

Organizational Theory

In a study of resource acquisition by public comprehensive community colleges (non-profit organizations), a review of organizational theory becomes relevant. Individual behavior within organizations has been the focus of theories of motivation, leadership, and interpersonal communication. Each concerns the use of resources with the major goal being how to maximize output from the given resource. Questions about how resources were acquired had been left unanswered, or were completely ignored (Pfeffer & Salancik, 1978). According to Scott (1995), it is only recently that organizations have been distinguished conceptually as distinctive types of social forms. He concluded that the origin of organizational studies dates to the period of 1936-47.

Theoretical Perspectives

Prior to about 1970, the prevailing concept of organizational theory in the United States was in the form of structural contingency theory (Donaldson, 1995). This theory held that "...organizations adapted their structures in order to maintain fit with changing contingency factors such as size, technology and strategy, so as to attain high performance" (Donaldson, 1995, p. 2). Currently, there are numerous organizational theories.

Scott (1995) was able to sort the work on organizational theory into three main disciplinary categories – economics, political science, and sociology. The sociology of organizations, which is relevant to this research, began with the study of bureaucracy in government, political parties, and labor unions (Hannan & Freeman, 1989). Some of the

early efforts were reinforced by the translation into English of the German sociologist, Max Weber's work on bureaucracy in the late 1940s (Hannan & Freeman, 1989; Scott, 1995).

Within the sociology discipline, Hannan and Freeman (1989) suggested that there are three broad perspectives of organizational change and/or behavior. One is the selection theory, which argues, "...existing organizations rarely change strategy and structure quickly enough to keep up with the demands of uncertain, changing environments" (pp. 11-12). A second view, labeled adaptation theory, "...proposes that organizational variability reflects designed changes in the strategy and structure of individual organizations in response to environmental changes, threats, and opportunities" (p. 12). The third broad perspective, random transformation theory, "...claims that organizations change their structures mainly in response to endogenous processes but that such changes are only loosely coupled with the desires of organizational leaders and with the demands and threats of environments" (p. 12).

The increasing attacks against the structural contingency theory in the 1970s created four new paradigms – organizational economics, population ecology theory, institutional theory, and resource dependency theory (Donaldson, 1995). Economics influences the first, while the latter three are under the influence of sociology.

Resource Dependence Theory

As a public institution, the community college depends upon financial resources from governmental sources. The sociological, adaptive theory of resource dependence is relevant in the study of current funds revenue sources for public comprehensive community colleges because "[a] good deal of organizational behavior...can be understood only by knowing something about the organization's environment and the problems it creates for obtaining resources" (Pfeffer & Salancik, 1978, p. 3). It departs from economic organizational theory

because it considers resource uncertainty apart from considerations of efficiency (Pfeffer, 1997). Resource dependency theory is a social organizational theory that "...seeks to explain organizational and interorganizational behavior in terms of those critical resources that an organization must have in order to survive and function" (Johnson, 1995). This theory is more concerned with single organizations and their adaptations and actions, than with populations of organizations (Pfeffer, 1982).

Pfeffer (1982) explained that this theory tried to introduce more concrete, material, externally based explanations for organizational behavior. Organizations can either change their activities, or face the real prospect of not surviving, when environments change (Pfeffer & Salancik, 1978). An added complexity is that environmental changes may not be strictly objective, but rather the way they are perceived within the organization (Maassen & Gornitzka, 1999).

One element of resource dependence "...speaks to the issue of external constraint and argues that organizations will (and should) respond more to the demands of those organizations or groups in the environment that control critical resources" (Pfeffer, 1982, p. 193). The other element argues that, "...managers and administrators attempt to manage their external dependencies, both to ensure the survival of the organization and to acquire, if possible, more autonomy and freedom from external constraint" (Pfeffer, 1982, p. 193). Voogt and Volkwein's 1997 study of 30 community colleges concluded that it was clear that the resource dependency model was at work. It is assumed that administrators can develop strategies to increase the organization's chances for survival (Barney & Ouchi, 1986; Sporn, 1999).

In their research on the relationship between governmental policies and organizational adaptation in higher education, Maassen and Gornitzka (1999) stated that the resource dependency theory makes two basic assumptions. First, organizational choice and action are limited by various external pressures and demands, and second, the organizations must be responsive in order to survive. Organizational stability depends upon the stability of resources. As Slaughter and Leslie (1997) pointed out, "The key to organizational survival is the ability to acquire and maintain resources" (p. 69).

External Constraint

Sporn (1999) emphasized that external constraints include such things as, "...the changing role of the state, fiscal stress and funding problems, technological developments revolutionizing academic work, and new public and student demands leading to questioning of the traditional role of higher education" (p. 35). The external constraint of concern for this study is the fiscal stress and funding problems created by a possible reduction in state appropriations for public community colleges. The overriding long-term organizational goal is autonomy or independence. By removing dependence upon resource providers, organizations strive to create an environment of stability and equilibrium (Pfeffer & Salancik, 1978).

Strategies for Managing External Dependencies

Organizations have not been regarded as passive actors, but the action of administrators has been seen as largely reactive (Hannan & Freeman, 1989). In contrast, while the resource dependency perspective emphasizes the importance of situational constraints, it "...tend[s] to allow for some proactive behavior within such constraints" (Pfeffer, 1982, p. 9). The resource dependency theory argues that administrators who take

strategic action can reduce dependence on other organizations that provide key resources (Hannan & Freeman, 1989). Maassen, Neave, and Jongbloed (1999) support this interpretation by pointing out that, "Rather than being passive recipients of environmental forces...resource dependency theory implies that organisations [sic] will make strategic decisions about adapting to the environment" (p. 7). They indicated that the basic starting point of resource dependence for organizations is that internal decisions are made as attempts to "...manipulate the environment to its own advantage" (p. 7).

Two strategies used by organizations are buffering and bridging (Johnson, 1995). Buffering strategies involve protecting the organizational boundaries. The dependent organization will seek to buffer itself from the fluctuations of the environment. Stockpiling of materials and supplies is a technique used to create a consistent, steady flow of inputs. It allows for a certain level of organizational autonomy. Bridging involves organizational boundary-spanning or boundary-shifting. Organizations attempt to reduce dependence through such activities as: joint ventures, contracting, and resource diversification. The goal is reduced dependence and increased autonomy (Johnson, 1995).

An institution that depends heavily upon only one source of revenue could be threatened with a loss of autonomy should that supplier desire to exercise its power. In recent years, public community colleges have been heavily dependent financially upon their state governments, which historically have allowed community colleges considerable operating autonomy (Slaughter & Leslie, 1997). Some community colleges have been successful in expanding their revenue base, and therefore protecting their autonomy, through substantial increases in added sources of revenue generated through efforts in development and fund-raising activities (Wattenbarger & Vader, 1986).

Slaughter and Leslie (1997) predicted that as moneys for higher education become constricted, institutions would change their resource seeking patterns. Institutions would be likely to increase tuition and become more active in expanding sales and services while reducing labor costs. The increased reliance on part-time faculty by community colleges could be viewed as an alternative to raising more revenues. Institutions would be likely to spend more money on administrators who oversee new revenue-generating endeavors (e.g., fund-raising, and sales and services). When studying current funds revenue sources, the best categories to test resource dependence theory are private gifts, grants, and contracts; sales and service; and other sources (Slaughter & Leslie, 1997).

Summary

The review of literature has illustrated the unique role of the community college as it strives to make higher education inclusive, instead of exclusive or elitist. It pointed out the importance of additional education for the masses in a democratic society, as the level of job preparation increased beyond the secondary education level. The review showed that control and funding of most public community colleges has moved from the local level to state level. There are some indications that the percentage of total current funds revenue from state appropriations may have decreased, though no current community college study was found to support this. Knowledge of a trend in financial support would assist community college decision makers in planning for the need to strengthening financial planning, seeking alternative revenue sources, and more effectively communicating the unique role of the community college with legislators, taxpayers, and possible donors. Given the importance of funding to accomplish an institutional mission, it is important to research the trend of community college revenue sources.

Public community colleges receive billions of dollars from the public every year to accomplish their missions. Because of recent state budget deficits and shrinking federal and state grants, limited public resources are now available. Community colleges must reconcile these external funding constraints with their missions. Currently, there is an increased demand for these institutions to be accountable and to use the limited resources to the maximum benefit.

Strategic planning is the recommended process for aligning an institution with its relevant and often changing environment. It begins with an organization's mission, includes proactive plans to accommodate environmental changes, and focuses on generating resources to accomplish the organization's mission.

With shrinking state and local revenue sources, and the possible negative impact of increased tuition on their open door philosophy, community colleges need to be seeking alternative funding. Research on any kind of alternative funding by public community colleges is sparse because the need to seek alternative revenue sources is relatively new.

The sociology of organizations studies how organizations change and/or behave. This field of study includes a theory about organizations and their dependency on external resources. Because public community colleges depend on financial resources from governmental sources, this resources dependency theory is relevant to this study. According to the resources dependency theory, when environments change organizations can either change their activities, or face the prospect of not surviving.

One element of the theory argues that organizations should respond more to the demands of groups in their environment that control critical resources. Another element argues that administrators attempt to manage their external dependencies. In either case, it is

assumed that administrators can develop proactive strategies to increase the organization's chances for survival. An increase in the utilization of alternative funding sources could give an indication that the resource dependency theory is at work among the public community colleges included in this study.

CHAPTER 3. METHODOLOGY

Introduction

This study is designed to evaluate the status of current funds revenue sources for public community colleges during the past decade. It will investigate traditional funding sources as external constraints and determine if there has been an increase in alternative funding sources. It will attempt to find funding models that have had sustaining levels of revenue for the decade. The National Center for Education Statistics (NCES) and the Integrated Postsecondary Education Data System (IPEDS) will provide the data for this study. A background explanation of IPEDS and the surveys it conducts are Appendix B.

This study will be similar to those conducted by Wattenbarger and several of his colleagues in the 1970s (Wattenbarger, 1978; Wattenbarger & Cage, 1974; Wattenbarger & Starnes, 1976; Wattenbarger & Stepp, 1978). These were during the midst of the expansion phase of community college growth. More recently Watkins (2000) studied revenues for the years 1989 to 1994 at 470 public community colleges. Kenton (2001) studied state appropriations as a percentage of total current funds revenues for the years 1990, 1995 and 1999 at 72 Midwest public community colleges. Both Watkins and Kenton utilized the IPEDS database.

Inquiry Paradigms

Traditionally, disciplined investigation has taken place almost exclusively in what is commonly called the scientific or rationalistic paradigm. A second paradigm, naturalistic, has received more recent attention (Guba & Lincoln, 2000). In distinguishing between the two research methods, Fraenkel and Wallen (1991) said, "This type of research [naturalistic or qualitative] differs from [rationalistic or quantitative] in that there is a greater emphasis on

holistic description – that is, on describing in detail all of what goes on in a particular activity or situation...” (p. 380). According to Denzin and Lincoln (1998), “Qualitative researchers use ethnographic prose, historical narratives, first-person accounts, still photographs, life histories, fictionalized facts, and biographical and autobiographical materials, among others. Quantitative researchers use mathematical models, statistical tables, and graphs, and often write about their research in impersonal, third-person prose” (p. 11).

Guba and Lincoln (2000) cite the following five axioms that differentiate rationalistic and naturalistic paradigms: 1) the nature of reality, 2) the inquirer-objective relationship, 3) the nature of truth statements, 4) attribution/explanation of action, and 5) the role of values in inquiry. Naturalistic inquiry takes place within a framework that assumes multiple intangible realities, allows for interaction and influence between the inquirer and the object of interest, develops an ideographic body of knowledge, incorporates multiple interacting explanations for action, and is value-bound. Rationalistic inquiry takes place within a framework that assumes a single, tangible reality, maintains a discrete distance between the inquirer and the object of inquiry, develops a nomothetic body of knowledge, believes every action can be explained by a real cause that precedes the effect, and is guaranteed to be value-free by virtue of the objective methodology which is employed.

Several criteria determine the trustworthiness of inquiry findings. Lincoln and Guba (1994) developed “criteria of trustworthiness” to parallel conventional paradigms. These include credibility, transferability, dependability, and confirmability to parallel internal validity, external validity, reliability, and objectivity. Techniques they suggest to meet these criteria are: prolonged engagement, persistent observation, triangulation, peer debriefing,

negative case analysis, member checks, thick descriptive data, and an external audit that both an audit trail and an audit by a component external, disinterested auditor.

Because of the nature of this study, rationalistic or scientific inquiry, the one-way and two-way analyses of variance (ANOVA), will be utilized. This methodology allows for comparing the mean of response variables (the 12 sources of current funds revenue in this study) when the explanatory variables (this study's "year" and "state") are categorical (Agresti & Finlay, 1997).

Instrumentation

The instrument that will be used for this study is the NCES annual questionnaire. Included were the IPEDS Finance Survey data for survey years 1990, 1995 and 2000, providing equal time intervals. All postsecondary institutions must complete this instrument each year under provisions of Title IV of the Higher Education Act of 1965 as amended.

Variables

Current funds revenue sources to be included are: tuition and fees, federal appropriations, state appropriations, local appropriations, federal grants, state grants, local grants, private gifts, endowment income, sales and services of educational activities, auxiliary enterprises, and other sources not covered by a separate specified source. These 12 revenue sources are dependent variables for this study. Total current funds revenue will be used in the calculation of proportions. The definition of each revenue source as provided by IPEDS is Appendix A. These variables will be analyzed over time (1990, 1995, and 2000) and across 12 states (Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin) for the main and interaction

effects (Green et al., 2000). Year (the years 1990, 1995, and 2000) and State (12 Midwest states) are the study's independent variables.

Sampling

The annual surveys identified above include all public two-year and four-year institutions in the United States. Identification of institutions used in this study was determined by the Carnegie classification system. Institutions to be included in this study are 244 public two-year Associate of Arts degree-granting institutions in 12 upper Midwest states. These are institutions in the Plains Region (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota; N=96) and the Lakes Region (Illinois, Indiana, Michigan, Ohio, and Wisconsin; N= 148) that completed the identified survey forms for the survey years of 1990, 1995, and 2000. Tribal, religiously affiliated, independent, proprietary and for-profit institutions are not included.

Data Collection

The IPEDS database available through the Internet (www.nces.ed.gov/ideps) from NCES was used for the collection of data. Specifically, the revenue portion of Finance Survey for the survey years 1990, 1995, and 2000 will be utilized. Procedures for the utilization of the IPEDS database are Appendix D.

Data Set

Data to examine the sources of current funds revenue were collected from the National Center for Education Statistics (NCES) annual Integrated Postsecondary Education Data System (IPEDS) Finances survey for the years 1990, 1995, and 2000. The IPEDS Finance survey provides extensive information on fiscal year current funds revenues. The completion of the survey is mandatory for all institutions, which participate or are applicants

for participation in any Federal financial assistance program authorized by Title IV of the Higher Education Act of 1965, as amended.

Even with this requirement, some public community colleges did not respond to the Finance Survey in one or more of the years in question. Data from only those institutions in each of the 12 states in the Plains Region and the Lakes Region, as designated by NCES, which completed the Finance Survey for all three years were included in the analysis (see Table 1). IPEDS lists 28 public two-year institutions for the state of Missouri. Between five and seven of these institutions, though not the same institutions each year, did not complete the Finance Survey. This resulted in only nine Missouri institutions that completed the Finance Survey all three years of the study. The South Dakota institutions were K-12 governed vocational/technical schools, which were not designed or funded as community colleges in the years 1990 and 1995.

Table 1

Number of Public Community Colleges per State With Finance Survey Data

State	1990	1995	2000	Number of institutions included in study
Illinois	44	45	45	44
Indiana	14	14	14	14
Iowa	15	15	15	15
Kansas	19	19	20	19
Michigan	28	28	27	27
Minnesota	19	26	26	18
Missouri	13	11	12	9
Nebraska	5	4	5	4
North Dakota	4	4	5	4
Ohio	41	41	41	41
South Dakota	0	0	4	0
Wisconsin	17	17	17	17

Data Analysis

The IPEDS database online was used to download data to the *Statistical Package for the Social Sciences (SPSS)* for statistical analysis (Green et al., 2000; SPSS Base 10.0, 1999). For this study the mean of the proportion of total current funds revenue attributed to each of the 12 sources of current funds revenue were computed for the years 1990, 1995, and 2000, for both the Plains Region associate degree granting institutions and the Lakes Region associate degree granting institutions. Comparisons of the mean proportions of each source of current funds revenue were made between the years 1990 and 1995, 1995 and 2000, and 1990-2000 for each of the 11 states. This was done using the 3 x 11 two-way analysis of variance (ANOVA). The first tests conducted were for the overall tests of the main and interaction effects. If one or more of the effects were significant, appropriate follow-up Tukey tests were conducted. These follow-up tests for main effects involved comparing means for pairs of levels of the factor associated with the significant main effect (Green et al., 2000).

One "...determinant of statistical power is **effect size** [bold in original], which is an estimate of the magnitude of the difference...in the population being studied....The higher the ES [effect size], the greater the difference between two groups" (Gall, Borg, & Gall, 1996, pp. 188 & 195). The effect size index, "[e]ta squared ranges in value from 0 to 1. An eta square value of 0 indicates that there are no differences in the mean scores among groups. A value of 1 indicates that there are differences between at least two of the means on the dependent variable and that there are no differences on the dependent variable scores within each of the groups (i.e., perfect replication)." (Green et al., 2000, p. 159)

The General Linear Model of the two-way ANOVA computes an effect size index. Though labeled eta squared, it is actually a partial eta squared. The partial eta squared ranges in value from 0 to 1. It is interpreted as "...the proportion of variance of the dependent variable that is related to a particular main or interaction source, excluding the other main and interaction sources" (Green et al., 2000, p. 169).

A level of significance, or alpha level, of .05 will be used for this study. The level of significance indicates whether the evidence against a null hypothesis is strong enough to reject it (Agresti & Finlay, 1997). According to Gall et al. (1996), "Generally, educational researchers choose to reject the null hypothesis if the value [of the statistic] reaches a significance level of $p \leq .05$ " (p. 183). At an alpha level of .05 there is one chance in twenty that null hypothesis will be rejected when it is correct, resulting in a Type I error (Gall et al., p. 183). No serious effects are expected to occur in this study in the event of a Type I error, therefore it was decided that the more stringent $p \leq .01$ was not necessary for this study.

CHAPTER 4. RESEARCH FINDINGS

This chapter presents the research findings of the study. The data related to research questions one through three are presented in 12 separate sections, one for each dependent variable. These 12 sections include a discussion of the results of each of the first three null hypotheses. A section follows these with the data related to the fourth research question.

Research Questions 1-3

The first research question focused on the possible differences among the states in proportion of total current funds revenue derived from each of the 12 revenue sources included in the study. The null hypothesis stated that there would be no difference among the states in the proportion of current funds revenue derived from the 12 revenue sources for community colleges. The second research question focused on the possible difference that might have existed at three different years, 1990, 1995, and 2000. The null hypothesis stated that there would be no difference by year (1990, 1995, 2000) in the proportion of current funds revenue derived from each of the 12 revenue sources by the community colleges. The third research question concerned whether a change in funding proportion over time (1990, 1995, 2000) differed significantly by state. The null hypothesis stated that there would be no state by year interaction in terms of proportions of current funds revenue for each of the 12 revenue sources.

Tuition and Fees

NCES (2000) gives the following definition for institutions to utilize while completing the Finance Survey: "Report all tuition and fees (including student activity fees) assessed against students for education purposes. Include tuition and fee remissions or exemptions even though there is no intention of collecting from the student. Include here

those tuitions and fees that are remitted to the state as an offset to the state appropriation” (see Appendix A).

The overall mean proportion of current funds revenue defined as student tuition and fees by state ranged from .141 in Kansas to .371 in Ohio (see right-hand column, Table 2). The weighted mean proportion by year ranged from .220 to .241 (see bottom row, Table 2).

The two-way ANOVA indicated there was a significant difference among the states in the proportion of current funds revenue being derived from student tuition and fees ($p < .001$) and among the years studied ($p = .018$). No significant effect was found for the interaction of state and year ($p = .282$). This is shown in Table 3.

Follow-up tests to the significant main effects for the state and year factors were conducted using the Tukey HSD procedure as suggested by Green et al. (2000). In terms of differences by state, Ohio is significantly different ($p < .01$) from all other states. In addition, Table 2

Mean Proportion of Current Funds Revenue From Tuition and Fees by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Ohio	41	.351	.396	.365	.371
Minnesota	18	.231	.254	.280	.255
North Dakota	4	.222	.269	.255	.249
Indiana	14	.246	.250	.235	.244
Iowa	15	.203	.229	.237	.223
Michigan	27	.212	.225	.211	.216
Missouri	9	.188	.237	.200	.209
Illinois	44	.175	.186	.182	.181
Wisconsin	17	.179	.143	.150	.157
Nebraska	4	.135	.155	.154	.148
Kansas	19	.111	.153	.159	.141
Weighted Mean		.220	.241	.233	

the states of Indiana, Minnesota, and North Dakota are not significantly different from each other, but are significantly different from Illinois, Kansas, Nebraska, and Wisconsin. Iowa, Michigan, and Missouri are not significantly different from each other ($p = 1.00$), but at the same time, they are each significantly different from the states of Kansas, Ohio, and Wisconsin ($p < .01$ to $.03$). Finally, the states of Kansas, Nebraska, and Wisconsin are not significantly different from each other (see Table 4).

Table 3

Analysis of Variance for Tuition and Fees

Source	df	F	Eta squared	p
State	10	91.685*	.603	.000
Year	2	4.034*	.013	.018
State*Year	20	1.162	.037	.282

* $p \leq .05$.

Table 4

Tukey Test Results for Tuition and Fees for States

State	Ohio	Ind.	Minn.	N. Dak.	Iowa	Mich.	Mo.	Ill.	Kan.	Nebr.	Wis.
Ohio											
Indiana	.00										
Minnesota	.00	1.00									
N. Dakota	.00	1.00	1.00								
Iowa	.00	.91	.29	.97							
Michigan	.00	.42	.02	.85	1.00						
Missouri	.00	.46	.06	.75	1.00	1.00					
Illinois	.00	.00	.00	.02	.01	.00	.58				
Kansas	.00	.00	.00	.00	.00	.00	.00	.00			
Nebraska	.00	.00	.00	.00	.01	.02	.16	.81	1.00		
Wisconsin	.00	.00	.00	.00	.00	.00	.03	.45	.96	1.00	

Table 5

Tukey Test Results for Tuition and Fees for Years

Year	Year	Mean Difference	<i>p</i>
1990	1995	-.021	.002
1990	2000	-.013	.071
1995	2000	.008	.424

Table 5 shows the results of the post hoc Tukey test for the year factor. It indicated that the only significant difference was between the years 1990 and 1995 ($p = .002$).

Federal Appropriations

The NCES (2000) definition of federal appropriations is: "...all amounts received by the institution through acts of [federal legislation], except grants and contracts. These funds are for meeting current operating expenses, not for specific projects or programs" (see Appendix A). The largest overall mean proportion of federal appropriations among the states was .025 (Iowa). Two states (Indiana and Nebraska) showed mean proportions of .000 (see right-hand column, Table 6). The weighted mean proportion range by year was .004 to .007 (see bottom row, Table 6).

Because Indiana and Nebraska did not report any current funds revenue derived by federal appropriations for any of the years of the study, they were eliminated from the two-way ANOVA analysis. The two-way ANOVA showed there was a significant difference among the remaining nine states in the proportion of current funds revenue attributed to federal appropriations ($p < .001$) and among the years studied ($p = .02$). There was no significant effect for the interaction of state and year ($p = .125$). These results are shown in Table 7.

Table 6

Mean Proportion of Current Funds Revenue From Federal Appropriations by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Iowa	15	.030	.026	.018	.025
Missouri	9	.016	.020	.008	.015
Kansas	19	.005	.009	.011	.009
North Dakota	4	.017	.000	.000	.006
Wisconsin	17	.008	.002	.001	.004
Minnesota	18	.006	.004	.000	.003
Illinois	44	.004	.002	.002	.003
Michigan	27	.000	.000	.007	.002
Ohio	41	.005	.000	.000	.002
Indiana	14	.000	.000	.000	.000
Nebraska	4	.000	.000	.000	.000
Weighted Mean		.007	.005	.004	

Table 7

Analysis of Variance for Federal Appropriations

Source	df	F	Eta squared	p
State	8	15.491*	.183	.000
Year	2	3.940*	.014	.020
State*Year	16	1.424	.039	.125

* $p \leq .05$.

The follow-up Tukey tests to the significant main effect for the state and year factors were conducted. The results for the states are shown in Table 8. Iowa was significantly different from all states ($p < .01$) except Missouri ($p = .07$). Missouri was significantly different from all states except Iowa, Kansas, and North Dakota ($p = .07$ to $p = .64$). The

Tukey test grouped the states of Wisconsin, Minnesota, Illinois, Michigan, and Ohio as having similar significant difference results.

The follow-up Tukey test results for years are given in Table 9. Despite the finding of a significant effect of year in the ANOVA, the Tukey test found no significant differences when the years of the study were paired.

Table 8

Tukey Test Results for Federal Appropriations for States

State	Iowa	Mo.	Kan.	N. Dak.	Wis.	Minn.	Ill.	Mich.	Ohio
Iowa									
Missouri	.07								
Kansas	.00	.61							
N. Dak.	.00	.64	1.00						
Wisconsin	.00	.02	.66	1.00					
Minnesota	.00	.02	.59	1.00	1.00				
Illinois	.00	.00	.16	1.00	1.00	1.00			
Michigan	.00	.00	.18	1.00	1.00	1.00	1.00		
Ohio	.00	.00	.06	.99	1.00	1.00	1.00	1.00	
Indiana*	--	--	--	--	--	--	--	--	--
Nebraska*	--	--	--	--	--	--	--	--	--

* States not included in analyses

Table 9

Tukey Test Results for Federal Appropriations for Years

Year	Year	Mean Difference	p
1990	1995	.002	.288
1990	2000	.003	.105
1995	2000	.001	.860

State Appropriations

The state appropriations category of current funds revenue is defined by NCES as “...all amounts received by the institution through acts of [state legislation], except grants and contracts. These funds are for meeting current operating expenses, not for specific projects or programs” (see Appendix A). The overall mean proportion of current funds reported as state appropriations ranged from .216 for Wisconsin to .437 for Minnesota (see right-hand column, Table 10). The range of the weighted mean proportion of state appropriations by year was .289 to .327 (see bottom row, Table 10).

As shown in Table 11 the two-way ANOVA indicated a significant difference among the states ($p < .001$), among the years ($p = .002$), and a significant effect for the interaction between the factors state and year ($p = .003$).

Table 10

Mean Proportion of Current Funds Revenue From State Appropriations by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Minnesota	18	.453	.390	.468	.437
Indiana	14	.416	.403	.429	.416
Ohio	41	.430	.371	.400	.400
North Dakota	4	.381	.346	.365	.364
Iowa	15	.335	.327	.303	.322
Nebraska	4	.263	.260	.429	.317
Missouri	9	.311	.251	.290	.284
Michigan	27	.297	.230	.286	.271
Kansas	19	.247	.222	.218	.229
Illinois	44	.247	.216	.188	.217
Wisconsin	17	.224	.233	.192	.216
Weighted Mean		.327	.289	.305	

Table 11

Analysis of Variance for State Appropriations

Source	df	F	Eta squared	p
State	10	75.078*	.555	.000
Year	2	6.391*	.021	.002
State*Year	20	2.138*	.066	.003

* $p \leq .05$.

Table 12

Tukey Test Results for State Appropriations for States

State	Minn.	Ind.	Ohio	N.Dak.	Iowa	Nebr.	Mo.	Mich.	Kan.	Ill.	Wis.
Minnesota											
Indiana	.97										
Ohio	.12	.99									
N. Dakota	.11	.61	.90								
Iowa	.00	.00	.00	.84							
Nebraska	.00	.01	.02	.93	1.00						
Missouri	.00	.00	.00	.10	.65	.98					
Michigan	.00	.00	.00	.01	.02	.70	1.00				
Kansas	.00	.00	.00	.00	.00	.01	.08	.06			
Illinois	.00	.00	.00	.00	.00	.00	.00	.00	1.00		
Wisconsin	.00	.00	.00	.00	.00	.00	.01	.00	1.00	1.00	

The follow-up Tukey HSD procedure results for the state factor are shown in Table 12. Minnesota, Indiana, and Ohio are all significantly different from all other states except each other and the state of North Dakota. Illinois and Wisconsin were significantly different from all states except each other and the state of Kansas.

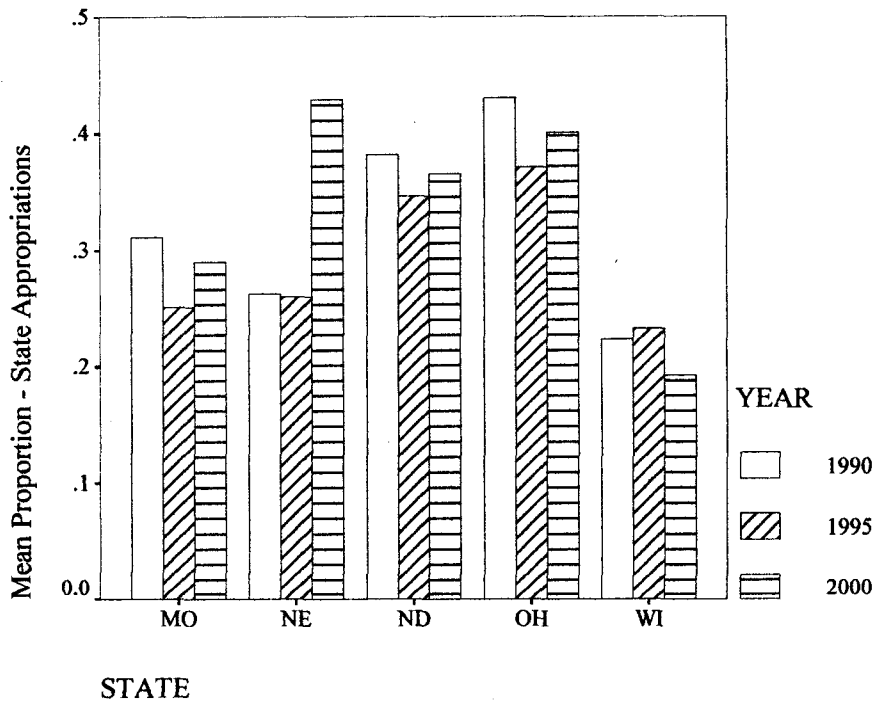
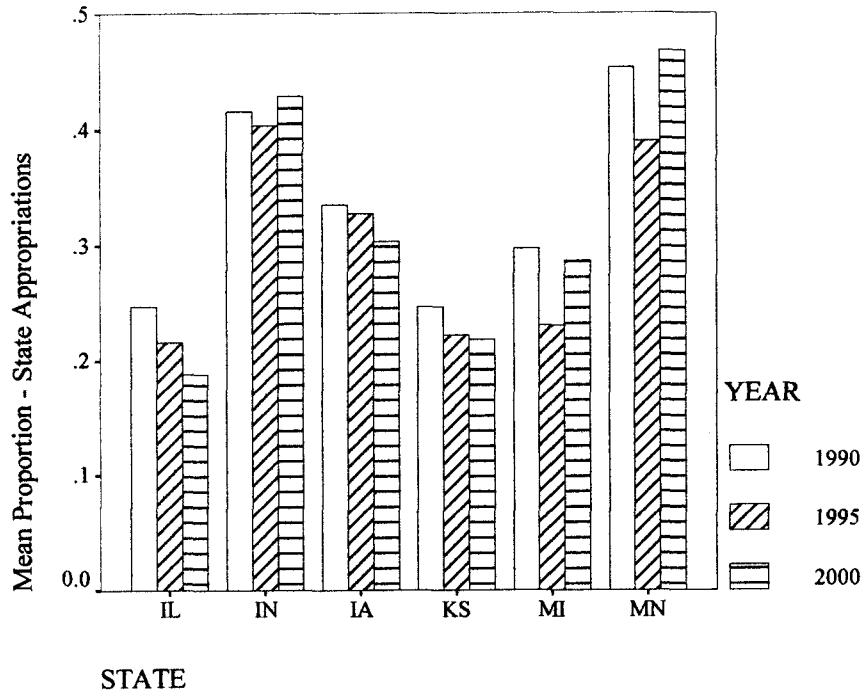


Figure 1. State appropriations as a proportion of current funds revenue

The Tukey HSD procedure results for the year factor are in Table 13. The difference between 1990 and 1995, and between 1990 and 2000 were found to be significant ($p < .001$ and $p = .008$ respectively).

Table 13

Tukey Test Significance Results for State Appropriations for Years

Year	Year	Mean Difference	p
1990	1995	.038	.000
1990	2000	.022	.008
1995	2000	-.015	.100

Figure 1 illustrates the interaction between state and year for state appropriations. The overall mean proportion of state appropriations was lowest in the year 1995. However, not all states (Illinois, Iowa, Kansas, and Wisconsin) followed this pattern. The year with the largest overall mean proportion of state appropriations was 1990. However, Minnesota, Indiana, and Nebraska reported their largest proportion in the year 2000. In fact, the state of Nebraska experienced a very large increase in proportion of current funds revenue attributed to state appropriations between the years 1995 and 2000.

Local Appropriations

The local appropriations category of current funds revenue is defined by NCES as "...all amounts received by the institution through acts of [local legislation], except grants and contracts. These funds are for meeting current operating expenses, not for specific projects or programs" (see Appendix A).

Table 14

Mean Proportion of Current Funds From Local Appropriations by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Wisconsin	17	.374	.418	.453	.415
Kansas	19	.348	.314	.331	.331
Illinois	44	.260	.282	.271	.271
Nebraska	4	.349	.336	.123	.269
Michigan	27	.215	.256	.225	.232
Missouri	9	.131	.123	.114	.123
Iowa	15	.079	.073	.064	.072
Ohio	41	.017	.022	.023	.021
Minnesota	18	.006	.001	.000	.002
North Dakota	4	.002	.000	.000	.001
Indiana	14	.000	.000	.000	.000
Weighted Mean		.164	.174	.167	

The overall mean proportion of current funds revenue designated as local appropriations ranged from .000 for Indiana to .415 for Wisconsin (see right-hand column, Table 14). The weighted mean proportion for the years ranged from .164 to .174 (see bottom row, Table 14).

Table 15 shows the results of the two-way ANOVA. There was a significant difference among the states in the proportion of current funds revenue being derived from local appropriations ($p < .001$). There was no indication of significant difference between the years, or significant effect for interaction between the state and year factors ($p = .220$).

Table 16 shows the Tukey HSD procedure results for the states. Wisconsin was significantly different from all other states. The states of Ohio, Minnesota, North Dakota,

Table 15

Analysis of Variance for Local Appropriations

Source	df	F	Eta squared	p
State	10	139.852*	.699	.000
Year	2	1.517	.005	.220
State*Year	20	1.233	.039	.220

* $p \leq .05$.

Table 16

Tukey Test Results for Local Appropriations for States

State	Wis.	Kan.	Ill.	Nebr.	Mich.	Mo.	Iowa	Ohio	Minn.	N.Dak.	Ind.
Wisconsin											
Kansas	.00										
Illinois	.00	.00									
Nebraska	.00	.63	1.00								
Michigan	.00	.00	.12	.97							
Missouri	.00	.00	.00	.00	.00						
Iowa	.00	.00	.00	.00	.00	.50					
Ohio	.00	.00	.00	.00	.00	.00	.07				
Minnesota	.00	.00	.00	.00	.00	.00	.01	.98			
N. Dakota	.00	.00	.00	.00	.00	.01	.42	1.00	1.00		
Indiana	.00	.00	.00	.00	.00	.00	.02	.98	1.00	1.00	

and Indiana showed similar results with each other and significant differences in most all other pairings.

Federal Grants

The NCES definition of federal grants is: "...revenues from [federal] governmental agencies that are for specific research projects or other types of programs. Examples are research projects, training programs, and similar activities for which amounts are received or

expenditures are reimbursable under the terms of a government grant or contract.” This includes Pell Grants, but not the Federal Direct Student Loan Program (see Appendix A).

The states of Ohio (.086) and Missouri (.161) represent the range of the overall mean proportion of current funds revenue derived from federal grants (see right-hand column, Table 17). The weighted mean proportion range by year is .106 to .121 (see bottom row, Table 17).

The two-way analysis of variance results in Table 18 indicate a significant difference ($p < .001$) among the states in the proportion of current funds revenue being derived from federal grants. The two-way ANOVA indicates there was no significant difference between the years ($p = .235$) and no significant effect for interaction between the state and year factors ($p = .256$).

Table 17

Mean Proportion of Current Funds Revenue From Federal Grants by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Missouri	9	.146	.178	.158	.161
North Dakota	4	.165	.136	.123	.141
Indiana	14	.126	.149	.129	.135
Nebraska	4	.112	.121	.153	.129
Kansas	19	.122	.137	.125	.128
Iowa	15	.132	.119	.103	.118
Minnesota	18	.140	.110	.102	.117
Illinois	44	.101	.134	.113	.116
Michigan	27	.113	.117	.097	.109
Wisconsin	17	.126	.100	.081	.102
Ohio	41	.080	.092	.086	.086
Weighted Mean		.113	.121	.106	

Table 18

Analysis of Variance for Federal Grants

Source	df	F	Eta squared	p
State	10	7.238*	.107	.000
Year	2	1.452	.005	.235
State*Year	20	1.191	.038	.256

* $p \leq .05$.

Table 19

Tukey Test Results for Federal Grants for States

State	Mo.	N.Dak.	Ind.	Nebr.	Kan.	Iowa	Minn.	Ill.	Mich.	Wis.	Ohio
Missouri											
N. Dakota	.99										
Indiana	.66	1.00									
Nebraska	.82	1.00	1.00								
Kansas	.25	1.00	1.00	1.00							
Iowa	.04	.97	.94	1.00	1.00						
Minnesota	.02	.95	.89	1.00	.99	1.00					
Illinois	.00	.90	.67	1.00	.94	1.00	1.00				
Michigan	.00	.69	.30	.98	.60	1.00	1.00	1.00			
Wisconsin	.00	.46	.12	.91	.30	.94	.95	.91	1.00		
Ohio	.00	.03	.00	.23	.00	.02	.02	.00	.09	.75	

The follow-up Tukey test to the significant main effect for the state factor was conducted. The difference between states is shown in Table 19. The state of Missouri was found to be significantly higher than six other states, and the state of Ohio was significantly lower than seven other states.

State Grants

The NCES definition of state grants is: "...revenues from [state] governmental agencies that are for specific research projects or other types of programs. Examples are research projects, training programs, and similar activities for which amounts are received or expenditures are reimbursable under the terms of a government grant or contract" (see Appendix A).

All 11 states in the study reported funding from state grants. The overall mean proportion of current funds designated as state grants ranged from .004 in Wisconsin to .093 in Indiana (see right-hand column, Table 20). The weighted mean proportion for the years ranged from .042 to .056 (see bottom row, Table 20).

Table 20

Mean Proportion of Current Funds Revenue From State Grants by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Indiana	14	.096	.084	.098	.093
Illinois	44	.082	.067	.123	.091
Missouri	9	.066	.063	.095	.075
Michigan	27	.040	.053	.033	.042
Minnesota	18	.024	.039	.053	.039
North Dakota	4	.029	.060	.020	.036
Ohio	41	.023	.033	.037	.031
Iowa	15	.022	.019	.021	.021
Nebraska	4	.029	.014	.006	.017
Kansas	19	.016	.008	.014	.013
Wisconsin	17	.001	.003	.009	.004
Weighted Mean		.042	.042	.056	

Table 21 gives the results of the two-way analysis of variance. There was a significant difference for the state factor ($p < .001$). No significant difference was found for

Table 21

Analysis of Variance for State Grants

Source	df	F	Eta squared	p
State	10	24.124*	.286	.000
Year	2	0.747	.002	.474
State*Year	20	1.555	.049	.058

* $p \leq .05$.

Table 22

Tukey Test Results for State Grants for States

State	Ind.	Ill.	Mo.	Mich.	Minn.	N.Dak.	Ohio	Iowa	Nebr.	Kan.	Wis.
Indiana											
Illinois	1.00										
Missouri	.93	.91									
Michigan	.00	.00	.11								
Minnesota	.00	.00	.08	1.00							
N. Dakota	.02	.01	.49	1.00	1.00						
Ohio	.00	.00	.00	.92	1.00	1.00					
Iowa	.00	.00	.00	.45	.79	1.00	.98				
Nebraska	.00	.00	.03	.87	.95	1.00	1.00	1.00			
Kansas	.00	.00	.00	.03	.19	.93	.45	1.00	1.00		
Wisconsin	.00	.00	.00	.00	.02	.65	.05	.88	1.00	1.00	

the year factor ($p = .474$), and no significant effect for the interaction of state and year ($p = .058$).

Table 22 shows the Tukey follow-up test results for the states. Indiana and Illinois were found to have similar differences when paired with other states. They both are significantly different from all states except the state of Missouri ($p = .91$ to $.93$). Four states (Ohio, Iowa, Nebraska, and Kansas) also were grouped as a subset. They are all significantly

different from the states of Illinois, Indiana, and Missouri. Wisconsin's low overall mean proportion of .004 is significantly different from six states in the study.

Local Grants

Local grants is defined by NCES as : "...revenues from [local] governmental agencies that are for specific research projects or other types of programs. Examples are research projects, training programs, and similar activities for which amounts are received or expenditures are reimbursable under the terms of a government grant or contract" (see Appendix A).

The overall mean proportion of current funds designated as local grants is given in Table 23. The range of the mean proportions is from .000 to .008 (see right-hand column,

Table 23

Mean Proportion of Current Funds Revenue From Local Grants by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Kansas	19	.000	.018	.000	.008
Missouri	9	.008	.009	.010	.008
Iowa	15	.000	.005	.010	.006
Illinois	44	.011	.002	.000	.005
Michigan	27	.006	.002	.000	.003
Wisconsin	17	.001	.000	.010	.003
Minnesota	18	.000	.007	.000	.002
Nebraska	4	.001	.002	.000	.002
Ohio	41	.001	.001	.000	.001
Indiana	14	.000	.000	.000	.000
North Dakota	4	.000	.000	.000	.000
Weighted Mean		.004	.004	.003	

Table 23). The range for the weighted mean proportion of local grants during the years was .003 to .004 (see bottom row, Table 23).

The low mean proportions for local grants shown in Table 23 may be explained by the small number of institutions in each state that reported local grants as a source of current funds revenue (see Table 24).

Since the state of North Dakota reported no local grants as part of its current funds revenue sources for any of the years of the study, it was eliminated from the two-way ANOVA analysis. The two-way analysis of variance conducted on the local grants dependent variable for the remaining states (see Table 25) showed no significant difference for the two factors (state, $p = .699$; year, $p = .824$), and no significant effect for the interaction of the two factors ($p = .646$). This is the only dependent variable with these results.

Table 24

Number of Institutions Within Each State Reporting Local Grants as a Source of Current Funds Revenue

State	Number of institutions included in the study	1990	1995	2000
Illinois	44	11	9	10
Indiana	14	1	2	1
Iowa	15	1	1	2
Kansas	19	3	6	5
Michigan	27	14	8	11
Minnesota	18	0	3	0
Missouri	9	3	3	1
Nebraska	4	1	2	1
North Dakota	4	0	0	0
Ohio	41	6	9	15
Wisconsin	17	2	0	3

Table 25

Analysis of Variance for Local Grants

Source	<i>df</i>	<i>F</i>	Eta squared	<i>p</i>
State	9	0.711	.011	.699
Year	2	0.193	.001	.824
State*Year	18	0.846	.025	.646

Private Gifts

Private gifts are defined by NCES (2000) as: "...revenues from private donors [including foreign governments] for which no legal consideration is involved and private contracts for specific goods and services provided to the funder as stipulation for receipt of the funds" (see Appendix A). Only those gifts, grants, and contracts that were directly related to instruction, research, public service, or other institutional purposes are included in this category of current funds revenue.

The mean proportion of current funds described as private gifts are shown in Table 26 by state and by year. The range of the overall mean proportion for states is .003 to .032 (see right-hand column, Table 26). The weighted mean proportion for year ranged from .008 to .009 (see bottom row, Table 26). The states of Missouri and Wisconsin reported large increases in the proportion of current funds coming from private gifts during the years of the study. Most states report less than one percent of their current funds as being private gifts. However, every state reported some private gifts every year

As with many of the other sources of current funds revenue, the two-way analysis of variance found the mean proportion attributed to private gifts significantly different among

the states ($p < .001$). Table 27 shows that the factor year and the interaction of state and year are not significantly different ($p = .183$ and $p = .968$ respectively).

The follow-up Tukey HSD procedure results are shown in Table 28 for the state factor for private gifts. The Tukey test grouped Indiana and North Dakota as being similar to

Table 26

Mean Proportion of Current Funds Revenue From Private Gifts by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Indiana	14	.032	.032	.033	.032
North Dakota	4	.021	.023	.030	.025
Michigan	27	.010	.014	.011	.011
Missouri	9	.006	.005	.016	.009
Nebraska	4	.008	.008	.009	.008
Ohio	41	.008	.007	.008	.008
Iowa	15	.003	.008	.010	.007
Kansas	19	.007	.007	.005	.006
Wisconsin	17	.001	.005	.008	.004
Minnesota	18	.001	.001	.007	.003
Illinois	44	.004	.003	.002	.003
Weighted Mean		.008	.008	.009	

Table 27

Analysis of Variance for Private Gifts

Source	df	F	Eta squared	p
State	10	16.155*	.211	.000
Year	2	1.702	.006	.183
State*Year	20	0.498	.016	.968

* $p \leq .05$.

Table 28

Tukey Test Results for Private Gifts for States

State	Ind.	N. Dak.	Mich.	Mo.	Nebr.	Ohio	Iowa	Kan.	Wis.	Minn.	Ill.
Indiana											
N. Dakota	.89										
Michigan	.00	.12									
Missouri	.00	.07	1.00								
Nebraska	.00	.18	1.00	1.00							
Ohio	.00	.01	.88	1.00	1.00						
Iowa	.00	.01	.82	1.00	1.00	1.00					
Kansas	.00	.00	.60	1.00	1.00	1.00	1.00				
Wisconsin	.00	.00	.19	.97	1.00	.91	1.00	1.00			
Minnesota	.00	.00	.04	.84	.99	.57	.98	.99	1.00		
Illinois	.00	.00	.00	.70	.98	.15	.92	.94	1.00	1.00	

each other, but different from most other states in the study. The states of Minnesota and Illinois are significantly different from Michigan in addition to the states of Indiana and North Dakota.

Endowment Income

According to NCES (2000) endowment income is the unrestricted income and the restricted income (to the extent expended for current operating purposes) of endowment and similar funds. It includes income from irrevocable trusts held by others (see Appendix A).

No table for the mean proportion of current funds revenue designated as endowment income is included because the amounts reported were very minimal for every state and every year. The largest mean proportion reported by any state in any year for endowment income was .0034 by the state of North Dakota in the year 2000. Therefore, no ANOVA was conducted for the endowment income revenue source.

Table 29

Number of Institutions Within Each State Reporting Endowment Income as a Source of Current Funds Revenue

State	Number of institutions included in the study	1990	1995	2000
Illinois	44	0	1	1
Indiana	14	1	1	1
Iowa	15	4	3	1
Kansas	19	3	2	2
Michigan	27	11	13	8
Minnesota	18	0	0	1
Missouri	9	1	2	2
Nebraska	4	0	0	0
North Dakota	4	1	1	2
Ohio	41	8	12	11
Wisconsin	17	1	1	1

Table 29 includes the number of institutions by state and by year that reported having endowment income as a portion of their current funds revenue. No institutions were included in the study from the state of Nebraska with endowment income. Many states have less than 25% of their institutions reporting current funds revenue from endowment income. The state of Michigan was an exception with between 30% and 48% of its institutions reporting endowment income for current funds during the years of the study.

Sales and Service of Educational Activities

According to NCES (2000) the sales and service of educational activities category includes "...revenues derived from the sales of goods or services that are incidental to the conduct of instruction, research or public service. Examples include film rentals, scientific and literary publications, testing services, university presses, and dairy products."

The mean proportion of sales and service of educational activities is shared in Table 30. The overall mean proportion ranges from .001 in two states to .032 in Wisconsin (see right-hand column, Table 30). The weighted mean proportion by year ranged from .006 to .012 (see bottom row, Table 30).

The results of the two-way ANOVA are included in Table 31. The test indicates a significant difference for the state factor ($p < .001$), the year factor ($p = .048$), and a significant effect for the interaction between state and year ($p = .008$). The only other dependent variable to have significant results for the state factor, the year factor, and their interaction was state appropriations.

The follow-up Tukey HSD procedure results for the state factor are in Table 32. It indicates a significant difference between Wisconsin and all other states ($p < .01$) except the

Table 30

Mean Proportion of Current Funds Revenue From Sales and Service of Educational Activities by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Wisconsin	17	.018	.042	.035	.032
North Dakota	4	.014	.019	.021	.018
Iowa	15	.007	.009	.025	.014
Missouri	9	.020	.007	.007	.011
Ohio	41	.006	.008	.013	.009
Michigan	27	.006	.003	.013	.007
Minnesota	18	.000	.004	.012	.005
Nebraska	4	.005	.004	.004	.004
Illinois	44	.002	.003	.004	.003
Indiana	14	.002	.001	.001	.001
Kansas	19	.001	.001	.001	.001
Weighted Mean		.006	.008	.012	

Table 31

Analysis of Variance for Sales and Service of Educational Activities

Source	df	F	Eta squared	p
State	10	16.644*	.216	.000
Year	2	3.057*	.010	.048
State*Year	20	1.956*	.061	.008

* $p \leq .05$.

Table 32

Tukey Test Results for Sales and Services of Educational Activities for States

State	Wis.	N.Dak.	Iowa	Mo.	Ohio	Mich.	Minn.	Nebr.	Ill.	Ind.	Kan.
Wisconsin											
N. Dakota	.18										
Iowa	.00	1.00									
Missouri	.00	.98	1.00								
Ohio	.00	.69	.79	1.00							
Michigan	.00	.50	.50	.99	1.00						
Minnesota	.00	.28	.22	.88	.95	1.00					
Nebraska	.00	.54	.75	.97	1.00	1.00	1.00				
Illinois	.00	.05	.00	.27	.07	.61	1.00	1.00			
Indiana	.00	.05	.01	.30	.25	.70	.99	1.00	1.00		
Kansas	.00	.02	.00	.15	.06	.38	.92	1.00	1.00	1.00	

state of North Dakota ($p = .18$). Five states (Missouri, Ohio, Michigan, Minnesota, and Nebraska) have no significant differences with any state other than Wisconsin.

The Tukey HSD procedure results for the year factor are in Table 33. It shows that the year 2000 is significantly difference from both the year 1990 ($p < .001$) and the year 1995 ($p = .033$).

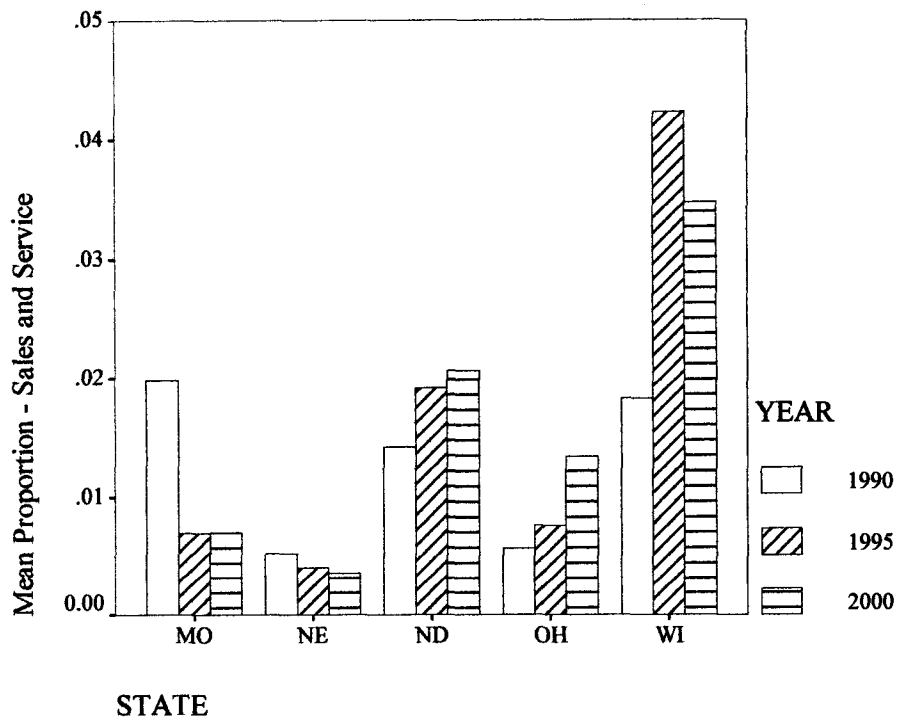
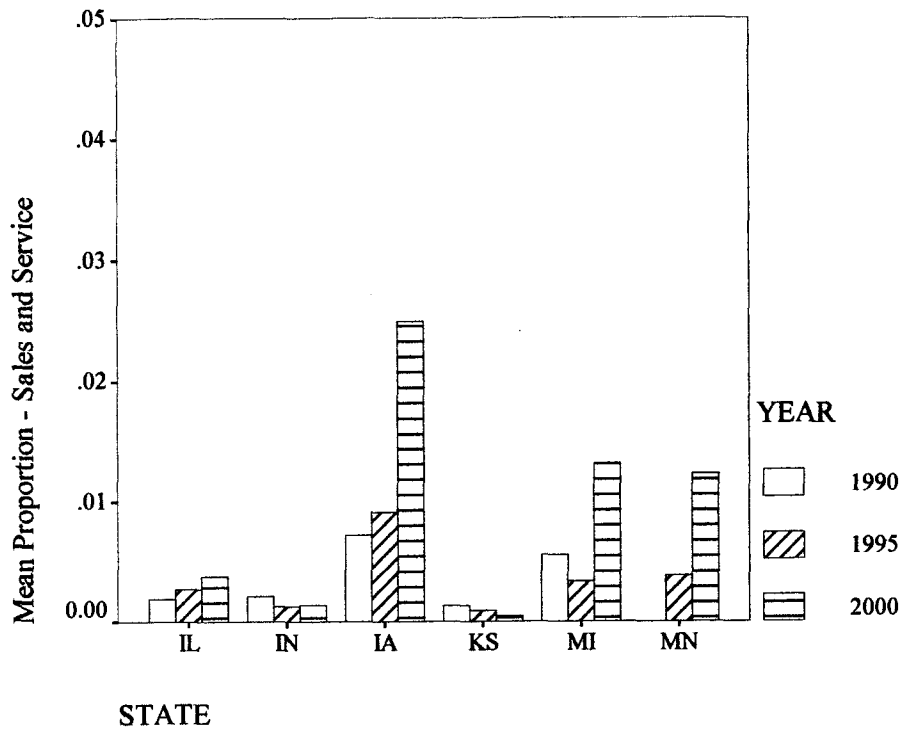


Figure 2. Sales and service of educational activities as a proportion of current funds revenue

Table 33

Tukey Test Results for Sales and Service for Years

Year	Year	Mean Difference	<i>p</i>
1990	1995	-.002	.358
1990	2000	-.006	.000
1995	2000	-.004	.033

Figure 2 illustrates the mean proportions of sales and service of educational activities for each state for each year of the study. All the states reported revenue from sales and services of educational activities for every year, except Minnesota in the year 1990. No state reported more than .045 of its current funds revenue as being attributed to the sales and service of educational activities. The overall mean proportion for sales and service of educational activities increased steadily over the years of the study. However, Figure 2 illustrates that five states did not follow this pattern. Indiana, Kansas, Missouri, and Nebraska's largest proportions were in 1990, rather than in 2000. Wisconsin's largest proportion was in 1995.

Auxiliary Enterprises

NCES (2000) defines auxiliary enterprises as "...revenues generated by the auxiliary enterprise operations that exist to furnish a service to students, faculty, or staff, and that charge a fee that is directly related to the cost of the service. Examples are resident halls, food services, college unions, college stores, and movie theaters."

The range of the overall mean proportion is .047 for Wisconsin to .136 for North Dakota (see right-hand column, Table 34). The range of the weighted mean proportion by year ranged from .067 to .068 (see bottom row, Table 34).

Table 34

Mean Proportion of Current Funds Revenue From Auxiliary Enterprises by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
North Dakota	4	.137	.140	.130	.136
Kansas	19	.094	.094	.095	.094
Iowa	15	.083	.097	.093	.091
Nebraska	4	.077	.071	.083	.077
Missouri	9	.074	.073	.079	.075
Indiana	14	.066	.067	.066	.066
Illinois	44	.061	.065	.065	.064
Minnesota	18	.058	.066	.066	.063
Michigan	27	.064	.060	.054	.059
Ohio	41	.060	.056	.050	.055
Wisconsin	17	.048	.041	.051	.047
Weighted Mean		.067	.068	.067	

Table 35

Analysis of Variance for Auxiliary Enterprises

Source	df	F	Eta squared	p
State	10	11.908*	.165	.000
Year	2	0.019	.000	.981
State*Year	20	0.237	.009	1.000

* $p \leq .05$

The two-way analysis of variance reported in Table 35 found the mean proportion attributed to auxiliary enterprises significantly different among the states ($p < .001$). Table 35 also shows that the factor year is not significantly different and there was no significant effect for the interaction of state and year ($p = .981$ and $p = 1.000$, respectively).

Table 36

Tukey Test Results for Auxiliary Enterprises for States

State	N.Dak.	Kan.	Iowa	Nebr.	Mo.	Ind.	Ill.	Minn.	Mich.	Ohio	Wis.
N. Dakota											
Kansas	.03										
Iowa	.02	1.00									
Nebraska	.01	.94	.99								
Missouri	.00	.56	.84	1.00							
Indiana	.00	.02	.10	1.00	1.00						
Illinois	.00	.00	.00	.99	.94	1.00					
Minnesota	.00	.00	.01	.99	.96	1.00	1.00				
Michigan	.00	.00	.00	.92	.74	1.00	1.00	1.00			
Ohio	.00	.00	.00	.72	.31	.84	.78	.97	1.00		
Wisconsin	.00	.00	.00	.32	.06	.30	.19	.48	.73	.97	

The Tukey HSD procedure for follow-up of main effect for the state factor is given in Table 36. The differences between North Dakota and all other states were found to be significant ($p < .01$ to $p = .03$). The Tukey subsets singled out the state of Kansas because it is significantly different from all but three other states. In contrast the state of Wisconsin is significantly different from only three other states.

Other Sources of Current Funds Revenue

Other sources of current funds revenue is a “catch-all” for income that is not categorized under the other NCES (2000) definitions. It includes sales that typically are not by-products of instruction or training, such as the sale of computer time (see Appendix A).

The mean proportion of current funds revenue generated by this category for each state and year of the study is given in Table 37. The overall mean proportion ranges from

.012 for the state of Indiana to .101 for Iowa (see right-hand column, Table 37). The weighted mean proportion for the years ranged from .036 to .041 (see bottom row, Table 37).

The results of the two-way analysis of variance reported in Table 38 show that the mean proportion attributed to other sources of revenue differed significantly among the states ($p < .001$). The interaction between the state and year factors was also significantly different ($p < .001$). There was no significant difference between the years ($p = .915$).

The results of the Tukey HSD follow-up procedure for the state factor are shown in Table 39. The state of Iowa was found to be significantly different from every other state in the study ($p < .01$). The Tukey test found Minnesota to be significantly different from all states ($p < .01$ to $p = .02$) except Nebraska ($p = .051$ before rounding). The states of Indiana and Ohio were similar to each other ($p = 1.00$). They were significantly different from the states of Illinois, Iowa, Kansas, Michigan, and Minnesota.

Table 37

Mean Proportion of Current Funds Revenue From Other Sources by State and Year

State	Number of Institutions in Study	1990	1995	2000	Mean
Iowa	15	.104	.088	.112	.101
Minnesota	18	.080	.113	.011	.068
Illinois	44	.051	.040	.047	.046
Michigan	27	.032	.035	.058	.042
Kansas	19	.048	.037	.033	.039
Nebraska	4	.020	.029	.038	.029
Missouri	9	.034	.029	.019	.027
North Dakota	4	.009	.006	.054	.023
Wisconsin	17	.020	.014	.014	.016
Ohio	41	.017	.013	.014	.015
Indiana	14	.015	.011	.009	.012
Weighted Mean		.041	.038	.036	

Table 38

Analysis of Variance for Other Sources

Source	df	F	Eta squared	p
State	10	25.126*	.294	.000
Year	2	0.089	.000	.915
State*Year	20	4.235*	.123	.000

* $p \leq .05$.

Table 39

Tukey Test Results for Other Sources for States

State	Iowa	Minn.	Ill.	Mich.	Kan.	Nebr.	Mo.	N.Dak.	Wis.	Ohio	Ind.
Iowa											
Minnesota	.00										
Illinois	.00	.02									
Michigan	.00	.00	1.00								
Kansas	.00	.00	.99	1.00							
Nebraska	.00	.06	.92	.99	1.00						
Missouri	.00	.00	.42	.86	.97	1.00					
N. Dakota	.00	.01	.62	.88	.96	1.00	1.00				
Wisconsin	.00	.00	.00	.01	.05	.99	.98	1.00			
Ohio	.00	.00	.00	.00	.00	.98	.89	1.00	1.00		
Indiana	.00	.00	.00	.00	.02	.95	.85	1.00	1.00	1.00	

Figure 3 plots the means of the states by year for their proportions of current funds revenue derived from other sources. The overall mean proportion for this category of current funds revenue decreased from .041 to .036 for the years of the study. Exceptions are the states of Iowa, Michigan, and North Dakota, all of which showed increases in proportion for the year 2000. Also, the state of Minnesota indicated a dramatic decrease in this category of current funds revenue between the years 1995 and 2000.

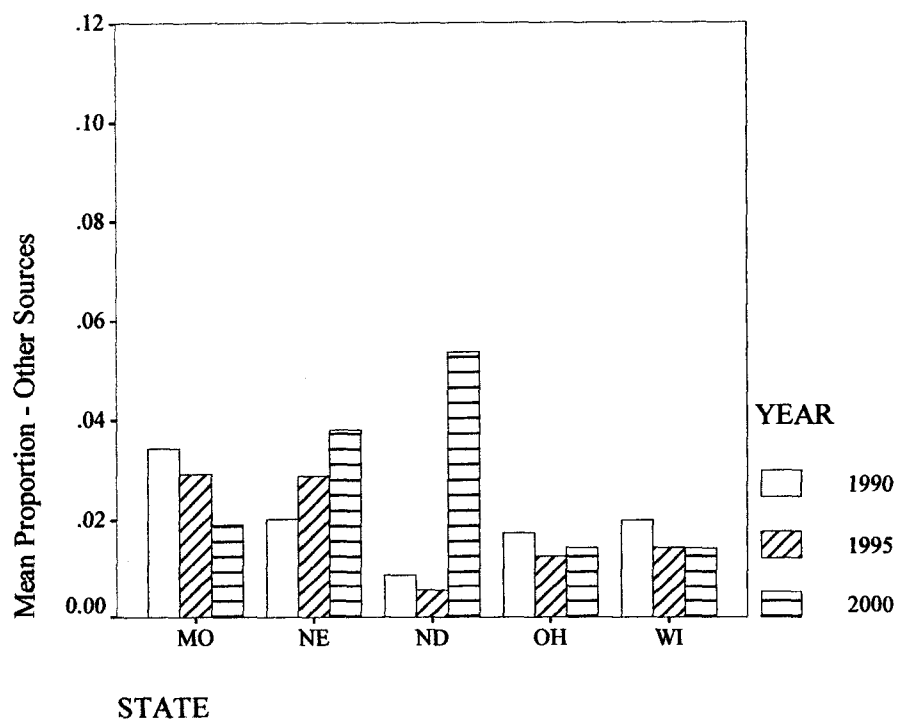
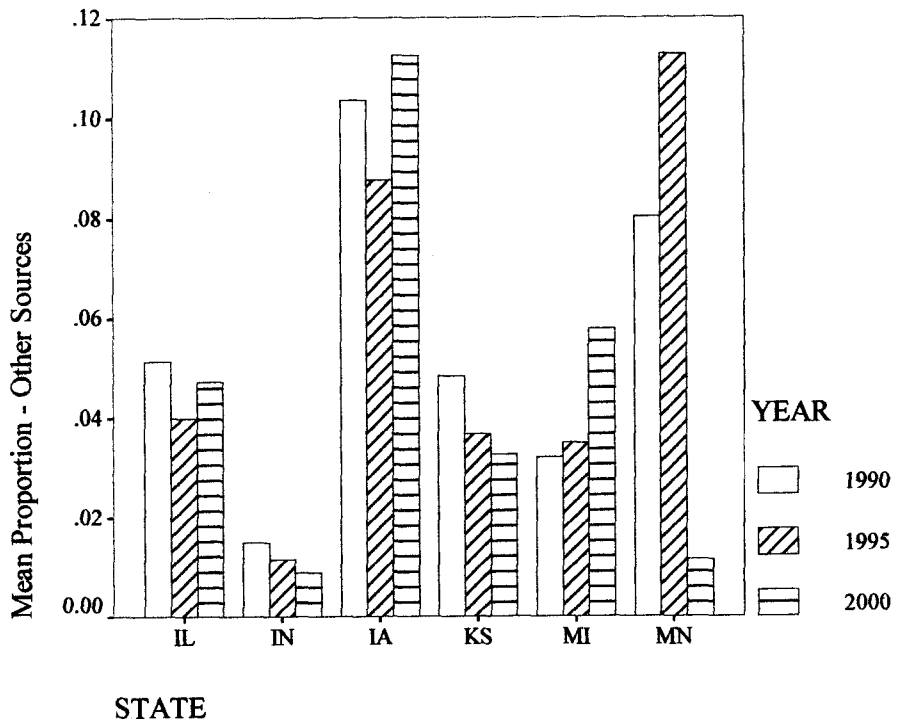


Figure 3. Other sources category as a proportion of current funds revenue.

Summary of Research Questions 1-3

Found in Table 40 is a summary of the two-way ANOVA information that indicates the role each factor, state and year, played in the variance of the 12 dependent variables. A factor with large F -values, p -values less than .05, eta squared values closer to 1.0 than 0, and a sums of squares that is a large portion of the total sum square explains more of the variance in the dependent variable than a factor with the opposite results. Significant differences existed among the states in 10 of the 11 sources of current funds revenues analyzed in this study (all except local grants). The two-way ANOVA resulted in relatively large F -values, eta squared numbers, and sum of squares numbers for tuition and fees, state appropriations, and local appropriations, suggesting that the state factor accounted for a large portion of the variance in these dependent variables.

Table 40

Summary of two-way ANOVA Results for Factors, State and Year

Dependent Variable	Factor - State				Total Sum of Squares	Factor - Year			
	F	p	Eta Squared	Sum of Squares		Sum of Squares	F	p	Eta Squared
Tuition & Fees	91.69*	.00	.60	3.62	6.14	0.03	4.03*	.02	.01
Fed. Approp.	15.49*	.00	.19	0.02	0.15	0.00	3.94*	.02	.01
State Approp.	75.08*	.00	.56	4.49	8.51	0.08	6.39*	.00	.02
Local Approp.	139.85*	.00	.70	12.60	18.27	0.03	1.52	.22	.01
Fed. Grants	7.24*	.00	.11	0.21	2.02	0.01	1.45	.24	.01
State Grants	24.12*	.00	.29	0.60	2.20	0.00	0.75	.47	.00
Local Grants	0.71	.70	.01	0.00	0.34	0.00	0.19	.82	.00
Private Gifts	16.16*	.00	.21	0.03	0.16	0.00	1.70	.18	.01
Endow. Inc.	—	—	—	—	—	—	—	—	—
Sales & Serv.	16.64*	.00	.22	0.04	0.25	0.00	3.06*	.05	.01
Auxiliary Ent.	11.91*	.00	.17	0.17	1.06	0.00	0.02	.98	.00
Other Sources	25.13*	.00	.29	0.37	1.37	0.00	0.09	.92	.00

Note. The two-way ANOVA was not conducted for endowment income.

* $p \leq .05$.

The year factor had much weaker results. All of the F -values are small when compared to the state factor results. Significant differences among the years were found in only four dependent variables, tuition and fees, federal appropriations, state appropriations, and sales and service of educational activities (see Table 31, $p = .048$ before rounding). The largest eta squared and sums of squares are .02 and 0.08, respectively, which shows that the year factor did not explain as much of the variance of the sources of current funds revenue in the 11 states of the study as did the state factor.

The interaction between the two factors, state and year, was found to be significant in only three of the sources of current funds revenue (see Table 41). These were state appropriations, sales and service of educational activities, and other sources of current funds revenue. This means that the change in state appropriations, sales and service of educational

Table 41

Summary of two-way ANOVA Results for State and Year Interaction

Dependent Variable	F	p	Eta Squared	Sum of Squares	Total Sums of Squares
Tuition & Fees	1.16	.28	.04	0.09	6.14
Fed. Approp.	1.42	.13	.04	0.00	0.15
State Approp.	2.14*	.00	.07	0.26	8.51
Local Approp.	1.52	.22	.04	0.22	18.27
Fed. Grants	1.19	.26	.04	0.07	2.02
State Grants	1.56	.06	.05	0.08	2.20
Local Grants	0.85	.65	.03	0.01	0.34
Private Gifts	0.50	.97	.02	0.00	0.16
Endow. Inc.	0.64	.87	.02	0.00	0.01
Sales & Serv.	1.96*	.01	.06	0.01	0.20
Auxiliary Ent.	0.27	1.00	.01	0.01	1.06
Other Sources	4.24*	.00	.12	0.12	1.37

* $p \leq .05$.

activities, and other sources across the years studied was not the same for each state. The relatively small results for eta squared, sum of squares and *F*-values shown in Table 41 indicate that the interaction of the state and year factors accounted for very little of the variance in the variables.

Based on these findings, the majority of the variance in sources of current funds revenue reported by the states in this study came from differences among the individual states. Neither the year factor nor the interaction between state and year accounted for a major portion of the variance in sources of current funds revenue reported by the states for the years of the study.

Research Question 4

The fourth research question concerned the possibility of various funding models among the states that might have provided sustained or increased revenue over the 1990s decade. The null hypothesis stated there would be no significantly different models for obtaining current funds revenue for the community colleges in the states and for the period of this study. It was found through the first three research questions that Nebraska's funding pattern shifted from one with major emphasis on local appropriations to a pattern emphasizing state appropriations. Since the state of Nebraska was not consistent in its funding pattern, it was not included in the analysis for research question four.

Table 42 lists the twelve sources of current funds revenue in descending order of overall mean proportion (right-hand column) for the ten states that had consistent funding patterns over the decade. Three sources (state appropriations, tuition and fees, and local appropriations) had an overall mean proportion greater than .15 and had an effect size index

Utilizing these levels of dependency, the data in Table 43 were transposed to form the models as shown in Table 44. Over the years of the study the state of Nebraska shifted from Model 3 to Model 1, and therefore, is not included in any model, or further analysis.

A data set containing the mean proportions of the three sources of current funds revenue for each model by state was created. For each of the three dependent variables, a one-way ANOVA was used to determine if the four models in Table 44 were significantly different. Results of these tests are shown in Table 45. It shows there were significant differences among the models in all three cases ($p < .001$).

Table 43

Mean Proportions for Groups of States for Three Current Funds Revenue Sources

Source of Funding	Minn./Ind./Ohio	N.Dak./Iowa/Mo.	Kans./Ill./Wis.	Mich.
State Appropriations	.418	.323	.221	.271
Tuition & Fees	.289	.227	.160	.216
Local Appropriations	.008	.065	.339	.232

Table 44

Four Models of Current Funds Revenue Funding

Source of Funding	Model 1 Minn./Ind./Ohio	Model 2 N.Dak./Iowa/Mo.	Model 3 Kans./Ill./Wis.	Model 4 Mich.
State Appropriations	Very High	High	Moderate	Moderate
Tuition & Fees	Moderate	Moderate	Low	Moderate
Local Appropriations	Extremely Low	Very Low	High	Moderate

Table 45

One-way ANOVA Results for Four Models With Three Primary Funding Sources

	<i>df</i>	<i>F</i>	Eta squared	<i>p</i>
State Appropriation	3	60.248*	.874	.000
Tuition & Fees	3	15.482*	.641	.000
Local Appropriation	3	85.037*	.908	.000

* $p \leq .05$

Table 46

Tukey Test Results for Four Models

Model	State Appropriations				Tuition & Fees				Local Appropriations			
	1	2	3	4	1	2	3	4	1	2	3	4
1												
2	.00				.02				.08			
3	.00	.00			.00	.01			.00	.00		
4	.00	.09	.11		.06	.98	.18		.00	.00	.01	

The Tukey follow-up tests results are shown in Table 46. The test for state appropriations indicated there were significant differences between Model 1 and all other Models ($p < .01$). Models 2 and 3 were significantly different from each other ($p < .01$), but not significantly different from Model 4 ($p = .09$, and $p = .11$ respectively).

In the tuition and fees category, Models 1, 2, and 3 were significantly different from each other ($p < .01$ to $p = .02$). Model 4 was not significantly different from any other Model ($p = .06$ to $p = .98$). The Tukey follow-up tests for local appropriations indicated there was a significant difference between all pairings of Models ($p < .01$ to $p = .01$) except for Model 1 and Model 2 ($p = .08$).

To determine if any model provided consistent or increasing revenue dollars during the period of the study, a comparison was made between the total current funds revenue in 1990 with those of the year 2000 for each model. This comparison involved an adjustment for inflation. The measure of inflation used was the Higher Education Price Index (HEPI). According to the University of San Francisco website (2002), the HEPI "...measures the average relative level in the prices of a fixed market basket of goods and services purchased by colleges and universities through current fund educational and general expenditures excluding expenditures for research." In the decade of the study (1990-2000) the price of goods and services purchased by colleges and universities increased 39.84% (Halstead, 2001).

Taking inflation into account, a funding model would have had to generate 39.84% more current funds revenue in the year 2000 than in the year 1990 to maintain a constant purchasing level. Table 47 shows the total current funds dollars for each model for the years 1990 and 2000, along with the percent of change between the two years. It shows that all four models exceeded the 39.84% HEPI for the 1990s decade, with Model 1 ("very high"

Table 47

Total Current Funds Revenue Dollars for Each Model of Funding

	1990	2000	% change
Model 1	\$36,421,226	\$67,593,455	85.59%
Model 2	\$36,361,420	\$65,638,688	80.50%
Model 3	\$59,544,493	\$102,990,089	72.96%
Model 4	\$24,029,400	\$39,122,306	62.81%

state appropriations, “moderate” tuition and fees, and “extremely low” local appropriations) generating the greatest increase in current funds revenue.

CHAPTER 5. SUMMARY, DISCUSSION AND RECOMMENDATIONS FOR FURTHER STUDY

This study was designed initially to examine current funds revenue sources for public community colleges in 12 Midwest states during the decade of the 1990s. It investigated whether these states had experienced a significant decrease in traditional funding sources, a significant increase in alternative funding, and whether a funding model(s) had sustaining levels of revenue.

Community colleges in America were founded to preserve and advance American democracy by making higher education available to the populace. The formation of what is now known as the comprehensive community college dates to the 1947 President's Commission on Higher Education. These "unique American" (Breneman & Nelson, 1981, p. 1; Cain, 1999, p. 10) institutions were established using an "open door" policy, as well as on financial policies that included large state and local appropriations and low student tuition in comparison to four-year institutions of higher education. This made higher education accessible and affordable to many who otherwise would not be able to obtain a postsecondary education (Cohen & Brawer, 1996).

The reliance on one primary source of external revenue positions an institution for the possibility of having to change its activities or not survive. A social organizational theory, resource dependency, speaks to external constraints of organizations and argues that administrators attempt to manage those constraints to acquire, if possible, more autonomy and freedom from them (Pfeffer, 1982). When environmental change occurs, (e.g., substantial decreases in state appropriations) organizations can either change their activities, or face the real prospect of not surviving (Pfeffer & Salancik, 1978).

Limited published research exists in the area of community college current funds revenue sources to determine if state appropriations have decreased to a statistically significant degree, if tuition and fees increased to a statistically significant degree, and if institutions are utilizing new sources of revenue to replace state funding.

This study included public community colleges that had completed the IPEDS Finance Survey for the years 1990, 1995, and 2000, which are available online. Of the 12 states considered, South Dakota was deleted because no institution from that state completed the Finance Survey in the years 1990 and 1995. Also, 28 of the 240 public community colleges in the remaining 11 states did not complete the Finance Survey for all three years. Therefore, the study utilized data from 212 public community colleges in 11 Midwest states.

Four research questions were applied to the IPEDS Finance Survey data. These included the comparison of the proportions of current funds revenue derived from 12 revenue sources for community colleges in the 11 states. Comparisons were made in the proportions of current funds revenue reported for the years 1990, 1995, and 2000. The data were analyzed to determine if a statistically significant interaction existed between state and year in terms of the proportion of funding represented by each revenue source. In addition analysis was conducted to determine if there were different models of funding within the 11 states, and if any model had provided sustained or increased current funds revenue.

The mean of the proportion of total current funds revenue attributed to each of the various revenue sources for each of the 11 states for the years 1990, 1995, and 2000 was computed and tested for statistical significance. Methods of comparison and interaction for research questions 1-3 were conducted by using the two-way analysis of variance (ANOVA). A one-way ANOVA was used for Research question 4 analyses. The post hoc Tukey test

procedure was conducted when significant differences were found in the overall effects and the interaction effect. A level of significance (alpha level) of .05 was used in the study.

No institutions in the states of Indiana and Nebraska reported federal appropriations as a source of current funds revenue. There were no community colleges in North Dakota reporting the utilization of local grants. Therefore, these states were not included in the analysis for those categories of current funds revenue. No analysis was conducted for endowment income due to the very low proportions reported by all states.

While the study does identify differences and changes in levels of the proportion of current funds revenue for the 11 states for the years 1990, 1995 and 2000, no attempt was made to explain the causes for these differences and changes.

Summary and Discussion

Research Question 1

The first research question addressed whether the states differed in the proportion of current funds revenue derived from each of the 12 revenue sources for public community colleges. This study found great variances among the states in the proportions of current funds revenue from the various sources. Earlier published studies found great differences in funding patterns among the states, as well (Hyde & Augenblick, 1980; Martorana, 1978; Richardson & Leslie, 1980, Wattenbarger, 1994; Wattenbarger & Starnes, 1976). The largest variances among the states were in their dependence on tuition and fees, state appropriations, and local appropriations for funding.

There was a significant difference among the states in the proportion of current funds revenue derived from student tuition and fees. The wide range that was found could be

explained by the various state policies and philosophies about where the responsibility lies for funding higher education and who benefits more, the individual or society.

There was a significant difference among the states in the proportion of current funds revenue derived from state appropriations and local appropriations. The three states (Wisconsin, Illinois, and Kansas) with the lowest overall mean proportion of state appropriations had the largest overall mean proportion of local appropriations. Likewise, the four states (Minnesota, Indiana, Ohio, and North Dakota) with the largest overall mean proportion of state appropriations had the lowest overall mean proportion of local appropriations. Only the state of Indiana reported no local appropriations for each of the three years of the study. Policies for the funding of higher education that determine what level(s) of government and to what degree each level should contribute based on the perception of which gains the most, apparently vary among the states.

The revenue source category of federal appropriations was found to be of minor importance for the public community colleges included in this study. This finding would bear out the importance of the history and the purpose of the public community college. Community colleges were formed to meet the needs of the community they served (President's Commission on Higher Education, 1947). Funding for community colleges was not and apparently still is not considered a responsibility of the federal government.

There was a significant difference among the states in the overall mean proportion of current funds revenue derived from federal grants. This could be attributed to the degree of involvement of each state in economic development and workforce development efforts. It also could be explained by the amount of Pell Grants awarded in each state.

The funding policies resulting from the various funding philosophies among the states and the different levels of involvement in workforce development could explain the significant difference found between the states in the mean proportion of state grants reported. Generally, those states that ranked the highest in the utilization of state grants as a proportion of its current funds revenue also ranked highest for state appropriations. The local grants category was found to be a minor source of revenue for public community colleges in the Midwest.

There was a wide range in overall mean proportion for auxiliary enterprises reported by the states. The extent to which a state's community colleges are residential or commuter could explain this variance. A college with a substantial number of its students living in college owned residences would generate revenue not only from the resident facilities, but also from food services, college unions, and other college operated enterprises.

The range of the overall mean of proportion for current funds revenue attributed to the "other sources" category was significant. Since it was found that the state of Iowa had a significantly higher overall mean proportion than other states in the study for this category, it would be of interest to know what "sales that typically are not by-products of instruction or training" that state is achieving.

Many states (or institutions within the states) are not utilizing alternative funding opportunities. For example, Indiana and Nebraska reported no federal appropriations in their funding patterns. Nebraska also reported no endowment income. North Dakota reported no local grants. The overall mean proportion for all states of the study was $< .05$ for federal appropriations, local grants, private gifts, endowment income, sales and service of educational activities, and all other sources.

Failure to obtain larger proportions of alternative funding sources indicates that these community colleges are not utilizing the principles of the resource dependency theory. There continues to be a heavy dependency on governmental appropriations. In times of government budget deficits, appropriations are limited or reduced, and are an external constraint for public community colleges.

Research Question 2

The second research question analyzed whether changes occurred among the community colleges in the states between the years 1990, 1995, and 2000. The year factor accounted for significant differences in only 4 of the 12 current funds revenue source categories. These categories included: tuition and fees, federal appropriations, state appropriations, and sales and services of educational activities.

There was a significant increase in student tuition and fees between the years 1990 and 1995. However, overall for the decade, the increase in the proportion of student tuition and fees was not significant, as the proportion decreased by the year 2000. Some of this fluctuation could be explained by the changes in state appropriations. The decreased proportion by the year 2000 could be explained by the national economy, which was “robust” during the later half of the decade of the 1990s. This may have enabled the state and local governments to increase support to public community colleges.

As like previous studies, this study found that when state appropriations decreased, student tuition and fees generally increased. This was especially true for the first half of the decade of the 1990s. The year 1995 was the year of the largest proportion of current funds revenue coming from student tuition and fees. This is the same year that the lowest proportion of revenue came from state appropriations. According to findings in the

literature, often the first method used to compensate for a reduction in state appropriations is to raise student tuition and fees (Collins et al., 1994; Hyde & Augenblick, 1980; Wattenbarger & Vader, 1986).

Eight of the 11 states in this study experienced declines in the proportion of state appropriations for the decade. Six of these states had increased proportions in tuition and fees. The other two states reported increases in local appropriations to offset the reduction in state appropriations.

The three states with increases in state appropriations were Indiana, Minnesota, and Nebraska. Indiana's increase in state appropriations was matched by a decrease in student tuition and fees. Minnesota's decrease in federal grants and other funds offset its increase in state appropriations. Nebraska's increase in state appropriations resulted in a dramatic decrease in local appropriations.

In the 1920s when community colleges were primarily of local orientation, state aid was less than five percent of all public college revenues (Cohen & Brawer, 1996). The overall mean proportion for state appropriations found in this study was .307, which is considerably less than the .385 found by Watkins (2000) in 470 community colleges for the year 1994. This current finding appears to indicate a continuing trend in the reduction in state aid for community colleges since the 1950s, when it was reported to be 58% (Martorana, 1978).

Historically, the funding of community colleges has shifted from local support to state support (Cohen & Brawer, 1996; Vaughan, 2000). This study indicates that this shift has not happened in all states. During the years of this study, the state of Nebraska followed this trend sometime between 1995 and 2000. The states in this study may have constituents

with varying philosophies regarding who benefits most from higher education. The level of governing control could be another factor in determining a state's funding pattern.

Although there was a significant difference among the states in the overall mean proportion of current funds revenue derived from federal grants, the proportions within each state remained fairly constant over the decade. Three sources of income (private gifts, endowment income, and sales and service of educational activities) failed to generate meaningful revenue by any state in any year of the study. Though there was a significant increase in sales and service of educational activities between the years 1995 and 2000, the proportion was quite small (.008 to .012). The state of Minnesota reported a dramatic decrease in its proportion of revenue coming from "other sources" between the years 1995 and 2000.

Based on these findings it appears that the public community colleges in this study had not followed the recommendations found in the literature that indicated a desirability for establishing alternative sources of revenue, particularly endowments, for future stability and autonomy (Angel & Gares, 1989; Bauske, 1985; Phillippe & Eblinger, 1998; Pokrass, 1989; Ryan, 1989; Seater, 1995).

Research Question 3

The third research question asked if a change in funding proportion for each of the 12 revenue sources over time (1990, 1995, 2000) differed significantly by state. There were only three revenue sources with statistically significant state by year interaction results (state appropriations, sales and service of educational activities, and other sources). The overall pattern reported by the states was a decline in state appropriations between the years 1990 and 1995, followed by an increased proportion by the year 2000. However, the increase did

not reach the 1990 proportion level (see bottom row, Table 10). Three states (Illinois, Iowa, and Kansas) reported a continual decline in state appropriations between the years 1990 and 2000. Wisconsin reported its largest proportion of state appropriations in the year 1995. Three states (Indiana, Minnesota, and Nebraska) reported a decline in state appropriations between 1990 and 1995, but their recovery by the year 2000 was greater than the proportions reported in 1990. The state of Nebraska had a dramatic increase in its proportion of state appropriations between the years 1995 and 2000.

The overall change in proportion of sales and service of educational activities was an increase (see bottom row, Table 30). One state (Iowa) reported a tremendous increase in its proportion of revenue derived from this source. Four states (Indiana, Kansas, Missouri, and Nebraska) reported decreases between the years of the study. The states of Michigan and Wisconsin both reported larger proportions in the year 2000 than in the year 1990, but their increases were not continual over the years. Michigan reported a decline in the year 1995, and Wisconsin reported its largest proportion in the year 1995.

The overall pattern for the other sources revenue category was a steady decline in the states over the years of the study (see bottom row, Table 37). There were numerous differences among the states in both quantity and change over the years. Michigan and Nebraska reported continual increases in their proportion of revenue from other sources between the years of the study. Illinois, Iowa, North Dakota, and Ohio reported their lowest proportion of other sources for the year 1995. The state of Minnesota reported a dramatic decrease in proportion of other sources between the years 1995 and 2000.

Research Question 4

The fourth research question concerned the possibility of various funding models among the states that might have provided sustained or increased revenue over the decade of the 1990s. Four models of current funds revenue funding were revealed by this study based on the variances found among the states for the proportions of state appropriations, tuition and fees, and local appropriations (see Table 44). This study also found that all four models of funding generated revenue in excess of the Higher Education Price Index (HEPI) between the years 1990 and 2000 (see Table 47). Model 1 (“very high” state appropriations, “moderate” tuition and fees, and “extremely low” local appropriations) generated the greatest increase in current funds revenue dollars.

The four models of funding found in this study support findings in the literature regarding state individuality (Medsker & Tillery, 1971; Morsch, 1971; Wattenbarger & Stepp, 1978). Public community college creation was left to the various states. Each state developed its own funding patterns based up the philosophies and needs of its constituents. The level of governing control along with the belief in the degree of benefits of higher education to individual students and/or society in general are both factors in determining what pattern of funding a state will develop.

Those states that advocate the importance of the unique “open door” mission of the public community college will most likely rely less heavily on student tuition and fees in order to encourage access (Griffith & Connor, 1994; Vaughan, 2000). Those states that feel it is the mission of each community college to meet the needs of the immediate local community may develop a funding pattern that emphasizes local appropriations (Fields, 1962). Where there is an attempt to treat all community colleges within a state equally and

there is a state level governing body, the resulting funding pattern probably will depend heavily on state appropriations and state grants (Medsker & Tiller, 1971; Wattenbarger & Starnes, 1976). It may be that state appropriations and state grants are mandated currently. It may be that when the constituents within a state believe that the local community, the state in general, and the individual all receive near equal benefits from higher education, the funding pattern may have equal proportions of funding from each of these benefactors.

Recommendations for Further Study

This study examined current funds revenue sources for public community colleges in 11 Midwest states during the decade of the 1990s. It investigated whether these states had experienced a significant decrease in state appropriations and whether current funds revenue funding models were changing. By using the same IPEDS data set, this research analysis could be expanded to include all 50 states. Additional quantitative research could be conducted with these same states using additional data provided by IPEDS in the areas of student enrollments and current funds expenditures. Correlation studies could be conducted with state appropriations, and tuition and fees.

Numerous qualitative research projects could be conducted. These might include students as subjects to determine how the changes (increases) in tuition and fees affect their decisions about such topics as career preparations, financial aid, length of time to complete college preparation, and their college choice.

The subjects of further studies could include college administrators to obtain information about if or how changes in revenue sources affect curriculum, course offerings, hiring of faculty, student enrollments, and obtaining equipment and technology needed for

career and technical training. It might be found that many community colleges are reducing, or eliminating, their offerings in career and technical areas and beginning to revert back to early 1990s “feeder” colleges offering mainly transfer courses. Similar studies could include state and local legislators. These studies might reveal why the proportion of current funds revenue from a particular funding source changes dramatically, such as the state of Minnesota’s decreased proportion in “other sources” category.

A study with community college administrators as subjects could reveal the degree of use of the strategic planning process in attempting to balance the community college mission with its revenue. It could include information about types of budgeting methods and plans for obtaining alternative revenue sources.

Historical studies could be conducted in states from the four different funding models to determine the trends in financing community colleges in each type. Insight could be gained regarding the formation of each state’s community college system, the state regulatory bodies, educational philosophies, and educational needs of each state. Those studies might disclose reasons for utilizing a particular funding model, or for shifting from one funding model to another, such as the state of Nebraska did in the later half of 1990s.

The state of Michigan utilized a funding model with “balanced” proportions of current funds revenue from three sources (tuition and fees, state appropriations, and local appropriations). Since this model most closely follows the Resource Dependency Theory principles of 1) increasing the number of external sources of funding, and 2) not causing public community colleges to stray from their mission, an in-depth study of the state of Michigan could reveal useful information for other states.

Follow-up studies based on findings of Wattenbarger and his colleagues could provide current data regarding the funding patterns they reported (Wattenbarger & Starnes, 1976; Wattenbarger & Vader, 1986). Many published sources advocated the establishment of foundations and fund-raising activities (Angel & Gares, 1989; Brightman, 1989; Miller, 1994; Phillippe & Eblinger, 1998; Zeiss, 2002).

As was found in the literature review, fund-raising among community colleges appears to be in its infancy in the 11 states in this study. Research in the areas of endowment incomes and private gifts is needed to discover the barriers that are preventing success in these areas of obtaining revenue. Community college personnel may be inadequately trained in fund-raising activities, they may hesitate to ask for gifts, or the cost of raising funds may outweigh the perceived benefits. Future studies focused on endowment income could reveal specific reasons why community colleges are not more actively pursuing this potential source of revenue.

This study looked at only revenue sources. To have a comprehensive picture of the community college financial situation, studies need to be conducted in the areas of enrollment and program offerings and their relationship to demand for revenue. Did the growth in revenues match the growth in enrollment? Studies could be conducted to investigate budgeting processes that are being utilized to analyze the decision-making process of community college administrators.

Implications for Practice

Community college governing board members and state legislators may need to review their individual state's funding model critically, especially if they are relying heavily

on one or two funding sources. Legislation might need to be enacted to change state funding policies to spread the burden of the cost of higher education.

Individual community college boards and administrators may need to become more aggressive in seeking alternative funding sources. Community college presidents and other high level administrators may need to be trained in fundraising. Foundations may need to be established, or become more effective.

Administrators may need to improve their relationships with state and local legislators by stressing the unique purpose and mission of community colleges and their importance in meeting the needs of the community they serve. Colleges might want to establish a group of students, parents, and graduates who would become active lobbyists.

Winning the support of the public and legislators for continued, or improved, levels of financial support, may mean making improvements in the areas of accountability, efficiency, and effectiveness. No matter how much revenue a community college has, it needs to employ effective planning processes and sound financial management.

Community colleges appear to be well positioned to take advantage of sales and services of educational services by being active in economic development, workforce development, federal welfare reform programs, and community service. These activities can help improve the general economic, and contribute to value and importance of community colleges.

Continued efforts need to be made to preserve the relatively low student tuition and fees at public community colleges. If tuition and fees continue to rise as a proportion of college revenue, all students will need to save more, seek additional employment, delay college, or increase their student loan debt.

APPENDIX A
IPEDS DEFINITIONS OF VARIABLES

GENERAL INSTRUCTIONS — F-1

Please respond to each item on this report in the space provided. The Glossary provides definitions of terms used in this report. The categories of current funds revenues (part A), current funds expenditures (part B), and the statement of selected funds balances (part I) are designed to be consistent with an audited financial statement, with definitions in **Financial Accounting and Reporting Manual for Higher Education** (published in 1990 by the National Association of College and University Business Officers) and with **Audits of Colleges and Universities** (amended in 1975) by the American Institute of Certified Public Accountants.

Numbers in parentheses at the end of paragraphs refer to pages in **Financial Accounting and Reporting Manual for Higher Education**.

Include medical school revenues and expenditures as appropriate. Exclude hospital revenues and expenditures except as directed for part A, line 13; part B, lines 16-18; and part J.

Report all data in WHOLE DOLLARS only; omit cents. For any item on the report where exact data do not exist, give estimates. Items are cited by column and line number.

A blue form containing prior year data is included in your packet. The prior year data may have been adjusted by IPEDS processing staff to resolve errors detected during the edit process. If you did not respond to last year's survey, the prior year information may have been imputed based on data reported by similar institutions in your region.

Please do not return the prior year data section or the instructions with your FY 1999 report.

INSTITUTIONAL IDENTIFICATION

Make any necessary corrections to the preprinted address information in the space provided on the front page of this report. Enter the name, title, and area code and telephone number of the person responsible for completing the report.

COMBINED DATA FOR MORE THAN ONE CAMPUS OR INSTITUTION

If data for more than one campus or more than one institution are being reported on this survey form, use the table on page 4 of the survey form to list information which identifies all campuses and institutions which are included.

PERIOD OF THE REPORT

Report finances for the most recent complete fiscal year. Indicate the starting month (using 2 digits), starting year (4 digits), ending month (using 2 digits), and ending year (4 digits), of the fiscal year followed by your institution.

PART A — CURRENT FUNDS REVENUES BY SOURCE

Unrestricted current funds — Resources received by an institution that have no limitations or stipulations placed on them by external agencies or donors.(302)

Restricted current funds — Resources provided to an institution that have externally established limitations or stipulations placed on their use. Externally imposed restrictions are to be contrasted with internal designations imposed by the governing board on unrestricted funds.(209, 215, 302)

Current funds revenues — Include (1) all unrestricted gifts, grants, and other resources earned during the reporting period, and (2) restricted resources to the extent that such funds were expended for current operating purposes. Current funds revenues do not include restricted current funds received but not expended because these revenues have not been earned.(310)

Source of funds

Line 1 — Tuition and fees — Report all tuition and fees (including student activity fees) assessed against students for education purposes. Include tuition and fee remissions or exemptions even though there is no intention of collecting from the student. Include here those tuitions and fees that are remitted to the state as an offset to the state appropriation. (Charges for room, board, and other services rendered by auxiliary enterprises are not reported here, see line 12.)(311)

Lines 2-5 — Government appropriations — Include all amounts received by the institution through acts of a legislative body, except grants and contracts. These funds are for meeting current operating expenses, not for specific projects or programs. An example is federal land-grant appropriations (line 2). Pell Grants are not reported here, but on line 6, as they are grants, not appropriations. Federal appropriations received through state channels is a subset of line 2 and should be included on line 2 for federal appropriations, as well as reported separately on line 3.(312)

Lines 6-8 — Government grants and contracts — Report revenues from governmental agencies that are for specific research projects or other types of programs. Examples are research projects, training programs, and similar activities for which amounts are received or expenditures are reimbursable under the terms of a government grant or contract. Related indirect costs recovered should be reported as unrestricted revenues (column 1). Amounts equal to direct costs incurred should be recorded as charges against current restricted funds and reported as restricted current funds revenues (column 2). Include Pell Grants on line 6, column 2. Federal grants and contracts received through state channels should be reported on line 6.(313) **Do not include revenues from the Federal Direct Student Loan (FDSL) Program.**

Line 9 — Private gifts, grants, and contracts — Report revenues from private donors for which no legal consideration is involved and private contracts for specific goods and services provided to the funder as stipulation for receipt of the funds. Include only those

REMOVE INSTRUCTIONS BEFORE MAILING AND RETAIN FOR YOUR FILES.

GENERAL INSTRUCTIONS - F-1 - Continued**PART A - CURRENT FUNDS REVENUES BY SOURCE - Continued**

gifts, grants, and contracts that are directly related to instruction, research, public service, or other institutional purposes. Monies received as a result of gifts, grants, or contracts from a foreign government should be reported here. Include the estimated dollar amount of contributed services on this line.(314,430)

Line 10 - Endowment income — Report (1) the unrestricted income of endowment and similar funds; (2) restricted income of endowment and similar funds to the extent expended for current operating purposes; and (3) income from funds held in trust by others under irrevocable trusts. Do not include capital gains or losses unless the institution has adopted a spending formula by which it expends not only the yield but also a prudent portion of the appreciation of the principal; in this case, the amount calculated by the total return concept would be reported. If any such gains are spent for current operations, these should be treated as transfers, not revenues. Exclude endowment income for hospitals. (315,359,360)

Line 11 - Sales and services of educational activities — Report revenues derived from the sales of goods or services that are incidental to the conduct of instruction, research or public service. Examples include film rentals, scientific and literary publications, testing services, university presses, and dairy products.(316)

Line 12 - Auxiliary enterprises — Report revenues generated by the auxiliary enterprise operations that exist to furnish a service to students, faculty, or staff, and that charge a fee that is directly related to the cost of the service. Examples are residence halls, food services, student health services, intercollegiate athletics, college unions, college stores, and movie theaters.(317)

Line 13 - Hospitals — Include a hospital operated by the institution and clinics associated with training. Include gifts, grants, appropriations, research revenues, and endowment income. Exclude clinics that are part of the student health services program. Include all amounts appropriated by governments (federal, state, local) for the operation of hospitals. (Sales and services revenues should be net of discounts and allowances. Hospital revenues included here should also be reported in part J.)(318) Exclude medical schools.

Line 14 - Other sources —Include all revenues not covered elsewhere. Examples are interest income and gains (net of losses) from investments of unrestricted current funds, miscellaneous rentals and sales, expired term endowments, and terminated annuity or life income agreements, if not material. Include revenues resulting from the sales and services of internal service departments to persons or agencies external to the institution (e.g., the sale of computer time). Such sales should not be confused with those on line 11, which are typically by-products of instruction or training.(319)

Line 15 - Independent operations — Include all revenues associated with operations independent of the primary missions of the institution. This category generally includes only those revenues associated with major federally funded research and development centers. Do not include the net profit (or loss) from operations owned and managed as investments of the institution's endowment funds.(320)

Line 16 - Total current funds revenues — Report here the sum of lines 1, 2, and 4 through 15, inclusive.

PART B - CURRENT FUNDS EXPENDITURES BY FUNCTION

Current funds expenditures and transfers — The costs incurred for goods and services used in the conduct of the institution's operations. They include the acquisition cost of capital assets, such as equipment and library books, to the extent current funds are budgeted for and used by operating departments for such purposes.(330)

Column 4 - Salaries and wages without employee fringe benefits — Report the amount of total expenditures for salaries and wages. Include the salaries and wages of all personnel, full- and part-time, paid through each functional account. Do not include any expenditures for College Work Study or for employee fringe benefits as part of salary expenditures. Expenditures for employee fringe benefits are to be reported on lines 24-26, column 4. Note that in part B the amounts reported for salaries and wages in column 4 are to be included in columns 1-3.

Employee fringe benefits — Excludes the employee's contribution. Employee fringe benefits include retirement plans, social security taxes, medical/dental plans, guaranteed disability income protection plans, tuition plans, housing plans, unemployment compensation plans, group life insurance plans, worker's compensation plans, and other benefits in-kind with cash options.

Functions of expenditures

Line 1 - Instruction — Expenditures of the colleges, schools, departments, and other instructional divisions of the institution and expenditures for departmental research and public service that are not separately budgeted should be included in this classification. Include expenditures for both credit and noncredit activities. Exclude expenditures for academic administration where the primary function is administration (e.g., academic deans). (Such expenditures should be reported on line 4.) The instruction category includes general academic instruction, occupational and vocational instruction, special session instruction, community education, preparatory and adult basic education, and remedial and tutorial instruction conducted by the teaching faculty for the institution's students.(332)

Line 2 - Research — This category includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. Do not report nonresearch sponsored programs (e.g., training programs).(333)

Line 3 - Public service — Report all funds budgeted specifically for public service and expended for activities established primarily to provide noninstructional services beneficial to groups external to the institution. Examples are seminars and projects provided to particular sectors of the community. Include expenditures for community services and cooperative extension services.(334)

APPENDIX B
SURVEYS ADMINISTERED BY IPEDS



Integrated Postsecondary Education Data System

About IPEDS?

What's New

Publications

Data

Survey Forms

Peer Analysis

IPEDS COOL

The Integrated Postsecondary Education Data System (IPEDS)

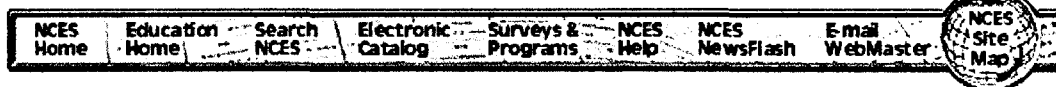
(IPEDS), established as the core postsecondary education data collection program for NCES, is a system of surveys designed to collect data from all primary providers of postsecondary education. IPEDS is a single, comprehensive system designed to encompass all institutions and educational organizations whose primary purpose is to provide postsecondary education. The IPEDS system is built around a series of interrelated surveys to collect institution-level data in such areas as enrollments, program completions, faculty, staff, and finances.

Features

IPEDS Web-Based Data Collection allows institutions to provide NCES with the required statistical data, replacing the paper survey forms that have been used in past years.

IPEDS Peer Analysis System and Self-guided Tutorials enables a user to easily compare a LinchPin institution of the user's choosing to a group of peer institutions, by generating reports using selected IPEDS variables of interest.

IPEDS College Opportunities On-line (COOL) presents data on institution prices, financial aid, enrollment, and type of programs that are offered by the institution. IPEDS COOL is designed to help college students, future students, and their parents understand the differences between colleges and how much it costs to attend college.





Integrated Postsecondary Education Data System

[About IPEDS?](#) [What's New](#) [Publications](#) [Data](#) [Survey Forms](#) [Peer Analysis](#) [IPEDS COOL](#)

About IPEDS

[Introduction](#) | [Design and Definitions](#) | [Components](#) | [Additional Information](#)

Introduction

NCES has established the Integrated Postsecondary Education Data System (IPEDS) as its core postsecondary education data collection program (prior to IPEDS some of the same information was collected by the Higher Education General Information Survey-HEGIS). It is a single, comprehensive system that encompasses all identified institutions whose primary purpose is to provide postsecondary education.

IPEDS consists of institution-level data that can be used to describe trends in postsecondary education at the institution, state and/or national levels. For example, researchers can use IPEDS to analyze information on 1) enrollments of students, undergraduate, first-time freshmen, graduate and first-professional students by race/ethnicity and gender; 2) institutional revenue and expenditure patterns by source of income and type of expense; 3) salaries of full-time instructional faculty by academic rank and tenure status; 4) completions (awards) by type of program, level of award, race/ethnicity, and gender; 5) characteristics of postsecondary institutions, including tuition, room and board charges, calendar systems, etc.; 6) status of postsecondary vocational education programs; and 7) other issues of interest.

The remainder of this document includes brief descriptions of the IPEDS survey design, important definitions, and descriptions of the surveys that can be downloaded.

Design and Definitions

Postsecondary education is defined within IPEDS as the provision of a formal instructional program whose curriculum is designed primarily for students who are beyond the compulsory age for high school. This includes programs whose purpose is academic, vocational, and continuing education, and excludes avocational and adult basic education programs.

The following types of institutions are included within IPEDS: baccalaureate or higher degree granting institutions, 2-year award institutions, and less-than-2-year institutions (i.e., institutions whose awards usually result in terminal occupational awards or are creditable toward a formal 2-year or higher award). Each of these three categories is further disaggregated by control (public, private not-for-profit, private for-profit) resulting in nine institutional categories or sectors.

Specialized, but compatible, reporting formats have been developed for these nine sectors of postsecondary education providers. In general, the reports developed for postsecondary institutions granting baccalaureate and higher degrees are the most extensive; forms for the 2-year and less-than-2-year award granting sectors request less data. This design feature accommodates the varied operating characteristics, program offerings, and reporting capabilities that differentiate postsecondary institutional sectors while yielding comparable statistics for all sectors.

Data are collected from approximately 9,900 postsecondary institutions. IPEDS has been designed to produce national-, state-, and institution-level data for most postsecondary institutions. However, prior to 1993, only national-level estimates from a sample of institutions are available for private, less-than-2-year institutions.

Components

IC - INSTITUTIONAL CHARACTERISTICS

This survey contains institutional names and addresses; telephone numbers; room and board charges; tuition and required fees; control or affiliation; calendar system; levels of awards offered; types of programs; and accreditation for all postsecondary education institutions in the United States and outlying territories. Beginning in 2000, the IC survey collects the Institutional Pricing data from institutions with first-time, full-time, degree/certificate-seeking undergraduate students. This information is displayed on the IPEDS College Opportunities On-Line (IPEDS COOL) website. IC surveys prior to 2000 collected instructional activity and unduplicated headcount data, which are now collected on the Fall enrollment survey.

EF - FALL ENROLLMENT

This component collects annual data on full- and part-time enrollments by level (undergraduate, first-professional, and graduate), and by race/ethnicity and gender of student. Beginning in 1990, racial/ethnic data were collected annually. (Prior to 1990, racial/ethnic data were collected in even-numbered years.) Age distributions are collected in odd-numbered years by student level; data on state of residence of first-time freshmen (first-time first-year students) are collected in even-numbered years. Four-year institutions are also required to complete enrollment data by level, race/ethnicity, and gender for 9 selected fields of study in even-numbered years for the Office for Civil Rights. In addition, the Enrollment survey now collects the instructional activity and unduplicated headcount data, which are needed to compute a standardized, full-time equivalent (FTE) enrollment statistic for the entire academic year. FTE is useful for gauging the size of the educational enterprise at the institution. Starting in 2001, unduplicated headcount by level of student, and by race/ethnicity and gender of student will also be requested, as will total number of students in the entering class

C - COMPLETIONS

This survey collects degree completions by level (associate's, bachelor's, master's, doctor's, and first-professional) and other formal awards by length of program, by race/ethnicity and gender of recipient, and by 6-digit CIP code. Completion data by race/ethnicity at the 2-digit CIP level became an annual collection in 1990; currently, race/ethnicity is collected at the 6-digit CIP level. Starting in 2001, completers of double majors by degree level, by race/ethnicity and gender of recipient, and by 6-digit CIP code will also be requested.

GRS - GRADUATION RATE SURVEY

This survey collects the number of students entering the institution as full-time, first-time, degree or certificate-seeking in a particular year (cohort), by race/ethnicity and gender; number completing within 150% of normal time to program completion; number transferred to other institutions; number of students receiving athletically-related student aid in the cohort and number completing within 150% of normal time. This survey was developed to help institutions comply with requirements of Student Right-to-Know. Data are collected annually.

SA - SALARIES, TENURE, AND FRINGE BENEFITS OF FULL-TIME INSTRUCTIONAL FACULTY

Prior to 2000, this survey collected full-time instructional faculty by rank, gender, tenure status, and length of contract; total salary outlay and fringe benefits. Data are collected annually, except for 2000.

F - FINANCIAL STATISTICS

This survey collects each institution's current fund revenues by source (e.g., tuition and fees, government, gifts); current fund expenditures by function (e.g., instruction, research); assets and indebtedness; and endowment investments. Data are collected annually. Beginning in 1997, Finance data are collected in different formats based on the institution's accounting standards (FASB or GASB).

SFA - Student Financial Aid

This survey collects the number and percent of full-time, first-time, degree/certificate-seeking undergraduate students receiving student financial aid, by type of aid. These are displayed on the IPEDS College Opportunities On-Line (IPEDS COOL) website.

S - FALL STAFF

This survey collects the number of institutional staff by occupational activity, full-and part-time status, gender, and race/ethnicity. Data are collected in odd-numbered years. Beginning with 1993, this survey replaces the EEO-6 survey conducted by the Equal Employment Opportunity Commission.

Additional Information

Contact Staff for additional information:

IPEDS Data

Completions Data

Faculty Salaries Data

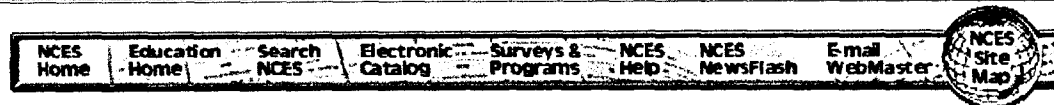
Fall Enrollment Data

Fall Staff Data

Finance Data

Institutional Characteristics Data

State Higher Education Profiles (SHEP)



APPENDIX C
IPEDS FINANCE SURVEY FORM
CURRENT FUNDS REVENUE SOURCES

FORM IPEDS-F-1
(11-1-1999)

U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
ACTING AS COLLECTING AGENT FOR THE
U.S. DEPARTMENT OF EDUCATION
NATIONAL CENTER FOR EDUCATION STATISTICS

**INTEGRATED POSTSECONDARY
EDUCATION DATA SYSTEM**

**FINANCE SURVEY
(For Public Institutions)
Fiscal Year 1999**

NOTE - The completion of this survey, in a timely and accurate manner, is **MANDATORY** for all institutions which participate or are applicants for participation in any Federal financial assistance program authorized by Title IV of the Higher Education Act of 1965, as amended. The completion of this survey is mandated by 20 U.S.C. 1094(a)(17).
For those institutions not required to complete this survey on the basis of the above requirements, the completion of this survey is voluntary and authorized by P.L. 103-382, National Education Statistics Act of 1994, Sec. 404(a).

Please read the accompanying instructions before completing this survey form. Report data ONLY for the institution in the address label. If data for any other institutions or branch campuses are included in this report because they CANNOT be reported separately, please provide a list of these schools in the space provided on page 4.

Please correct any errors in the name, address, and ZIP Code.

If there are any questions about this form, contact a Bureau of the Census IPEDS representative at (800) 622-6193 or FAX number (301) 457-1540, 7:30 a.m.—4:30 p.m. EST.

RETURN TO

Please submit by February 22, 2000

1. Name of respondent	2. Title of respondent	3. Telephone
		Area code, number, extension
4. E-Mail address		FAX number

PURPOSE OF THE SURVEY

The primary purpose of this survey is to collect basic data to describe the financial condition of postsecondary education in the nation; to monitor changes in postsecondary education finance; and to promote research involving institutional financial resources and expenditures. The survey is being conducted in compliance with the Center's mission "to collect, analyze, and disseminate statistics and other information related to education in the United States" (P.L. 103-382, National Education Statistics Act of 1994, Sec. 404(a)).

USES OF DATA

Survey results will be used in a variety of ways. For example, they will be used, together with other data, to describe the condition of postsecondary education in the nation. The information will be summarized by various institutional categories to detect any changes over the years in the sources of revenues and types of expenditures. Results will allow institutions to compare their financial data to national averages. The data will also be merged with other institutional data, such as enrollment and completions, to provide a valuable national resource for institutional research.

This form has been divided into two sections to facilitate reporting of financial data:

Section I: Current Year Report — FY 1999 is to be completed by the respondent and returned to the address shown on the cover page. *Do not record data in shaded areas.*

Section II: Prior Year Reported Data — FY 1998 is a copy of the data reported by your institution last year. Please use this as a reference for reporting FY 1999 data and keep it in your files with a copy of your FY 1999 submission.

Section I CURRENT YEAR REPORT — FY 1999

Part A — CURRENT FUNDS REVENUES BY SOURCE

This report covers finance activity for the 12-month fiscal year beginning

, and ending ,
 Month Year Month Year

Line No.	Source of funds	Amount (whole dollars)		
		Unrestricted (1)	Restricted (2)	TOTAL (3)
01	Tuition and fees	\$	\$	\$
	Government appropriations			
02	Federal			
03	Through state channels	\$		
04	State			
05	Local			
	Government grants and contracts			
06	Federal (exclude FDSL loans)			
07	State			
08	Local			
09	Private gifts, grants, and contracts			
10	Endowment income			
11	Sales and services of educational activities			
12	Auxiliary enterprises			
13	Hospitals			
14	Other sources			
15	Independent operations			
16	TOTAL CURRENT FUNDS REVENUES <i>(Sum of lines 1, 2, 4—15)</i>	\$	\$	\$

APPENDIX D
IPEDS PROCEDUAL STEPS

INTEGRATED POSTSECONDARY EDUCATION DATA SYSTEM (IPEDS)

Home page: www.nces.ed.gov/ipedspas

Windows:

1. Select "Institutional level"
2. Enter Institution ID for both user ID and password (ISU=153603)
 - To obtain Institution ID:
 - a. go to bottom of webpage, click on "IPEDS home"
 - b. select "IPEDS college opportunities on-line COOL"
 - c. select "IPEDS COOL"
 - d. select a region, a state, or a specific institution
 - e. click on the underlined name
 - f. IPEDS ID is in upper right hand corner
3. Select "use my institution"
4. Select "comparison group"
5. Select "add by variable"
6. Select "Institutional characteristics" for appropriate year
7. Select "Directory & response status"
8. Select "OBE region code," plus control of institution, and Carnegie Classification
Click "submit"
9. List of selected variables...can keep, remove, or select more. If okay, click "go to query form"
10. Select the appropriate items in each variable section OBE region – (Plains and Lakes), Control – (public), Carnegie – (Associate of Arts) "Submit"
11. Shows list of institutions...can accept, remove. If okay, click "continue"
12. Shows list of institutions again...if okay, select "reports and stats." This allows for calculations done on statistical software: such as, SPS.
13. Gives choices for reports. Select "institutional data," which allows viewing and downloading of several variables.
14. List of variables. Select "finance." Select appropriate year "1990."
15. Select "Public 4-year and 2-year" (revenues, expenditures, financial aid, etc.)
16. List of financial variables. Select "Current Funds Revenues by source"
17. Select tuition & fees, state appropriations, grants, endowment, total current funds, etc.
Click "submit"
18. Lists the selected variables. Keep, remove, or select more. When appropriate click "finished selection"
19. Give a name to the table of data. Selection options...a) ID only b) short or long variable name c) view on screen or download. Click "submit"
Select "open" or "save to disk." Save to appropriate statistical software.

REFERENCES

- Abrams, D. M. (1993). *Conflict, competition, or cooperation?: Dilemmas of state education policymaking*. Albany, NY: State University of New York Press.
- Agresti, A., & Finlay, B. (1997). *Statistical methods for the social sciences* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.
- Alfred, R. L. (1978). Conclusions about coping with reduced resources. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp. 85-94). San Francisco: Jossey-Bass.
- Altbach, P. G. (1998). *Comparative higher education: Knowledge, the university and development*. London: Ablex.
- American Association of Community Colleges. (2002). *About community colleges*. Retrieved February 26, 2002, from <http://www.aacc.nche.edu/Content/NavigationMenu/AboutCommunityColleges/>
- Anderson, J. M., & Snyder, T. (1993). *The community college foundation manual & guide*. Rancho Cucamonga, CA: Network of California Community College Foundations. (ERIC Document Reproduction Service No. ED365369)
- Angel, D., & Gares, D. (1989). The community college foundation today: History, characteristics, and assets. In J. L. Catanzaro, & A. D. Arnold (Eds.), *New directions for community colleges: No. 68. Alternative funding sources* (pp. 7-14). San Francisco: Jossey-Bass.
- Anthony, W. P. (1985). *Practical strategic planning: A guide and manual for line managers*. Westport, CT: Quorum Books.
-

- Arrowood, C. F. (Ed.). (1970). *Thomas Jefferson & education in a republic*. St. Clair Shores, MI: Scholarly Press. (Original work published 1930)
- Astin, A. W. (1997). Liberal education and democracy: The case for pragmatism. In Orrill, R. (Ed.), *Education and democracy: Re-imagining liberal learning in America* (pp. 207-223). New York: College Entrance Examination Board.
- Baker, G. A., III, Dudziak, J., & Tyler P. (Eds.). (1994). *A Handbook on the community college in America: Its history, mission, and management*. Westport, CT: Greenwood Press.
- Barney, J. B., & Ouchi, W. G. (1986). Introduction: The search for new microeconomic and organization theory paradigms. In J. B. Barney & W. G. Ouchi (Eds.), *Organizational economics: Toward a new paradigm for understanding and studying organizations* (pp. 1-17). San Francisco: Jossey-Bass.
- Bauske, D. R. (1985). Developing new sources of student financial aid. In D. Campbell (Ed.), *New directions for community colleges: No. 50. Strengthening financial management* (pp. 43-52). San Francisco: Jossey-Bass.
- Birnbaum, W. S. (1990). *If your strategy is so terrific, how come it doesn't work?* New York: American Management Association.
- Blau, J. R., McVeigh, R., & Land, K. C. (2000). The expansion of two-year colleges: A dynamic, multi level model. *Community College Journal of Research and Practice*, 24(1), 127-143.
- Blazek, J. (1996). *Financial planning for nonprofit organizations*. New York: John Wiley.
-

- Blong, J. T., & Purga, A. J. (1985). Institutional research: A critical component of sound financial planning. In D. Campbell (Ed.), *New directions for community colleges: No. 50. Strengthening financial management* (pp. 55-63). San Francisco: Jossey-Bass.
- Boggs, G. R., & Cater, J. J. (1994). The historical development of academic programs in community colleges. In G. A. Baker, III, J. Dudziak, & P. Tyler (Eds.), *A handbook on the community college in America: Its history, mission, and management* (pp. 218-226). Westport, CT: Greenwood Press.
- Bogue, J. P. (1957a). Analysis of junior college growth. *Junior College Journal*, 27(6), 357-363.
- Bogue, J. P. (1957b). *The development of community colleges*. Washington, DC: American Association of Junior Colleges.
- Bowen, H. R. (1996). What determines the costs of higher education? (1980). In D. W. Breneman, L. L. Leslie, & R. E. Anderson (Eds.), *ASHE reader on finance in higher education* (pp. 113-127). Needham Heights, MA: Simon & Schuster.
- Breneman, D. W., & Nelson, S. C. (1981). *Financing community colleges: An economic perspective*. Washington, DC: Brookings Institution.
- Brightman, R. W. (1989). Entrepreneurship in the community college: Revenue diversification. In J. L. Catanzaro, & A. D. Arnold (Eds.), *New directions for community colleges: No. 68. Alternative funding sources* (pp. 57-66). San Francisco: Jossey-Bass.
- Brinkman, P. T., & Morgan, A. W. (1997). Changing fiscal strategies for planning. In M. W. Peterson, D. D. Dill, L. A. Mets, & Associates, *Planning and management for a*

- changing environment: A handbook on redesigning postsecondary institutions* (pp. 288-306). San Francisco: Jossey-Bass.
- Brubacher, J. S., & Rudy, W. (1976). *Higher education in transition: A history of American colleges and universities, 1636-1976* (3rd ed., revised & enlarged). New York: Harper & Row.
- Bryson, J. M. (1988). *Strategic planning for public and nonprofit organizations: A guide to strengthening and sustaining organizational achievement*. San Francisco: Jossey-Bass.
- Burkhart, P. J., & Reuss, S. (1993). *Successful strategic planning: A guide for nonprofit agencies and organizations*. Newbury Park, CA: Sage.
- Burstein, M. (1996, August). *The thin green line: Community colleges' struggle to do more with less* (Report No. EDO-JC-96-11). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED400024)
- Cain, M. S. (1999). *The community college in the twenty-first century: A systems approach*. New York: University Press of America.
- Carnegie Commission on Higher Education. (1970). *The open-door colleges: Policies for community colleges*. New York: McGraw-Hill.
- Clark, B. R. (1960). *The open door college: A case study*. New York: McGraw-Hill.
- Cohen, A. M., & Brawer, F. B. (1996). *The American community college* (3rd ed.). San Francisco: Jossey-Bass.
- Colleges seek lobbyists to protect budgets*. (2003, January 29). Retrieved January 29, 2003, from <http://www.cnn.com/2003/Education/01/29/university.lobbyists.ap/index.html>

- Collins, S. E., Leitzel, T. C., Morgan, S. D., & Stalcup, R. J. (1994). Declining revenues and increasing enrollments: Strategies for coping. *Community College Journal of Research and Practices*, 18(1), 33-42.
- Conklin, K. D. (2002, March/April). After the tipping point: A new first principle for state postsecondary education finance. *Change*, 34(2), 24-29.
- Cook, J. B. (1993). The case against measuring "cost-effectiveness" in nonprofits: Are we barking up the wrong tree? In G. L. Schmaedick (Ed.), *Cost-effectiveness in the nonprofit sector: Methods and examples from leading organizations* (pp. 159-176). Westport, CT: Quorum Books.
- Cope, R. G. (1981). *Strategic planning, management, and decision making* (Research Report No. 9). Washington, DC: American Association of Higher Education. (ERIC Document Reproduction Service No. ED217825)
- Cross, K. P. (1997). Foreward. In T. O'Banion, *A learning college for the 21st century* (pp. ix-xi). Phoenix, AZ: Oryx Press.
- Cubberly, E. P. (Ed.). (1931). Editor's introduction. In W.C. Eells, *The junior college* (pp. vii-xi). New York: Houghton Mifflin.
- Davis, D. W. (1995). Tuition and fee increases and community college enrollments. *Community College Journal of Research and Practice*, 19(1), 13-21.
- Demaree, W. E. (1986). Keeping the open door open. In B. W. Dziech, (Ed.). *New directions for community colleges: No. 53. Controversies and decision making in difficult economic times* (pp. 41-46). San Francisco: Jossey-Bass.
- Denzin, N. K., & Lincoln, Y. (Eds.). (1998). *The landscape of qualitative research: Theories and issues*. Thousand Oaks, CA: Sage.

- DiCroce, D. M. (1995). Women and the community college presidency: Challenges and possibilities. In B. Townsend, (Ed.). *New directions for community colleges: No. 89. Gender and power in the community college*. No. 89, 79-88.
- Diekhoff, J. S. (1950). *Democracy's college: Higher education in the local community*. New York: Harper and Brothers.
- Diener, T. (1986). *Growth of an American invention: A documentary history of the junior and community college movement*. New York: Greenwood Press.
- Donaldson, L. (1995). *American anti-management theories of organization: A critique of paradigm proliferation*. Cambridge, Great Britain: Cambridge University Press.
- Drucker, P. F. (1990). *Managing the non-profit organization: Practices and principles*. New York: HarperCollins.
- Duderstadt, J. J. (1999). The 21st century university: A tale of two futures. In M. W. Peterson, L. A. Mets, A. Trice, D. D. Dill, & B. A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 145-157). Needham Heights, MA: Pearson.
- Du Pont de Nemours, P. S. (1923). *National education in the United States of America* (B.G. Du Pont, Trans.). Newark, DE: University of Delaware Press. (Original work published 1812)
- Duryea, E. D. (1987). The university and the state: A historical overview. In P.G. Altbach & R.O. Berdahl (Eds.), *Higher education in American society* (Rev. ed., pp. 17-37). Buffalo, NY: Prometheus Books.
- Eaton, J. S. (1994a). *Strengthening collegiate education in community colleges*. San Francisco: Jossey-Bass.

- Eaton, J. S. (1994b). The fortunes of the transfer function: Community colleges and transfer 1900-1990. In G. A. Baker, III, J. Dudziak, & P. Tyler (Eds.), *A handbook on the community college in America: Its history, mission, and management* (pp. 28-40). Westport, CT: Greenwood Press.
- Eells, W. C. (1931). *The junior college*. New York: Houghton Mifflin.
- Eells, W. C. (1940). *American junior colleges* (1st ed.). Washington, DC: American Council on Education.
- Ehrlich, T. (1997). Dewey versus Hutchins: The next round. In Orrill, R. (Ed.), *Education and democracy: Re-imagining liberal learning in America* (pp. 225-262). New York: College Entrance Examination Board.
- Espy, S. N. (1986). *Handbook of strategic planning for nonprofit organizations*. New York: Praeger.
- Fields, R. R. (1962). *The community college movement*. New York: McGraw-Hill.
- Foner, P.S. (Ed.). (1944). *Basic writings of Thomas Jefferson*. Garden City, NY: Halcyon House.
- Fonte, F. W. (1993). The impact of state financing and regulation on the local orientation of community colleges. *Community College Review*, 21, 4-14.
- Fraenkel, J. R., & Wallen, N. E. (1993). *How to design and evaluate research in education* (2nd ed.). New York: McGraw-Hill.
- Gabert, G. (1991). *Community colleges in the 1990s*. Fastback 318. Bloomington, IN: Phi Delta Kappa.
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction* (6th ed.). White Plains, NY: Longman.
-

- Garms, W. I. (1977). *Financing community colleges*. New York: Columbia University Teachers College Press.
- Gaskin, F. (1997). At the millennium. *New Directions for Community Colleges*, 25 (2), 81-86.
- Gelatt, J. P. (1992). *Managing nonprofit organizations in the 21st century*. Phoenix, AZ: Oryx Press.
- Glass, J. C., Jr., & Jackson, K. L. (1998). Integrating resource development and institutional planning. *Community College Journal of Research and Practice*, 22 (8), 715-735.
- Gleazer, E. J., Jr. (1968). *This is the community college*. New York: Houghton Mifflin.
- Gleazer, E. J., Jr. (1994). Foreword. In A. A. Witt, J. L. Wattenbarger, J. F. Gollattscheck, & J. E. Suppiger, *America's community colleges: The first century* (pp. v-ix). Washington, DC: American Association of Community Colleges.
- Gmelch, W. H., & Miskin, V. D. (1993). *Leadership skills for department chairs*. Boston: Anker.
- Green, S.B., Salkind, N.J., & Akey, T.M. (2000). *Using SPSS for Windows: Analyzing and understanding data* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.
- Griffith, M., & Connor, A. (1994). *Democracy's open door: The community college in America's future*. Portsmouth, NH: Boynton/Cook.
- Guba, E. G., & Lincoln, Y. S. (2000). Epistemological and methodological bases of naturalistic inquiry. In D. L. Stufflebeam, G. F. Madaus, & T. Kellaghan (Eds.), *Evaluation models: Viewpoints on educational and human services evaluation* (2nd ed., pp. 361-381). Boston: Kluwer Academic.
- Halliday, E. M. (2001). *Understanding Thomas Jefferson*. New York: Harper Collins.
-

- Halstead, K. (2001, June). *Inflation measures for schools, colleges & libraries* (19th ed.). Washington, DC: Research Associates of Washington.
- Hammock, P. (2002, April 16). Innovative fundraising is key effort in time of slow economy. *Community College Times*, 14(8), 15.
- Hannan, M. T., & Freeman, J. (1989). *Organizational ecology*. Cambridge, MA: Harvard University Press.
- Hansen, W. L., & Stampen, J. O. (1987). Economics and financing of higher education: The tension between quality and equity. In P.G. Altbach & R.O. Berdahl (Eds.), *Higher education in American society* (Rev. ed., pp. 107-128). Buffalo, NY: Prometheus Books.
- Harvey, J., Williams, R. M., Kirshstein, R. J., O'Malley, A. S., & Wellman, J. V. (1998). *Straight talk about college costs and prices: Report of The National Commission on the Cost of Higher Education*. Phoenix, AZ: Oryx Press.
- Hay, R. D. (1990). *Strategic management in non-profit organizations: An administrator's handbook*. New York: Quorum Books.
- Henderson, L. G. (1978). State agencies and effects of reduction. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp. 27-34). San Francisco: Jossey-Bass.
- Hillway, T. (1958). *The American two-year college*. New York: Harper & Brothers.
- Hofstadter, R. (1952). The development of higher education in America. In R. Hofstadter & C. D. Hardy, *The development and scope of higher education in the United States* (pp. 3-134). New York: Columbia University Press.
-

- Hyde, W., & Augenblick, J. (1980). *Community college students, costs and finances: A review of research literature*. Denver, CO: Education Finance Center, Education Commission of the States.
- Jackson, K. L., & Keener, B. J. (2002). Introduction to community college resource development: Creating preferred futures. *Community College Journal of Research and Practice*, 26(1), 1-6.
- Jenkins, L. W., & Glass, J. E., Jr. (1999). Inception, growth, and development of a community college foundation: Lessons to be learned. *Community College Journal of Research and Practice*, 23(6), 593-612.
- Johnson, B. L., Jr. (1995). *Resource dependency theory: A political economy model of organizations*. (ERIC Document Reproduction Service No. ED387871)
- Jongbloed, B., & Van Der Knoop H. (1999). Budgeting at the institutional level: Responding to internal pressures and external opportunities. In B. Jongbloed, P. Maassen, & G. Neave (Eds.), *From the eye of the storm: Higher education's changing institution* (pp. 141-164). Dordrecht, The Netherlands: Kluwer Academic.
- Kaplan, R.S., & Norton, D. P. (2001). *The strategic-focused organization: How balanced scorecard companies thrive in the new business environment*. Boston: Harvard Business School Press.
- Katsinas, S. G. (1994). Is the open door closing? The democratizing role of the community college in the post-cold war era. *Community College Journal*, 64(5), 22-28.
- Kenton, C. N. (2001). *Current funds revenues at associate of arts institutions: A comparative analysis of Iowa community colleges with Plains Region community colleges*. Unpublished manuscript.
-

- Kerr, C. (1985). Foreward. In W. L. Deegan, D. Tillery, & Associates. *Renewing the American community college: Priorities and strategies for effective leadership* (pp. vii-xi). San Francisco: Jossey-Bass.
- Knoell, D. M. (1978). Growth through positive planning. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp. 75-84). San Francisco: Jossey-Bass.
- Koltai, L., & Thurston, A. S. (1971). The community colleges. In E. J. Gleazer & J. F. Cooke (Eds.), *American Junior Colleges* (8th ed., pp. 3-10). Washington, DC: American Council on Education.
- Koos, L. V. (1925). *The junior-college movement*. New York: Ginn.
- Larose, M. (2002, October 29). Tuitions jump as colleges feel state budget crunches. *Community College Times*, pp. 1, 4).
- Lawrence, B. (1995). *A guide to college resource and financial management*. Washington, D.C.: The Falmer Press.
- Leitzel, T. C., Morgan, S. D., & Stalcup, R. J. (1993). Declining revenues, increasing enrollments, and the open door. *Community College Journal of Research and Practice*, 17(6), 489-495.
- Lestina, R., & Curry, B. A. (1989). Contract training: Public and private sector models. In J. L. Catanzaro, & A. D. Arnold (Eds.), *New directions for community colleges: No. 68. Alternative funding sources* (pp. 37-44). San Francisco: Jossey-Bass.
- Lincoln, Y. S., & Guba, E. G. (1994). But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. In J. S. Stark & A. Thomas (Eds.), *Assessment and program evaluation* (pp. 651-658). Needham Heights, MA: Simon & Schuster.
-

- Lorenzo, A. L. (1994). Business and Financial Administration. In A. M. Cohen & R. B. Brawer, *Managing community colleges: A handbook for effective practice* (pp.186-206). San Francisco: Jossey-Bass.
- Luskin, B. J., & Warren I. K. (1985). Strategies for generating new financial resources. In D. Campbell (Ed.), *New directions for community colleges: No. 50. Strengthening financial management* (pp. 73-85). San Francisco: Jossey-Bass.
- Maassen, P., & Gornitzka, A. (1999). Integrating two theoretical perspectives on organisational adaptation. In B. Jongbloed, P. Maassen, & G. Neave (Eds.), *From the eye of the storm: Higher education's changing institution* (pp. 295-316). Dordrecht, The Netherlands: Kluwer Academic.
- Maassen, P., Neave, G., & Jongbloed, B. (1999). Introduction. In B. Jongbloed, P. Maassen, & G. Neave (Eds.), *From the eye of the storm: Higher education's changing institution* (pp. 1-11). Dordrecht, The Netherlands: Kluwer Academic.
- Manning, W. (1922). *The key of liberty, showing the causes why a free government has always failed, and a remedy against it*. S. E. Morison (Ed.). Billerica, MA: Manning Association.
- Maradian, S. (1989). Economic development, the community college, and technology training. In J. L. Catanzaro, & A. D. Arnold (Eds.), *New directions for community colleges: No. 68. Alternative funding sources* (pp. 51-56). San Francisco: Jossey-Bass.
- Martorana, S. V. (1978). Shifting patterns of financial support. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp. 1-13). San Francisco: Jossey-Bass.
-

- Massy, W. F. (1996a). Introduction. In W. F. Massy (Ed.), *Resource allocation in higher education* (pp. 3-13). Ann Arbor, MI: The University of Michigan Press.
- Massy, W. F. (1996b). Productivity issues in higher education. In W. F. Massy (Ed.), *Resource allocation in higher education* (pp. 49-86). Ann Arbor, MI: The University of Michigan Press.
- Massy, W. F. (1996c). Reengineering resource allocation systems. In W. F. Massy (Ed.), *Resource allocation in higher education* (pp. 15-47). Ann Arbor, MI: The University of Michigan Press.
- McClenney, B. N. (1994). The development of a structure to link the fiscal function to strategic planning in community colleges. In G. A. Baker, III, J. Dudziak, & P. Tyler (Eds.), *A handbook on the community college in America: Its history, mission, and management* (pp. 340-349). Westport, CT: Greenwood Press.
- McClenney, B. N., & Chaffee, E. E. (1985). Integrating academic planning and budgeting. In D. Campbell (Ed.), *New directions for community colleges: No. 50. Strengthening financial management* (pp. 7-19). San Francisco: Jossey-Bass.
- McDonnell, L. M. (2000). Defining democratic purposes. In L. M. McDonnell, P. M. Timpane, & R. Benjamin (Eds.), *Rediscovering the democratic purposes of education* (pp. 1-18). Lawrence, KS: University Press of Kansas.
- McDowell, R. W., & Lindner, W. K. (1989). A case for commercial development of college property. In J. L. Catanzaro, & A. D. Arnold (Eds.), *New directions for community colleges: No. 68. Alternative funding sources* (pp. 67-73). San Francisco: Jossey-Bass.
-

- McGuire, W. G. (1978). Emerging trends in state support. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp.15-26). San Francisco: Jossey-Bass.
- Medsker, L. L. (1960). *The junior college: Progress and prospect*. New York: McGraw-Hill.
- Medsker, L. L., & Tillery, D. (1971). *Breaking the access barriers: A profile of two-year colleges*. New York: McGraw-Hill.
- Menand, L. (1997) Re-imagining liberal education. In Orrill, R. (Ed.), *Education and democracy: Re-imagining liberal learning in America* (pp. 1-19). New York: College Entrance Examination Board.
- Merrill, M., & Wilentz, S. (Eds.). (1993). *The key of liberty: The life and democratic writings of William Manning, "A laborer," 1747-1814*. Cambridge, MA: Harvard University Press.
- Metzger, W. P. (1987). Academic freedom in delocalized academic institutions. In P. G. Altbach & R. O. Berdahl (Eds.), *Higher education in American society* (Rev. ed., pp. 59-75). Buffalo, NY: Prometheus Books.
- Miller, L. S. (1994). Community college resource development: Foundations and fund-raising. In G. A. Baker, III, J. Dudziak, & P. Tyler (Eds.), *A handbook on the community college in America: Its history, mission, and management* (pp. 360-374). Westport, CT: Greenwood Press.
- Miller, M. T. (1995). Administrator opinions of budgeting and funding formula use in community colleges. *Community College Journal of Research and Practice*, 19(2), 109-115.
-

- Mintzberg, H. (1994). *The rise and fall of strategic planning: Reconceiving roles for planning, plans, planners*. New York: The Free Press.
- Morrow, J. L. Jr., & Hitt, M. A. (2000). Rational and political models of strategic decision making: Understanding the role of firm performance and stakeholder political pressure. In Rabin, J., Miller, G. J., & Hildreth, W. B. (Eds.). *Handbook of strategic management* (pp. 165-179). New York: Marcel Dekker.
- Morsch, W. (1971). *State community college systems: Their role and operation in seven states*. New York: Praeger.
- Myers, A. F., & Williams, C. O. (1948). *Education in a democracy* (3rd ed.). New York: Prentice-Hall.
- National Center for Education Statistics. (1990). *Integrated postsecondary education data system: 1989-90 Finance survey*. U.S. Department of Education. Retrieved December 2001 from the World Wide Web: <http://www.nces.ed.gov/ipeds/pas>.
- National Center for Education Statistics. (1995). *Integrated postsecondary education data system: 1994-95 Finance survey*. U.S. Department of Education. Retrieved December 2001 from the World Wide Web: <http://www.nces.ed.gov/ipeds/pas>.
- National Center for Education Statistics. (2000). *Integrated postsecondary education data system: 1999-2000 Finance survey*. U.S. Department of Education. Retrieved December 2001 from the World Wide Web: <http://www.nces.ed.gov/ipeds/pas>.
- Nelson, A. R. (2001). *Education and democracy: The meaning of Alexander Meiklejohn, 1872-1964*. Madison, WI: The University of Wisconsin Press.
-

- Neufeld, B. (1999). Conceptual distinctions in university planning. In M.W. Peterson, L.A. Mets, A. Trice, D.D. Dill, & B.A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 50-59). Needham Heights, MA: Pearson.
- Nigliazzo, M. A. (1986). The fading vision of the open door. In B. W. Dziech, (Ed.). *New directions for community colleges: No. 53. Controversies and decision making in difficult economic times* (pp. 41-46). San Francisco: Jossey-Bass.
- O'Connell, T. E. (1968). *Community colleges: A president's view*. Urbana, IL: University of Illinois Press.
- Orrill, R. (Ed.). (1997). *Education and democracy: Re-imagining liberal learning in America*. New York: College Entrance Examination Board.
- Pangle, L. S., & Pangle, T. L. (2000). What the American founders have to teach us about schooling for democratic citizenship. In L. M. McDonnell, P. M. Timpane, & R. Benjamin (Eds.), *Rediscovering the democratic purposes of education* (pp. 21-46). Lawrence, KS: University Press of Kansas.
- Parnell, D. (1985). *The neglected majority*. Washington, DC: Community College Press.
- Peterson, M.W. (1999a). Analyzing alternative approaches to planning. In M.W. Peterson, L.A. Mets, A. Trice, D.D. Dill, & B.A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 11-49). Needham Heights, MA: Pearson.
- Peterson, M.W. (1999b). Using contextual planning to transform institutions. In M.W. Peterson, L.A. Mets, A. Trice, D.D. Dill, & B.A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 60-78). Needham Heights, MA: Pearson.
- Peterson, M. W., & Dill, D. D. (1999). Understanding the competitive environment of the postsecondary knowledge industry. In M. W. Peterson, L. A. Mets, A. Trice, D. D.
-

- Dill & B. A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 158-175). Needham Heights, MA: Pearson.
- Pfeffer, J. (1982). *Organizations and organizational theory*. Boston: Pitman.
- Pfeffer, J. (1997). *New directions for organization theory: Problems and prospects*. New York: Oxford University Press.
- Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: A resource dependency perspective*. New York: Harper & Row.
- Phillippe, K., & Eblinger, I. R. (1998). *Community college foundations: Funding the community college future* (Report No. AACC-RB-98-3). Washington, DC: American Association of Community Colleges. (ERIC Document Reproduction Service No. ED424885)
- Pokrass, R. J. (1989). Alumni: Friends and funds for your institution. In J. L. Catanzaro, & A. D. Arnold (Eds.), *New directions for community colleges: No. 68. Alternative funding sources* (pp. 29-34). San Francisco: Jossey-Bass.
- President's Commission on Higher Education. (1947). *Higher education for American democracy: A report* (Vols. 1-6). Washington, DC: U.S. Government Printing Office.
- Presley, J.B., & Leslie, D.W. (1999). Understanding strategy: An assessment of theory and practice. In M.W. Peterson, L.A. Mets, A. Trice, D.D. Dill, & B.A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 79-106). Needham Heights, MA: Pearson.
- Ratcliff, J. L. (1994). Seven streams in the historical development of the modern American community college. In G. A. Baker, III, J. Dudziak, & P. Tyler (Eds.). *A handbook on*
-

- the community college in America: Its history, mission, and management* (pp. 3-16).
Westport, CT: Greenwood Press.
- Rayner, B. L. (1832). *Sketches of the life, writings, & opinions of Thomas Jefferson*. New York: A. Francis & W. Boardman.
- Richardson, R. C., Jr. (1968). *The interim campus: Starting new community junior colleges*. Washington, DC: American Association of Junior Colleges.
- Richardson, R. C., Jr. (1978). Adapting to declining resources through planning and research. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp. 67-74). San Francisco: Jossey-Bass.
- Richardson, R. C., Jr. (1988). The presence of access and the pursuit of achievement. In J. S. Eaton, *Colleges of choice: The enabling impact of the community college* (pp. 25-46). New York: Macmillan.
- Richardson, R. C., Jr., & Leslie, L. L. (1980). *The impossible dream? Financing community college's evolving mission*. Washington, DC: American Association of Community and Junior Colleges.
- Roueche, J. E., & Baker, G. A., III. (1987). *Access & excellence: The open-door college*. Washington, DC: Community College Press.
- Roueche, J. E., Roueche, S. D., & Johnson, R. A. (2002, April/May). Facing the challenges. *Community College Journal*, 72(5), 10-14.
- Rowley, D. R., & Sherman, H. (2001). *From strategy to change: Implementing the plan in higher education*. San Francisco: Jossey-Bass.
- Rudolph, F. (1990). *The American college & university: A history*. Athens, GA: The University of Georgia Press.

- Russell, D. A. (2001). Leveraging resources through strategic alliances for workforce development. *Community College Journal of Research and Practice*, 25(9) 703-714.
- Ryan, G. J. (1989). The community college foundation today: Reasons for success. In J. L. Catanzaro, & A. D. Arnold (Eds.), *New directions for community colleges: No. 68. Alternative funding sources* (pp. 15-20). San Francisco: Jossey-Bass.
- Schmaedick, G. L. (1993). Introduction: Do nonprofit organizations need cost-effectiveness analysis? In G. L. Schmaedick (Ed.), *Cost-effectiveness in the nonprofit sector: Methods and examples from leading organizations* (pp. 1-17). Westport, CT: Quorum Books.
- Schmidtlein, F.A., & Hilton, T.H. (1999). College and university planning: Perspectives from a nation-wide study. In M.W. Peterson, L.A. Mets, A. Trice, D.D. Dill & B.A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 107-119). Needham Heights, MA: Pearson.
- Scott, W. R. (1995). *Institutions and organizations*. Thousand Oaks, CA: SAGE.
- Seater, B. (1995). *Financial decision making during economic contraction: The special case of community colleges* (Report No. JC 950 351). Princeton, NJ: Mid-Career Fellowship Program. (ERIC Document Reproduction Service No. ED384391)
- Severance, J. B. (1998). *Thomas Jefferson: Architect of democracy*. New York: Clarion Books.
- Slaughter, S., & Leslie, L. L. (1997). *Academic capitalism: Politics, policies, and the entrepreneurial university*. Baltimore: The Johns Hopkins University Press.
-

- Smith, R. K. (1994). Building budgets for effective resource utilization. In G. A. Baker, III, J. Dudziak, & P. Tyler (Eds.), *A handbook on the community college in America: Its history, mission, and management* (pp. 350-359). Westport, CT: Greenwood Press.
- Snyder, T. D. & Hoffman, C. M. (2002, February). *Digest of education statistics, 2001*. National Center for Education Statistics. Office of Educational Research and Improvement. U.S. Department of Education. Retrieved April 6, 2002 from the World Wide Web: <http://nces.ed.gov/pubs2002/2002130c.pdf>
- Sporn, B. (1999). *Adaptive university structures: An analysis of adaptation to socioeconomic environments of US and European universities*. Philadelphia: Jessica Kingsley.
- SPSS Base 10.0 Applications Guide*. (1999). Chicago: SPSS.
- Starrak, J. A., & Hughes, R. M. (1954). *The community college in the United States*. Ames, IA: The Iowa State College Press.
- Stringer, W. L., Cunningham, A. F., Merisotis, J. P., Wellman, J. V., & O'Brien, C. T. (1999, August). *Cost, price, and public policy: Peering into the higher education black box*. The Institute for Higher Education Policy. USA Group Foundation New Agenda Series. Retrieved August 21, 2000 from the World Wide Web: <http://www.usagroup.com/foundation/blackbox.htm>
- Stumph, Wayne J. (1985). Auxiliary and service enterprises. In D. Campbell (Ed.), *New directions for community colleges: No. 50. Strengthening financial management* (pp. 65-71). San Francisco: Jossey-Bass.
- Sussman, H. M. (1978). Institutional responses to reduced resources. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp. 35-43). San Francisco: Jossey-Bass.

- Swail, W. S. (2002, July/August). Higher education and the new demographics: Questions for policy. *Change* 34(4), 15-23.
- The Institute for Higher Education Policy. (1998, March). *Reaping the benefits: Defining the public and private value of going to college*. Washington, DC: The Institute for Higher Education Policy. Retrieved June 19, 2002 from the World Wide Web: <http://www.ihep.com/Pubs/PDF/Reap.pdf>
- The Institute for Higher Education Policy. (1999, February). *The tuition puzzle: Putting the pieces together*. Washington, DC: The Institute for Higher Education Policy. Retrieved August 30, 2000 from the World Wide Web: <http://www.ihep.com/puzzle.pdf>
- Thomas, H. (1996). Strategic planning. In E. Warner & D. Palfreyman (Eds.). *Higher education management: The key elements* (pp. 33-46). Bristol, PA: Society for Research into Higher Education and Open University Press.
- Tillery, D., & Deegan, W. L. (1985). The evolution of two-year colleges. In W. L. Deegan, D. Tillery, & Associates. *Renewing the American community college: Priorities and strategies for effective leadership* (pp. 3-33). San Francisco: Jossey-Bass.
- University of San Francisco. (2002). *2001 Inflation report*. San Francisco, CA: University of San Francisco. Retrieved November 12, 2002 from the World Wide Web: <http://www.usfca.edu/budget/FY00InflationReport/cpi2001.html>
- Valentine, E. P. (1991). *Strategic management in education: A focus on strategic planning*. Boston: Allyn and Bacon.
- Vaughan, G. B. (1983). *Issues for community college leaders in a new era*. San Francisco: Jossey-Bass.
-

- Vaughan, G. B. (2000). *The community college story: A tale of American innovation* (2nd ed.). Washington, DC: Community College Press.
- Veysey, L. R. (1965). *The emergence of the American university*. Chicago: The University of Chicago Press.
- Voogt, A. C., & Volkwein, J. F. (1997). *A longitudinal study of institutional autonomy in thirty community colleges*. Tallahassee, FL: Association for Institutional Research. (ERIC Document Reproduction Service No. ED410861)
- Wajngurt, C., & Jones, E. B. (1993). State financing, enrollment, and tuition rates of public community colleges. *Community College Journal of Research and Practice*, 17(3), 249-256.
- Warford, L. J. (2001, Decemer/2002, January). Funding lifelong learning: A national priority. *Community College Journal*, 72(3), 15-18, 23.
- Watkins, T. C. (1998). Instructional costs at public community colleges. *Community College Journal of Research and Practice*, 22(5), 479-489.
- Watkins, T. C. (2000). Public community college revenues, 1989-1994. *Community College Journal of Research and Practice*, 24(2), 95-106.
- Wattenbarger, J. L. (1978). The dilemma of reduced resources: Action or reaction. In R. L. Alfred (Ed.), *New directions for community colleges: No. 22. Coping with reduced resources* (pp. 61-66). San Francisco: Jossey-Bass.
- Wattenbarger, J. L. (1985). Community college mission and finance. *Community and Junior College Journal*, 55(5), 64-65.
- Wattenbarger, J. L. (1994). Resource development in the community college: The evolution of resource policy development for community colleges as related to support from
-

- local, state, and federal governments. In G. A. Baker, III, J. Dudziak, & P. Tyler (Eds.), *A handbook on the community college in America: Its history, mission, and management* (pp. 333-339). Westport, CT: Greenwood Press.
- Wattenbarger, J. L., & Cage, B. N. (1974). *More money for more opportunity*. San Francisco: Jossey-Bass.
- Wattenbarger, J. W., & Starnes, P. M. (1976). *Financial support patterns for community colleges*. Gainesville, FL: Institute of Higher Education, University of Florida.
- Wattenbarger, J. L., & Stepp, W. F. (1978). *Financing community colleges*. Gainesville, FL: Florida University, Institute of Higher Education. (ERIC Document Reproduction Service No. ED175518)
- Wattenbarger, J. L., & Vader, N. J. (1986). Adjusting to decreased revenues at community colleges in 1985. *Community College Review*, 13(4), 20-26.
- Whiteley, J. A., Porter, J. D., Morrison, J. L., & Moore, N. (1999). Developing scenarios: Linking environmental scanning and strategic planning. In M.W. Peterson, L. A. Mets, A. Trice, D. D. Dill, & B. A. Jones (Eds.), *ASHE reader on planning and institutional research* (pp. 344-353). Needham Heights, MA: Pearson.
- Witt, A. A., Wattenbarger, J. L., Gollattscheck, J. F., & Suppiger, J. E. (1994). *America's community colleges: The first century*. Washington, DC: American Association of Community Colleges.
- Zeiss, P. A. (2002, June/July). Weathering the storm: Besieged by funding cuts, community colleges must get creative. *Community College Journal*, 72(6), 13-14.
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