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Variables influencing the use of institutional outcomes assessment results in institutional decision-making: an attitudinal survey of chief academic officers from public two-year institutions in the North Central region

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Variables influencing the use of institutional outcomes assessment results in institutional decision-making: An attitudinal survey of chief academic officers from public two-year institutions in the North Central region

by

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For the Major Program

For we are God's workmanship, created in Christ Jesus to do good works,

which God prepared in advance for us to do.

Ephesians 2:10

By the sovereign grace of God I have completed this doctoral dissertation and degree.

Praise, honor and glory to Him who grants life and wisdom to His children.

This work is dedicated to the glory of His kingdom.

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ABSTRACT

Successfully completing the assessment process and using the resulting findings to inform institutional decision-making processes is one of the most difficult, least understood, and least researched phases of the assessment process. Difficult though it may be, closing the loop, as it is commonly called, is necessary for improvement to occur. Accreditation agencies recognize the importance of closing the loop and now mandate that institutions document how the results of the assessment process are being used for institutional improvement. This exploratory study sought to identify which areas of institutional decision-making the results of the assessment process are being used in the most/least and how extensively the following five variables (called collectively the "BLCCK Variables," pronounced 'block') influence the use of such results: 1) funds budgeted for assessment; 2) upper administration's leadership in/support of assessment; 3) institutional assessment culture; 4) institutional communication regarding assessment; and, 5) assessment leadership's knowledge of assessment. This study is based on the premise that successful implementation of an outcomes assessment plan is dependent upon the continuous completion of an outcomes assessment process, including using the results to inform institutional decision-making. Chief academic officers of community colleges accredited by the North Central Association Higher Learning Commission primarily provided the data for this research. Of the 302 chief academic officers surveyed, 216 (72%) responded. This study identified 20 areas of institutional decision-making in which the results of the assessment process are used. Analysis of the data revealed that results are most used in: 1) curriculum planning/evaluation; 2) improvement of teaching and learning; 3) program evaluation; and, 4) reports to

accrediting agencies and upper-level administration. Areas in which results are least used include: 1) gift solicitation; 2) student recruitment; 3) job placement of graduates; and, 4) faculty evaluation and hiring. Further, the findings revealed that all of the BLCCK Variables significantly impact the use of assessment results in institutional decision-making with institutional assessment culture and assessment budget most impacting the use of results. This study is significant because institutions of higher education throughout the United States are struggling to successfully complete the assessment process.

CHAPTER ONE – OVERVIEW OF THE STUDY

Introduction

"Closing the Loop" in Outcomes Assessment

"Closing the loop" is a commonly used phrase in discussing any number of cyclical processes in higher education. One such process where this phrase describes what some would call the elusive epitome of the process is outcomes assessment. A recognized activity on today's college campuses, regardless of size, affiliation, classification, or type (Hall, 1995), "Assessment is the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences; *the process culminates when assessment results are used to improve subsequent learning"* [italics added] (Huba & Freed, 2000, p. 8). In *using assessment results*, faculty are able to refocus their efforts to make their teaching and the students' learning more efficient and effective (Angelo & Cross, 1993; Cress, 1996; Maki, 2002; Pollicino & Hall, 1998).

However, closing the loop is the most difficult, least understood, and least researched phase of the assessment process (Barak & Sweeney, 1995; Gray, 1997; Griffith, Day, Scott, & Smallwood, 1996). Korrell Kanoy aptly sums up this quandary: "Perhaps the hardest part of any assessment effort is the most important part: using the results in a way that facilitates positive change on campus" (1992, p. 6). Maki amplifies this statement by not just stating that using the results is the hardest part of assessment, but going on to state that, "Assessment is certain to fail if an institution does not develop channels that communicate assessment interpretations and proposed changes to its centers of institutional decision-making, planning, and budgeting" (2002, p. 5). However, if an institution can *successfully* use the results of the

assessment process to close the loop, "... the assessment cycle begins anew to discover if proposed changes or innovations do improve student achievement" (Maki, 2002, p. 5).

Brief Description of the Research

This dissertation is based upon exploratory research conducted by the student researcher using data she collected with a survey of chief academic officers on institutional assessment practices. The sample surveyed included 302 chief academic officers of two-year institutions of higher education (community colleges) recognized by the North Central Association Higher Learning Commission (NCA-HLC). The NCA-HLC is one of six regional institutional accrediting associations in the United States. Through its Commission it accredits, and thereby grants membership to, over 1,000 institutions of higher education in the nineteen-state North Central region: Arkansas, Arizona, Colorado, Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, North Dakota, Nebraska, Ohio, Oklahoma, New Mexico, South Dakota, Wisconsin, West Virginia, and Wyoming. The NCA-HLC is recognized by the U.S. Secretary of Education and the Council on Higher Education Accreditation.

Based on the assessment literature, this chapter describes a conceptual framework for analyzing community college administrator's ability to close the assessment loop, or use the results of an outcomes assessment program in institutional decision-making. Further, this chapter outlines the: significance of the research problem; rationale for the research; purpose of the research; and, research design, including the basic research questions and hypotheses. This chapter also develops the methodology by which the research proceeds to answer the research questions.

Significance of the Problem

One of the main tenets of outcomes assessment is the use of data to improve processes, improve quality, and affect future plans. If the loop is *not* closed, and assessment results are *not* used to improve processes, then assessment becomes an empty process and outcomes assessment activities are in vain (Ehrmann et al., 1998; Griffith et al., 1996). Outcomes assessment is purported to be one of the driving forces that guides institutional administration in creating an effective strategic plan and influencing other important institutional decision-making processes. Therefore, outcomes assessment needs to flow out of the institution's mission statement. Therein lies the dilemma perceived by the scholarly outcomes assessment community: Why is the linkage between outcomes assessment and important decisions made by upper-level administration so weak and/or nonexistent? Maki notes,

> These kinds of changes [decisions made based on outcomes assessment results] need to be recognized and addressed at an institution's highest decision-making levels to assure that an institution commits the appropriate finances or resources to enact the kinds of changes or innovations that interpretations identify.... Boards of trustees should also receive interpretations to inform the institution's strategic planning and budgeting. Accreditors are increasingly interested in learning about what an institution has discovered about student learning and how it intends to improve student outcomes. (2002, p. 5)

Because regional accreditation agencies now mandate that institutions of higher education document outcomes assessment activities, many faculty and administrators at all

levels are involved in the outcomes assessment process. However, those involved may find generating outcomes assessment results for the sake of satisfying accountability mandates pointless, tiresome, and taxing (Eaton & Miyare, 1995). This may be due to the common perception, found by most regional and discipline-specific accrediting agencies, that outcomes assessment is still a relatively new concept in higher education and still in the beginning stages. Therefore, the benefits of closing the loop have not yet been fully realized, i.e., using assessment results to inform decision-making (Banta, 2002; C. López, personal communication, January 30, 2003; P. Maki, personal communication, August 31, 2002).

Further, as noted by Cecelia López, former Director of Assessment of the NCA-HLC, the majority of institutions site visited by the NCA-HLC in the last five years have been cited with deficiencies in outcomes assessment, and at least half of those institutions have required special site visits focused on outcomes assessment (C. López, personal communication, January 30, 2003). The same has been found in the discipline specific accreditation realm, where approximately half of all dental hygiene education program site visit reports (resulting from on-site evaluations) reviewed by the Commission on Dental Accreditation of the American Dental Association contained at least one recommendation regarding a noted deficiency in outcomes assessment (Woldt, 2001). Therefore, it is surmised that outcomes assessment is a process that has not yet been mastered by or put into full use in higher education at this time. The rationale for this research, discussed in the next section, explains the researcher's interest in examining the basis of the previous statement and the ways in which this research will add to the assessment literature.

Rationale for the Research

Researcher's Personal Rationale

The researcher's desire to study this particular aspect of outcomes assessment stems from her experience in higher education and accreditation. She has worked directly with assessment efforts at the course instructor level and at the accreditation staff level. As Manager of Dental Hygiene Education for the American Dental Association Commission on Dental Accreditation (1994-1999), she became keenly aware of the struggles program and institutional administrators encounter in all phases of the outcomes assessment process. The American Dental Association represents nearly 150,000 dentists in the United States. Its Commission on Dental Accreditation recognizes over 1,500 dental education programs, including more than 260 dental hygiene education programs.

In her tenure at the American Dental Association, the researcher worked directly with assessment scholar Ann McCann, creator of the McCann Outcomes Assessment Cycle used extensively in this research and discussed later in this chapter. It was this experience and observation in her work that inspired her 2001 master's thesis titled, *Identification of Major Impediments Encountered by Dental Hygiene Education Program Directors in Conducting Programmatic Outcomes Assessment Activities.*

Since completion of her master's degree, the researcher has expanded her interest in and study of outcomes assessment to the institutional level. She worked most recently as a graduate assistant in the Office of the Vice Provost for Undergraduate Programs at Iowa State University, where her efforts were focused on staffing the University-Wide Assessment Committee, developing an assessment website, and managing assessment-related and regional accreditation projects. In this position, she worked directly with assessment scholar

Mary Huba, primary author of *Learner-Centered Assessment on College Campuses: Shifting the Focus From Teaching to Learning* (Huba & Freed, 2000).

The researcher's goal in conducting *this* study is to shed light on the use of outcomes assessment results in institutional decision-making – closing the loop. By surveying chief academic officers of public two-year institutions (community colleges) in the NCA-HLC region, it is hoped that information gleaned from this research will begin to fill the current gap in the literature.

Filling a Gap in the Literature

Over the past half century, much has been written about the program review process, which significantly parallels the outcomes assessment process. However, the literature is largely silent on using the results of outcomes assessment in *institutional* decision-making, and therefore merits further investigation. Because of the strong similarities between program review and outcomes assessment processes, Barak and Sweeney's extensive study of 452 institutions of higher education across the United States on the use of program review results in institutional decision-making can be viewed in light of the proposed research: "Less apparent in the literature is how program review relates to other decision-making processes on campus such as planning, budgeting, and … outcomes assessment" (1995, p. 3).

Generating assessment results in a vacuum is a legitimate concern among those involved in outcomes assessment processes. According to Ewell, assessment has become "… a 'train on its own track,' unconnected to other policy mechanisms. The same is occurring on many campuses with creation of a free-standing assessment bureaucracy with few links to the faculty or to real academic decision-making" (1989, p. 12).

Cope notes that if institutional decisions related to planning, budgeting, and institutional improvement are *not* tied to and viewed in light of institutional outcomes assessment results, then planning and resource management will improve college and university administration only marginally (1987). Further, current literature on outcomes assessment contains little information on impediments that prevent institutional administrators from successfully implementing institution-wide outcomes assessment programs. In her most recent work, *The Scholarship of Assessment,* Banta emphasizes the need for this type of research: "Research on assessment questions should identify the qualities, characteristics, or circumstances that inhibit or facilitate the use of assessment information" (2002, p. 65).

Because outcomes assessment programs and documentation are mandatory areas of compliance in the realm of accreditation, it can be assumed that institutions of higher education have developed written outcomes assessment plans. Therefore, the focus must now be on the implementation of these plans.

A factor for gauging the effectiveness of outcomes assessment is the extent to which results of outcomes assessment are used for meaningful purposes, such as institutional decision-making. Institutional researchers, administrators, and faculty would benefit by knowing more about outcomes assessment's role in institutional improvement and institutional decision-making (Barak & Sweeney, 1995).

Community College Emphasis.

The population for this study includes the nearly 1,000 public two-year institutions of higher education within the United States, also referred to as community colleges. Levin describes the community college as,

> ...an institution of choice not only for a large sector of the college population but also as a target for social and economic policy, such as the Clinton administration's welfare-to-work and workforce policies. The multiple functions and broad mission of the community college have no doubt made the institution susceptible to change as well as a receptacle of educational trends, from learning paradigms to assessment movements. This predisposition to change also shows us that broad social movements and national and regional cultures are part of the community college's environment...its responsive and adaptive qualities, its malleability and its proclivity to embrace practice not theory, action not reflection, are defining features of its identity...As a living system, the community college acts and changes in order to express its nature and to survive (1998, pp. 3-4).

The five-fold mission of the community college, set forth at this movement's inception, is to:

1. Provide access to all segments of society;
2. Offer a broad selection of programs;
3. Serve as a community-based institution;
4. Emphasize teaching and learning; and,
5. Promote lifelong learning. (Vaughan, 2000)

Unique to the community college's mission is the emphasis on the student. This is where the assessment of student learning and the community college mission compliment one another. Huba and Freed note, "Assessment is a learner-centered movement which encourages us to focus on the student learning component of our teaching as it takes place

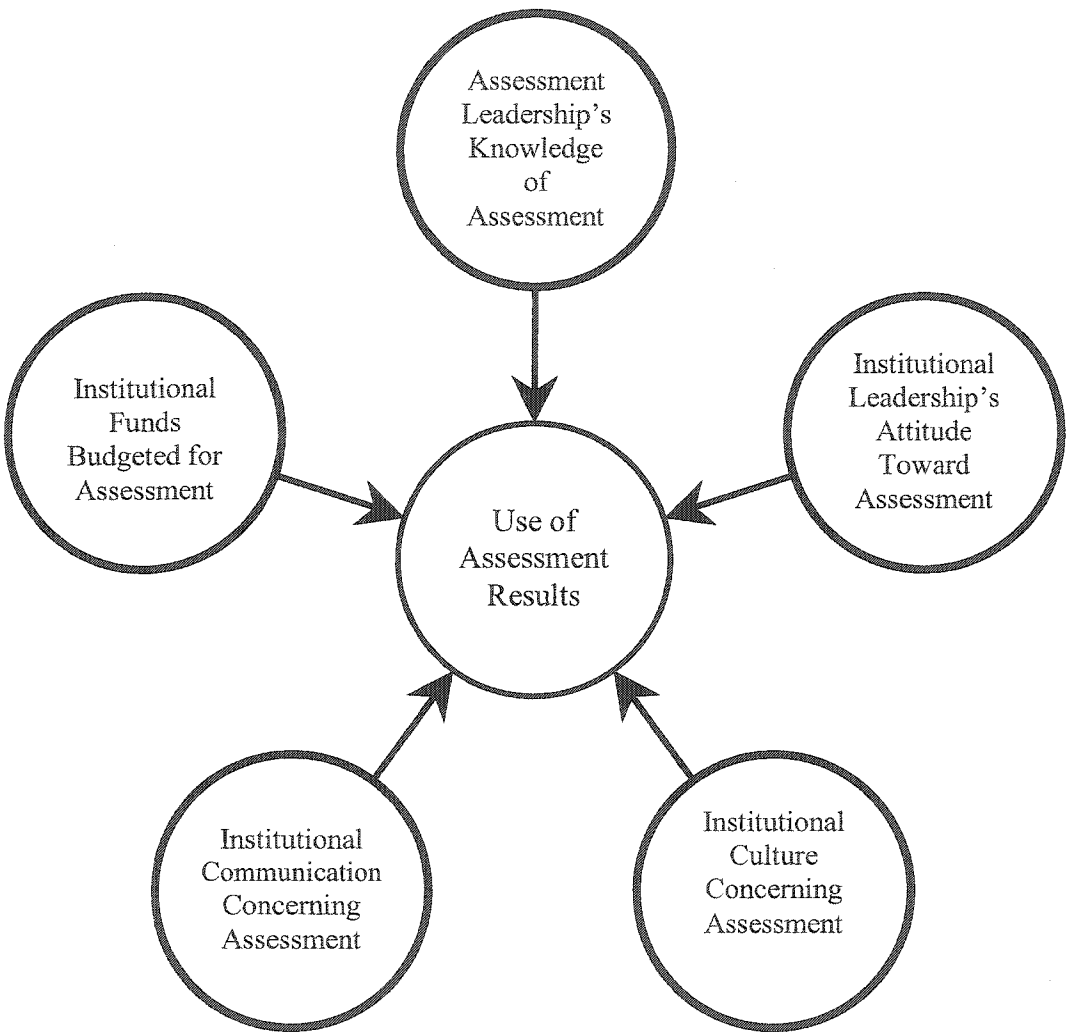
within the entire system of our institution and within the smaller systems of our academic programs and courses" (2000, p. 7).

The 1978 passage of California's Proposition 13 called for a higher level of public accountability for public institutions. According to Vaughan, "Community colleges have been in the forefront in adopting strategies for ensuring the most effective use of public funds in an era of fiscal constraint" (p. 36, 2000). These institutions are on the frontlines of change in American higher education making them more susceptible to "right-to-know" legislation. Further, they are mandated to demonstrate their compliance with such legislation. Thus, the time is ripe for a study of the institutional community college population's use of assessment results.

Variables Affecting the Use of Assessment Results.

Many variables influence the use of outcomes assessment results in institutional decision-making. Based on the theoretical context of a socially constructed learning organization, a framework of specific variables that either contribute to or inhibit the use of assessment results may be constructed. Some of these are resource-oriented in nature, such as budget and staffing. However, in conducting an extensive review of the literature presented in the next chapter, five variables emerged that primarily influence the use of outcomes assessment results in institutional decision-making: 1) assessment leadership's knowledge of the assessment process; 2) communication regarding assessment within the institution; 3) upper administration's support of assessment activities; 4) institutional culture regarding assessment; and, 5) funding provided for assessment activities (Fig. 1).

Figure 1. Variables Affecting the Use of Outcomes Assessment Results in Institutional Decision-Making in Institutions of Higher Education



Areas of Institutional Decision-Making.

Additionally, through the researcher's extensive study of outcomes assessment, the following 20 areas of institutional decision-making were defined (Fig. 2).

Figure 2. Areas of Institutional Decision-Making

Curriculum
- Curriculum planning
- Curriculum evaluation

Classroom
- Improving teaching
- Improving learning

Budget
- Budgeting process
- Grant proposals
- Gift solicitation

Institutional Improvement
- Program evaluation
- Strategic planning

Administrative
- Self-study reports to accrediting agencies
- Reports to external parties (e.g., trustees, regents)
- Reports to president or other upper administrators

Student
- Student recruitment
- Student retention
- Feedback to students
- Academic advising
- Job placement for graduates

Faculty
- Reports to faculty
- Faculty evaluation
- Hiring faculty

Purpose of the Research

The purpose of this research is to learn which areas of institutional decision-making the results of outcomes assessment are being used in and how extensively the five defined variables influence the use of such results. Such research will ultimately inform higher education institutional administrators in how they can use the results of outcomes assessment programs effectively. This research also will prove useful to regional accrediting agencies, as they will gain better insight into their member institutions' perceptions of progress in outcomes assessment as well as challenges faced by their member institutions in outcomes assessment. Further, this research provides a basis for educational workshops for institutional administrators, faculty, and staff on successfully employing the findings of outcomes assessment programs. According to Huba and Freed, "... [E]fforts to promote student-

centered teaching and assessing should be made at the academic program and institutional levels, as well as at the level of the individual professor or course" (2000, p. 6).

The variables described in the preceding section were drawn from the assessment literature. Identifying these variables and relating them through the model depicted in Figure 1 led to development of the research questions.

Research Questions

The following research questions were constructed for examination in this study.

1. How does assessment leadership's expertise in assessment affect the use of assessment results in institutional decision-making?
2. How does institutional communication concerning assessment affect the use of assessment results in institutional decision-making?
3. How does upper administration's acceptance and support of assessment affect the use of assessment results in institutional decision-making?
4. How does an institution's culture regarding assessment affect the use of assessment results in institutional decision-making?
5. How does institutional spending on assessment affect the use of assessment results in institutional decision-making?

Hypotheses

In exploring the research questions, the following research hypotheses were constructed to compare relationships between the variables being studied.

1. There is a relationship between community college chief academic officer's level of **knowledge** of assessment and the **use of assessment results in institutional decision-making**.
2. There is a relationship between the effectiveness of **communication** within a community college concerning assessment and the **use of assessment results in institutional decision-making**.
3. There is a relationship between community college institutional **leadership's** support of assessment and the **use of assessment results in institutional decision-making**.
4. There is a relationship between the supportive nature of a community college's institutional **culture** regarding assessment and the **use of assessment results in institutional decision-making**.
5. There is a relationship between the amount a community college **budgets** for assessment and the **use of assessment results in institutional decision-making**.

Outcomes Assessment Cycle

The theoretical model used in the discussion of the outcomes assessment process in exploring the hypotheses, i.e., providing an interpretive framework for the study, is based upon the outcomes assessment cycle developed by Ann McCann, MS, Director of Assessment for the Assessment Center for Health Professions Education in the Baylor College of Dentistry at Texas A&M University. Although several other assessment cycles and models exist, this one is used primarily because of its detail and the researcher's familiarity with it. Other assessment cycles, such as the Huba and Freed model, will be used for amplification and clarification purposes.

Circular in nature, the McCann-based cycle, noted in Figure 3, begins (and ends) with determining the mission, goals, and strategic plan for the institution – Phase 1.

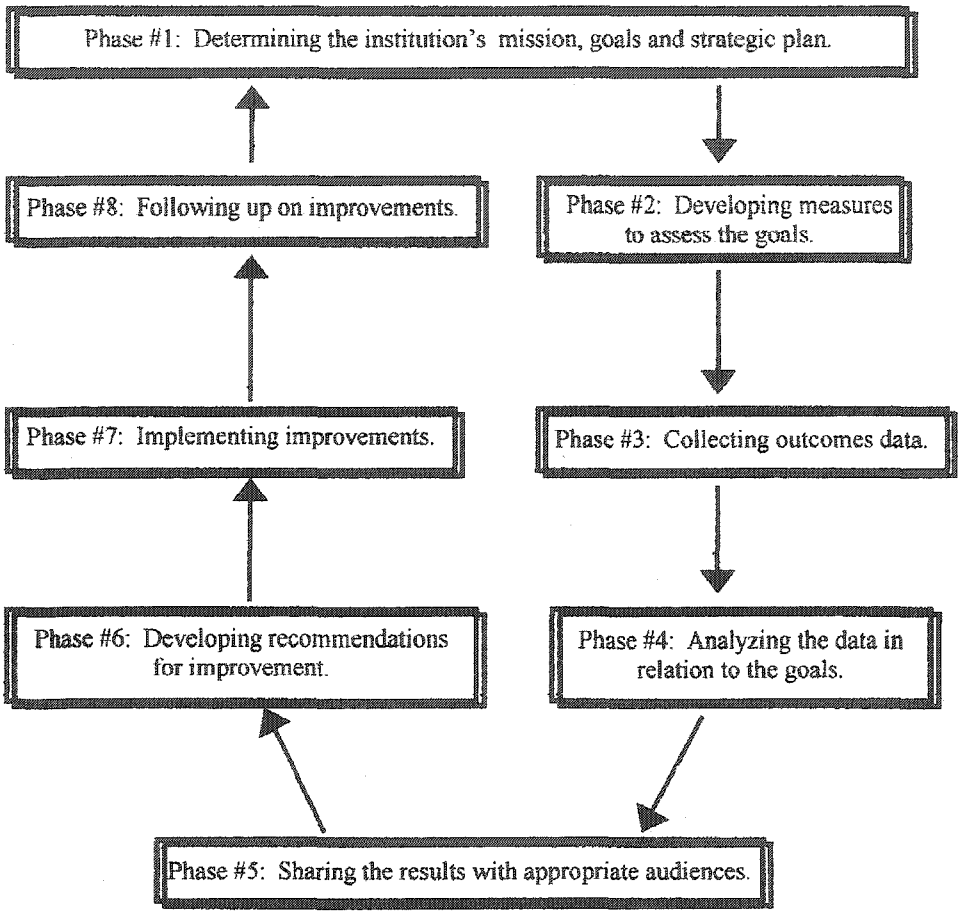


Figure 3. Outcomes Assessment Cycle

"These [mission, goals, and strategic plan] are the foundation for the process, and they must be continually redefined in light of the data derived from assessment" (McCann, 1994, p. 1). Once the goals of the institution have been established, measures to assess the outcomes of the goals must be developed – Phase 2. Measures to assess these outcomes include, for example: surveys of students, faculty, alumni, and employers of graduates; course completion rates; graduation rates; attrition rates; and, critical reviews of strategic plans, long-range plans, and budget plans. The administration of outcomes measures comprises

Phase 3, collecting outcomes data. The primary mission in analyzing the data, Phase 4, is to reflect on the goals set in Phase 1 and determine whether or not these goals are being met. This is the main criterion for analysis. In Phase 5, "Feedback regarding the results is presented to and solicited from internal groups (administration, faculty, students, staff) and external groups (alumni, [regents], legislators, the public)" (McCann, 1994, p. 2). These internal and external groups will propel administration into Phase 6, where recommendations for improvement are developed. Phase 7, therefore, is the implementation of these recommendations. Finally, Phase 8 is thoroughly and objectively reviewing the previous seven phases to determine if the goals established in Phase 1 need to be redefined. McCann illustrates Phase 8 – following up on the improvements – as follows: If, in reviewing the data from the assessment process it is determined that a specific procedure or procedures now used by institutional administration are no longer required, then revisions to the mission, goals, and strategic plan (Phase 1) must be made.

McCann's model and others delineate a theory of the outcomes assessment process, including a theory of using the results. They recognize that use of evaluation results is instrumental in making direct decisions about institutions based on the results of outcomes assessment programs. This research will focus primarily on the latter half of the McCann cycle, using the results of the outcomes process.

The last phase of the Huba and Freed cycle (the fourth element) is Discussion and Use of Assessment Results to Improve Learning:

> At the program or institutional level, discussions take place among the faculty as a whole. Through our discussions of assessment results, we gain insights into the type of learning occurring in the program, and we are better able to

> make informed decisions about needed program changes. We understand what students can do well and in what areas they have not succeeded. We raise questions about the design of the curriculum or about the teaching strategies we use (in Walvoord, Bardes, & Denton, 1998). We also develop a better understanding of how to assess learning in a useful manner. (2000, p. 15)

Constitutive, Operational, and Other Definitions

The construct for this study is *outcomes assessment*, which is constitutively defined as "...the process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand, and can do with their knowledge as a result of their educational experiences; *the process culminates when assessment results are used to improve subsequent learning"* [italics added] (Huba & Freed, 2000, p. 8). *Outcomes assessment* at the institutional level is defined operationally for this study as a process used by institutional administrators to determine if the institutional plan to assess student learning is being implemented/attained.

The *outcomes assessment process* is characterized by the outcomes assessment cycle noted in Figure 3, based on McCann's cycle. An *outcomes assessment plan* is defined as the written documentation detailing the mechanisms used by an institution to implement the outcomes assessment process.

Outcomes assessment results will refer to findings generated from an outcomes assessment process, e.g., see Phase 6 of the McCann-based cycle, Developing Recommendations for Improvement.

The chief academic officer and *assessment leadership* will refer to those individuals who are primarily responsible for the administrative aspects of an institutional outcomes assessment plan.

Upper administration, institutional administrators and *institutional leadership* will refer to those individuals within an institution of higher education who hold upper-level positions, such as, president, vice president, provost, vice provost, chancellor, chief financial officer, and chief academic officer.

Impediments will refer to hindrances that affect institutional administrators' ability/efforts to complete the outcomes assessment process successfully.

Community colleges will refer to public two-year institutions of higher education that are regionally accredited and offer associate degrees as the highest degree granted (Vaughn, 2000).

Standards and *requirements* will refer to those criteria used by institutional, regional, and specialized accrediting agencies with which accredited institutions or programs have agreed to comply.

Scholarly assessment community will refer to academicians who are experts in the field of outcomes assessment (assessment scholars), as well as those administrators and faculty who are interested in assessment and are responsible for assessment activities at any level, and national organizations with platforms that focus on assessment.

Assumptions

The primary assumption made for this study is that community colleges have a written outcomes assessment plan and are working actively to implement it. This assumption is imperative to this study because of findings in reports such as the 1995 Outcomes

Assessment Survey, wherein the Commission on Higher Education of the Middle States Association of Colleges and Schools (a regional accrediting agency) reported that, at the time, over half of the 337 institutions of higher education surveyed did not have an outcomes assessment plan. This is of major concern as it is apparent that many institutions do not satisfy the scholarly assessment community's presumptive viewpoint that all institutions have some type of institutional outcomes assessment program in place (Patton, Dasher-Alston, Ratteray, & Kait, 1996). In a personal communication with Middle States Association staff, it was noted that there were no imminent plans to conduct the aforementioned Outcomes Assessment Survey in the near future because they felt that the results would not be significantly different than the 1995 survey results (O. Ratteray, personal communication, November 17, 2001).

> Further, in a 1998 study of institutional outcomes assessment, Brandt notes that, Assessment and evaluation are an important part of the institutional effectiveness process, but without demonstrating how these results were used to provide continuous improvement, many might argue that the effort had little value. Overall, the majority of the institutions indicated that they had improved their institutional effectiveness process, but many still indicated they had not fully implemented a complete process. (p. 12)

Other assumptions made for this study are: 1) community colleges are striving to use the results of outcomes assessment in institutional decision-making, or, close the loop; 2) many community colleges have advanced in their outcomes assessment processes so that they have completed the outcomes assessment cycle at least once and are attempting to use the results of institutional outcomes assessment in institutional decision-making;

3) chief academic officers have the power to implement change in this particular educational setting to be studied (community colleges); 4) chief academic officers are able to see the broad picture of outcomes assessment in relation to their institutions; and, 5) findings from this study are generalizable to all community colleges nationwide and, to some extent, to all institutions of higher education nationwide.

Limitations

Although many community colleges may be striving to close the loop, many may also be bogged down in the earlier phases of the outcomes assessment cycle, e.g., developing assessment measures or collecting data. Additionally, some institutions may not start the assessment cycle at Phase 1 (the beginning), but may enter the cycle abruptly at a later phase because of time constraints and upcoming accreditation site visits; therefore, the institution's mission and goals are not guiding the outcomes assessment process. Mentkowski states,

> … [W]e tend to go at assessment piecemeal. I think we understand why that happens: When we're starting up assessment at the institutional level, we often have just these broad mission statements to go by. So we get something going over here and something else over there … it becomes a scatter plot design, where you can't draw relationships between any of these pieces or link them to a set of explicit assumptions about how students learn and how you want them to 'turn out.' Instead, what we want is a *connect-the-dots* picture, where if you work carefully, you actually can find the elephant. To be able to connect the dots, we need to think about our goals, yes, but also our purposes, values, and underlying philosophy" (Mentkowski, Astin, Ewell, & Moran, 1991, p. 12).

Another limitation to this study is that only chief academic officers of community colleges were surveyed. Any generalizations of the research to all institutions of higher education must contain the caveat that public/private four-year colleges and universities, and private two-year colleges operate differently than do public two-year institutions. Further, since there are six regional accreditation agencies recognized by the U.S. Department of Education, results from this study are not fully generalizable to institutions throughout the United States:

> ... [B]ecause accreditation criteria vary from one region to another, the degree to which institutions in these regions have implemented procedures designed to assess and improve institutional effectiveness also varies. Furthermore, the degree to which institutional effectiveness criteria are actually enforced by regional institutional accreditation bodies also varies (as cited in Simmons, 1991). (Hoey, 1995, p. 45)

Finally, as was noted by the researcher through conversations with assessment scholars and through an extensive review of the literature, which will be explored in the next chapter, academicians' views of outcomes assessment run the gamut from thinking assessment is a new phenomenon to thinking assessment is an old educational philosophy. Therefore, the academic community's level of expectation regarding implementation of an outcomes assessment program varies widely, with personal reactions usually falling into one of two categories: 1) academia must be wary of fads because true educational reform takes a long time; or, 2) academia has been too slow in embracing the assessment movement. For the purposes of this study, a longer history of involvement and a greater intensity of involvement

is assumed to increase the likelihood that institutions will develop assessment plans and use assessment results to make decisions that lead to improvement.

Summary

Much research has been conducted on leadership, communication, budgeting and institutional culture as individual variables affecting higher education. There is also a less extensive body of literature that focuses on how these variables in particular affect the assessment process at the institutional level.

More so now than ever, the majority of institutions have assessment plans and are in the throes of implementing them due in large part to accreditation mandates. With this in mind, research on closing the assessment loop can *now* finally be conducted. It is hoped that this research will serve the purposes of the "scholarship of assessment" for which Banta (2002) makes a plea in her latest work:

> The scholarship of assessment is systematic inquiry designed to deepen and extend the foundation of knowledge underlying assessment. It involves basing studies on relevant theory and/or practice, gathering evidence, developing a summary of findings, and sharing those findings with the growing community of assessment scholars and practitioners.... [t]he scholarship of assessment in higher education is still relatively rare. (p. x)

The purpose of this research is to study which areas of institutional decision-making the results of outcomes assessment are being used in and how extensively the following five variables influence the use of such results: 1) assessment leadership's knowledge of the assessment process; 2) communication regarding assessment within the institution; 3) upper administration's support of assessment activities; 4) institutional culture regarding

assessment; and, 5) funding provided for assessment activities. By surveying chief academic officers of NCA-HLC accredited community colleges, it is hoped that *this* exploratory research will ultimately inform higher education institutional administrators in how they can use the results of outcomes assessment programs effectively. This research also will prove useful to regional accrediting agencies, as they will gain better insight into their member institutions' perceptions of progress in outcomes assessment as well as challenges faced by their member institutions in outcomes assessment.

CHAPTER TWO – REVIEW OF THE LITERATURE

Introduction

This chapter provides a current review of the literature concerning closing the assessment loop. It begins with the historical and philosophical underpinnings of outcomes assessment, including history, evolution, and definitions. Next, literature pertaining to the clarity and focus of an institution's mission statement is discussed at length, as assessment has become an issue of public accountability carried out by accreditation agencies. It is in this section that literature about accreditation mandates of outcomes assessment is reviewed and discussed.

According to the literature, specific accreditation requirements now focus on the use of outcomes assessment results in institutional decision-making. However, to use the results successfully, institutional administrators often encounter impediments regarding what they perceive as a change in educational philosophy. The main factors from which these impediments to using assessment results in institutional decision-making stem are cited in the literature and include: administration and faculty acceptance and expertise of the assessment process, leadership within an institution, communication within an institution, the culture of an institution, and fiscal resources. There are, however, institutions that have used assessment results effectively in institutional decision-making, and these characteristics are highlighted in this review of the literature as well. Finally, the literature is reviewed concerning the importance of using institutional outcomes assessment results in institutional decision-making processes such as planning, budgeting, and institutional improvement. The content and layout of this chapter provided the researcher with an effective framework in which to conduct the study.

An Overview of the History and Evolution of Outcomes Assessment

With its philosophical roots in the evaluation movement of the 1960s and 1970s, the outcomes assessment movement within higher education started to gain momentum in the early 1980s. This was due in part as a response to a plethora of reports published in the early 1980s as a result of governmentally appointed commissions, committees, and task forces, such as, *To Strengthen Quality in Higher Education*, *A Nation at Risk*, *To Reclaim a Legacy*, *Access to Quality Undergraduate Education*, *Integrity in the College Curriculum*, and *Involvement in Learning* (Huba & Freed, 2000). These reports captured the essence of public and government dissatisfaction with education at that time. Huba and Freed further note that, "Concerns that college graduates did not have the skills and abilities needed in the workplace surfaced. The public and the politicians who represented them began to question the value of higher education. A movement to bring about reform in higher education – and education at all levels – began" (2000, p. 16). It was this questioning by the federal government, specifically of higher education's ability to provide the necessary quality assurances to the public through its own voluntary means (e.g., accreditation), that spurred the outcomes assessment movement at the student, program, and institutional levels. Everyone involved in higher education, from the institution's president to part-time adjunct faculty members, is now *accountable* for the students' education.

Over the last three decades, several professional organizations and foundations have sought to improve the educational and assessment processes as well. Organizations such as the American Association of Higher Education, the American Association of Colleges and Universities, the Education Commission of the States, and Pew Charitable Trusts all have published reports with seemingly radical calls for change for which outcomes assessment

appeared to be the answer (O'Banion, 1997). By 1989, about two-thirds of the states had developed policies that included key assessment concepts (Roueche, Johnson, Roueche, & Associates, 1997). Mentkowski et al. noted that, "By 1990, 82 percent of the colleges and universities surveyed by the American Council on Education had some form of assessment activity under way ..." (1991, p. i).

Outcomes Assessment Further Defined

Although outcomes assessment has many different meanings depending upon the setting in which it is used, Banta states that there are at least three meanings of assessment in education, with three different associated traditions of use:

1. The mastery-learning tradition – assessment refers to the processes used to determine an individual's mastery of complex abilities, generally through observed performance;
2. The large-scale assessment tradition – typical of K-12 examination programs wherein the primary objective is not to examine individual learning but rather to benchmark school and district performance in the name of accountability; and,
3. The program evaluation tradition – gathering evidence to improve curricula and pedagogy, with an emphasis on improvement. (2002)

Outcomes assessment in higher education today is most likened to Banta's third definition and emphasizes improvements. It is, "... as much about *using* the resulting information as it is about psychometric standards" (Banta, 2002, p. 9). More specifically, outcomes assessment is defined and recognized as a cyclical process in which the value and pertinence of stated institutional missions, and department, program, and course goals are

examined by gathering data relating to such missions and goals, then using the data to inform decisions pertaining to the institution, department, program, and course – thereby improving the quality and effectiveness of the institution, department, program, and course. Astin states that, "… assessment involves finding the means to measure the contribution of curriculum and other educational experiences to students" (Mentokowki et al., 1991, p. 5).

O'Banion (1997) defines and clarifies three key terms relating to outcomes assessment: *accountability* is the act of being responsible to various publics external to the institution or program for implementation of its mission; *institutional effectiveness* is an internal strategy for planning and evaluating that generates data by which the institution can determine if it is matching its performance to its purpose; and, *assessment* expands the effectiveness strategy by determining the degree to which an institution or program is meeting preset performance standards. O'Banion agrees that institutional effectiveness as a phenomenon can be identified legitimately as the engine that propels institutions toward identifying appropriate assessment strategies that, through implementation, will provide viable and sufficient evidence of institutional accountability.

Also helping to define further the assessment philosophy is the multilayered view by which Moskal (2001) describes assessment:

> This [outcomes assessment] process can be conceptualized as a pyramid in which the base is classroom assessment, the middle is departmental assessment, and the top is institutional assessment. As the pyramid narrows, the amount of information collected decreases. In other words, most assessment information can be collected at the classroom level, where instructors have direct interaction with students (as cited in Brookhart, 1999).

> The upper layers, departmental and institutional assessment, can then use the classroom information to supplement their own assessment activities. Thus, each level of the university assessment systems can be designed to build on the lower levels. (p. 10)

Using this depiction to view institutional outcomes assessment, it is apparent that the foundation of institutional outcomes assessment is built upon the institution's mission. Huba and Freed support this mission-based structure in that, "Course assessment and program/institutional assessment are interrelated, mutually supportive activities that must be developed in harmony in order to enhance student learning on a college campus" (2000, p. 78).

The Foundation of Institutional Assessment: The Institutional Mission Statement

If outcomes assessment is an expansion of institutional effectiveness, as proposed by O'Banion, then institutional mission statements are the foundation on which effective outcomes assessment programs are built. Therefore, effective implementation of an outcomes assessment program is vitally important in the fulfillment of the institutional mission (Cress, 1996; Maki, 2002; McCann, Babler, & Cohen, 1998; Tavernier, 1991). According to Angelo, Ewell, and López (1999), assessment must be focused on what matters most at an institution, which should be stated in the mission. Further, Huba and Freed note, "When assessment takes place at the institutional or academic program level rather than the course level, only the most important goals of the institution or program are addressed in assessment" (2000, p. 10).

Thus, the common components of outcomes assessment are: a sharpened mission statement and goals; identification of intended outcomes or results; and, establishment of

effective means of assessing the outcomes and results (Nichols, 1995). One of the major points uncovered in a pilot study conducted by Johnson (Roueche et al., 1997), in surveying 90 community colleges in 37 states and 13 Canadian provinces, was that many institutional administrators believe that institutional effectiveness flows strictly from the institution's mission. Hence, clear mission statements are at the core of all institutional effectiveness strategies (Roueche et al.), i.e., if an institution does not have a clear vision, or does not know where it wants to go, then it cannot effectively evaluate how it is getting there.

This crucial aspect of institutional management has driven institutional personnel to focus critically on their "foundations," i.e., institutional missions, department goals, program goals, and course goals. However, analyzing the effectiveness of these missions and goals for the betterment of the institution, department, program, and student, no longer can be treated as a philosophical exercise in quality improvement. It is now mandated by the U.S. Department of Education and meted out by regional and specialized accreditation agencies with which whose standards institutions of higher education must comply (Angelo et al., 1999; Ehrmann et al., 1998; Hoey, 1995).

Accountability

The issue of accountability is best viewed in Figure 4, a simple diagram by Wergin: "Higher education maintains its public accountability and assures its usefulness to society in three ways: governmental regulation; marketplace; [and,] accreditation/program review ..." (Ehrmann et al., 1998, p. 59).

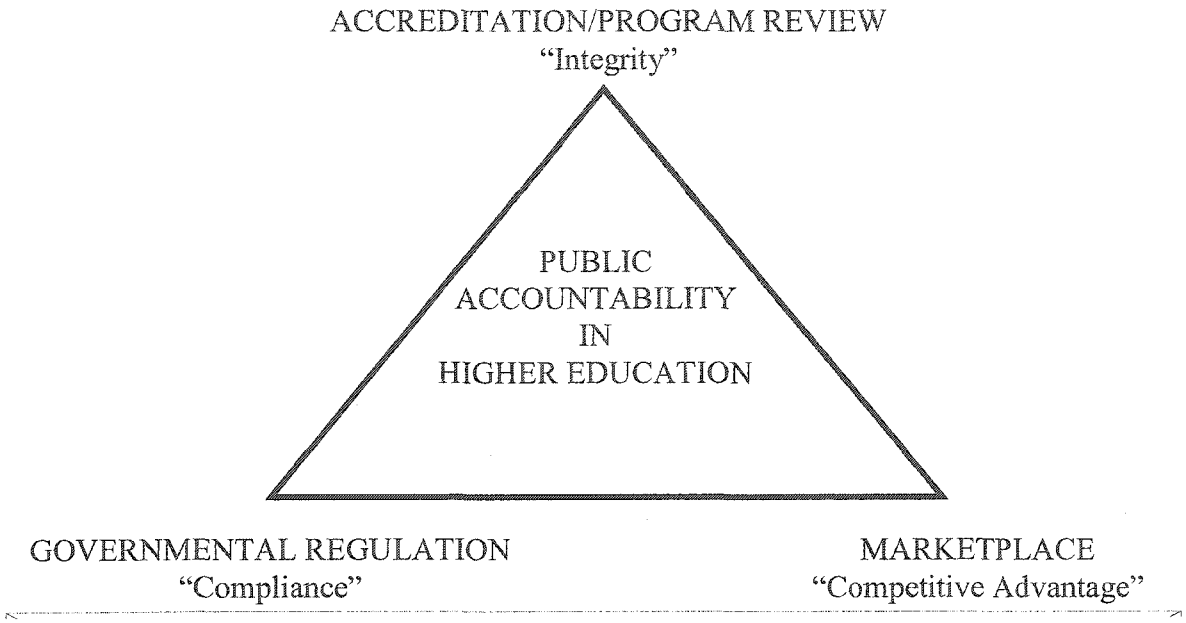


Figure 4. Public Accountability in Higher Education

> In 1991, Ewell described the progression of the assessment movement to be … sitting somewhere in the middle on the Perry scheme of intellectual growth. We've moved away from a notion of revealed truth, of right and wrong answers, of linear testing methodologies as the only way to go. And now we are in a multiplicity state: We see that diversity is legitimate. Right now, every method may seem as good as every other method. There are few, if any, rules of conduct. Anything goes. (Mentkowski et al., 1991, p. 21)

Over a decade later, assessment is moving more toward Perry's "commitment." There *are* rules in the form of accreditation standards and an abundance of "how to" assessment literature, as compared to a dearth of such literature in 1991. Accrediting agencies have mandated that institutions of higher education, as well as discipline-specific programs (e.g., dental hygiene, engineering, food science), develop outcomes assessment programs and implement corresponding outcomes assessment processes, i.e., "Regional accreditation

associations have increasingly focused their criteria on institutional outcomes (as cited in Nichols & Wolff, 1990)" (Hoey, 1995, p. 37).

These mandates are communicated through agencies' standards. For example, in 2000, the North Central Association of Colleges and Schools Higher Learning Commission (NCA-HLC), an institutional regional accrediting agency, added to its requirements "Levels of Implementation" in the form of an assessment culture matrix to clarify and objectify its stance on outcomes assessment. (Note: In the process of conducting this research, the NCA-HLC adopted new criteria regarding the assessment of student learning, which are nearly identical to the criteria used in this research. The primary modification to the criteria was in changing the term "Levels of Implementation" to "Stages of Implementation." The student, therefore, chose to use the language and criteria that were effective at time the literature review was conducted.)

> These Levels are presented in the form of a matrix and consist of three levels of implementation and four patterns of characteristics or descriptors associated with each level. The patterns, associated with Level One, "Beginning Implementation of Assessment Programs," include a number of characteristics consistent with assessment efforts that are in their infancy, or that are progressing at a slower than desired pace or that have stalled. Patterns associated with Level Two, "Making Progress in Implementing Assessment Programs," include characteristics consistent with the value of the institution, its academic departments, and each of its academic programs place on measuring student learning and assessing the outcomes against clearly specified goals and measurable objectives and outcomes in the cognitive,

> behavioral, and affective domains. Patterns associated with Level Three, "Maturing Stages of Continuous Improvement," include characteristics that have been culled from those assessment programs that are structured, systematic, on going, and sustainable. In institutions that manifest this level of attainment in their assessment programs, assessment has become a way of life. (López, 2000, p. 2)

At Level Three of the NCA-HLC assessment culture matrix, institutional decisions are tied to assessment results, wherein

> Every academic program has a published statement of its purpose and educational goals, developed by the academic unit's faculty, which reflects the institution's Mission and Purposes statements, including those portions directly focused on assessing and improving student learning. The assessment program materials developed at the institutional levels reflect the emphasis of the Mission and Purposes statements on the importance of identifying learning expectations, on determining the outcomes of assessing student learning across academic programs, and on using assessment results to improve student learning.... Faculty members routinely link their assessment findings to decision-making and instructional and program improvement. (Higher Learning Commission, 2002, p. 21)

Ehrmann et al. aptly summarize regional accreditation mandates, in that the results from institutional outcomes assessment are

> ... crucial to good campus decision-making about what to continue doing, what to stop doing, and where to put resources. If you're a public institution,

you may also need institutional-level information to satisfy outside entities. Coordinating boards and legislatures need this information, not just to hold institutions accountable for the expenditure of public funds but also to make decisions about what to support. (Ehrmann et al., 1998, p. 2)

Using Outcomes Assessment Results in Institutional Decision-Making

When assessment was rising through the academic ranks in the 1960s and 1970s, it was found to have, "... applications in higher education in the form of strategic planning, program review, and budgeting" (Banta, 2002, p. 5). However, this "using the results strategy" has not caught on in all institutions or at all levels. For example, in a 1998 study, Brandt cites a series of graduate follow-up and employer studies conducted at community colleges in Illinois, Maryland, and Oregon wherein all of the institutions had outcomes assessment programs but none of the results were used for improvement.

Specific expectations of using the results of outcomes assessment are detailed in the NCA-HLC's assessment culture matrix (Higher Learning Commission, 2002):

Level Three, Institutional Support: *Structures*

The institution, through its organizational structure, systematically and routinely links assessment outcomes to the allocation of resources for the improvement of student learning. (p. 26)

Level Three, Efficacy of Assessment

Assessment data are consistently used as the basis for making changes across the institution. The data the assessment program collects are useful in guiding effective change. The conclusions faculty reach after reviewing the assessment results and the recommendations that they make regarding

> proposed changes in teaching methods, curriculum, course content, instructional resources, and in academic support services are incorporated into regular departmental and/or institutional planning and budgeting processes and included in the determination of the priorities for funding and implementation. (pp. 27, 28)

The Commission on Higher Education of the Middle States Association of Colleges and Schools (a regional accrediting agency) 1995 Outcomes Assessment Survey studied institutions on the extent to which assessment findings have led institutional administrators to modify goals and objectives. A scant four percent of respondents indicated that their assessment led them to modify their goals and objectives comprehensively and 88% indicated that their assessments led them to modify their goals moderately. Patton et al. note,

> It could be said that selecting any category of 'moderately,' as opposed to 'comprehensively,' suggests that institutions have certain reservations about the use of assessment data. It is not known, however, whether this is simply from a lack of information about instruments and strategies that are available or from a lack of confidence in the validity or reliability of existing measures as they apply to an institution's type or its unique mission, goals, and objectives. (1996, p. 12)

The stakes of not using the results, however, are quite high concerning the integrity of the outcomes assessment movement. According to Miller, if higher education does not use the results of outcomes assessment, it becomes a "... sterile activity doomed to languish in a campus corner" (Ehrmann et al., 1998, p. 4).

Integrating the outcomes assessment process as an essential part of planning, budgeting, and institutional improvement is most difficult, as these institutional decision-making processes are housed in different offices, under different divisions, and under different administrators. Rarely do formal linkages exist (Griffith et al., 1996).

The Capability Maturity Model, developed in 1984 by the U.S. Department of Defense to establish standards of excellence and to accelerate the transition of advanced technology and methods into practice, proposes to integrate assessment with planning, budgeting, and quality. This five-stage maturity model explains the organizational development of institutional decision-making.

1. Ad Hoc Processes – processes are undefined and success depends on individual effort;
2. Repeatable Processes – processes are codified enough that they can be repeated the same way the next time, and successes can be transferred to other applications;
3. Standardized Processes – processes are standardized, and documented;
4. Measurement – includes measurement so that the quality of the process itself as well as the output of the process can be evaluated; and,
5. Continuous Improvement – the data from level four is used to improve the process in a continuous improvement loop. (Griffith et al., 1996, p. 4)

However, to reach the fourth and fifth stages of this maturity model, there are several impediments that institutions must overcome to use the results of outcomes assessment successfully in institutional decision-making.

Impediments in Using Outcomes Assessment Results in Institutional Decision-Making

Impediments in institutional decision-making processes are either procedural in nature or environmental, stemming from the culture within an institution. Patton et al. note that, "Faculty and resources, both financial and human, are most frequently cited as the principal barriers to implementing an institution-wide plan for outcomes assessment. Other barriers include time constraints and a lack of awareness about the value of assessment and effective assessment instruments and strategies" (1996, p. 16). This finding is also supported by the researcher's 2001 study of impediments to the outcomes assessment process, wherein six categories of impediments were identified: 1) Lack of time to conduct assessment activities; 2) Lack of funding to conduct assessment activities; 3) Lack of faculty/staff to conduct or assist in assessment activities; 4) Lack of cooperation from external audiences; 5) Complexity of the outcomes assessment process hindered by the unpreparedness of faculty, who do not have access to appropriate training in assessment; and 6) Lack of communication and guidance on outcomes assessment from within the program/department and from within the institution.

Creamer and Creamer's theoretical model of change, called the Probability of the Adoption of Change (PAC) Model, weighs the environmental forces, "... that support and those that inhibit change" (1990, p. 187). The following nine variables make up the theoretical base of the PAC Model and can be viewed as sources from which impediments originate:

- Circumstances – the source of impetus for change: internal or external
- Value compatibility – the level of agreement between the values of the proposed project and those of the normative culture

- Idea comprehensibility – the degree of clarity, simplicity, and timing of the idea
- Practicality – the availability of fiscal and human resources
- Top-level support – the backing of project goals and strategies
- Leadership – the 'prime movers' of the idea within the institution
- Championship – the perseverance of influential persons who can implement change
- Advantage probability – the perception of demonstrable gains, achieving stated goals, and solving difficult problems
- Strategies – the actions taken to implement the idea

Key areas of environmental impediments fall into the following categories: Levels of acceptance and expertise in a process, leadership, communication, and institutional culture. Creamer and Creamer also note that institutional embracement of the assessment philosophy – an institutional change – depends on top-level support and resources (1990, p. 190).

Institutional Change

Many in the scholarly assessment community say that assessment is *not* a new educational philosophy and that simply,

> … assessment of student academic achievement is really nothing new in the college classroom. It goes on in some format practically every day in virtually every class. Once the nature and purpose of assessment are clearly articulated and understood, it will be viewed as an enhancement of what most college faculty are trying to do anyway. (Eisenman, 1991, p. 461)

However, Moran goes on to clarify this by stating that, "Historically, we *have* had assessment in the form of grading at the micro-level, where instructors do care about individual students, evaluate their work, and talk to them about how they're doing; but we haven't had it at the macro-level – that is, assessment of how well the institution *as a whole* is achieving its purposes ..." (Mentkowski et al., 1991, p. 10). It is *this* aspect of outcomes assessment that *is* new – an innovation of sorts.

Diffusion of Innovation Theory

Rogers' Diffusion of Innovation Theory purports that, "Getting a new idea adopted, even when it has obvious advantages, is often very difficult. Many innovations require a lengthy period, often of many years, from the time they become available to the time they are widely adopted. Therefore, a common problem for many individuals and organizations is how to speed up the rate of diffusion of an innovation" (Rogers, 1995, p. 1).

In his 1997 work, Gray, using Rogers' diffusion theory, critically examines outcomes assessment as an innovation, something new to advance progress in a given area. Rogers defines an innovation as,

> ... an idea, practice, or object perceived as new by an individual.... [I]t matters little as far as human behavior is concerned, whether or not an idea, object or practice is 'objectively' new in the sense of the time lapse since its first use or discovery. It is the perceived newness of the idea for the individual that determines his reaction to it. If the idea seems new to the individual, it is an innovation. (p. 6)

This perceived newness may be attributed to exclusive discussions of outcomes assessment at the "ivory tower" level, e.g., at national professional meetings and in the

offices of educational organizations not directly involved in teaching students, i.e., not at the grass roots faculty level. Further, outcomes assessment models and processes have been classified by seasoned experts in the field as complex and difficult to understand (Gray, 1997). Because of its complexity and perceived newness, administration and faculty are at different levels in understanding what assessment is and how it works.

Gray (1997) notes that once faculty accept the use of a new innovation they will be able to work with others at their level and with administration. Hall, Loucks, Rutherford, and Newlove (1975, p. 11) detail levels of use of a new innovation:

Nonuse: The potential user is taking no action with respect to the innovation.

Orientation: The user is seeking information about the innovation.

Preparation: The user is preparing the first use of the innovation.

Mechanical use: The user is focusing on the short-term, day-to-day use of the innovation with little time for reflection.

Routine and refinement: The user is becoming more comfortable with the innovation, so use is stabilizing, and the user is varying the implementation of the innovation to increase its impact on clients in that user's sphere of influence.

Integration: The user is making a deliberate effort to coordinate with others in using the innovation.

Renewal: The user is reevaluating the quality of the use of the innovation and seeking major modifications or alternatives.

It is important to note that many administrators and faculty are first exposed formally to outcomes assessment when their institution is in the process of preparing a self-study for an external accrediting agency, such as the North Central Association Higher Learning Commission. It is only when outcomes assessment is introduced on this personal level, i.e., being involved in preparing the self-study and related documents, that institutional personnel can truly begin to understand what outcomes assessment means (Gray, 1997).

Rogers notes that educational innovations such as outcomes assessment are often perceived as having little relative advantage over existing ideas (1995). Gray agrees with Rogers, and goes on to state that,

> ... [Assessment] can be perceived to have low relative advantage over current practices that faculty use to provide themselves with feedback on the effectiveness of their instruction in promoting student learning. It can be perceived to have low compatibility with existing values, such as academic freedom. This may be especially true for those faculty not accustomed to professional accreditation, for which assessment is related to external accountability. Unless it can be divided into manageable stages and tried on a limited basis in a way that is adapted to local conditions, assessment can be perceived as a monolithic and inflexible innovation. (1997, p. 7)

Levels of Acceptance and Expertise

In assessing an audience at a 1998 American Association of Higher Education Assessment Forum, MacGregor noted that more than half of the audience considered themselves novices in assessment, about a third qualified themselves as intermediates in assessment, and less than 10% of the audience considered themselves experts (Ehrmann et

al., 1998). Acknowledging the various levels of use and understanding with the outcomes assessment process is key as institutional administrators formulate and develop plans to implement an institutional outcomes assessment process.

Maki's 1999 study, in which she surveyed 188 institutions regionally accredited by the New England Association of Schools and Colleges, showed that 92% of respondents were not satisfied with their assessment efforts and that they were able to use student outcomes assessment to demonstrate achievement of mission and goals only "moderately well." This could be due to the perceived newness of outcomes assessment among administrators and faculty, as well as to the lack of understanding of the outcomes assessment philosophy.

Administrators and faculty also have varying degrees of understanding and experience with assessment as a hierarchical process, where course goals feed into program goals, which feed into department goals, which feed in turn into the institutional mission and goals (Moskal, 2001). In reality, very few administrators and faculty can articulate this hierarchy's implications. From novice to expert, these varying levels must be recognized and addressed by institutional leadership for a successful implementation of an outcomes assessment program (Haessig & La Potin, 1999).

Leadership

In this review of the literature, most evident was the critical role effective leadership plays in implementing a viable institutional outcomes assessment program (Barak & Sweeney, 1995; Brandt, 1998; Eisenmann, 1991; Hoey, 1995; Huba & Freed, 2000; Neumann & Neumann, 1999). According to Barak & Sweeney,

> It appears that a single key individual can be influential in determining use or nonuse of the program review results. This finding was often true regardless of the presence or absence of the other factors considered to be important. These people, by personal intervention and often despite the presence or absence of other key factors, determined success or failure. These people, acting alone, ensured successful review use (or ensured nonuse by ignoring the program review results). Other factors found to be critical ... include integration of reviews into budgeting and planning, a collaborative effort of all involved in the various management processes, and timely follow-up to reviews with planning and budgeting. (p. 12)

Good leaders are those people who can mobilize human, material, and symbolic resources toward specific ends (Curry, 1992). Institutional leadership must effectively facilitate the outcomes assessment process through performing tasks such as gathering information, communicating with other members of the institution, developing new coalitions, and identifying existing coalitions. It is imperative that upper-level administration convey to the faculty and mid-level administration that they are integral stakeholders in the outcomes assessment process (1992).

Effective leadership must also be able to communicate that the results of outcomes assessment are not immediate. It may take several months or many years to see results and to, "... permeate all aspects of campus culture with structures that make assessment self-sustaining" (Gray, 1997, p. 13). Huba and Freed (2000) also note that,

> Administrators who set the tone for the institution and implement its policies play a critical role in creating the type of culture of evidence that will allow

> assessment to flourish. Simply mentioning the importance and role of assessment when chief academic officers address the faculty sends a powerful message of support for a learner-centered approach to teaching. (p. 85)

A 1996 study by McClure investigated the impact of accreditation assessment mandates on 16 community colleges in South Carolina. The study focused on leadership involvement in assessment, support elements developed within institutions to enhance assessment, improvements perceived to have resulted from assessment, changes needed regarding assessment practices, and confidence levels among the leaders that assessment would lead to continuing improvements in college performances. The study examined the colleges' institutional effectiveness reports from 1991-94 to determine levels of assessment and effectiveness activities. The study found that the more college leaders were personally involved in assessment activities, the more likely they were to use assessment results for making internal improvements and to believe that assessment would lead to ongoing improvements in overall college performance. This would support the 1991 Steed study cited by Brandt, in which institutional leaders of Level I institutions recognized by the Southern Association of Colleges and Schools (a regional accrediting agency) did not play a major role in the planning and evaluation process and, "... therefore, the process was not always taken seriously and the results not used effectively" (Brandt, 1998, p. 6). Haessig and La Potin (1999) emphasize this point as well:

> Faculty must feel that their college president, provost, and academic deans wholeheartedly endorse and support the assessment process...It is important for administrators and faculty leaders to attach value to assessment and to

provide appropriate recognition for those who undertake it successfully. Doing so conveys the institution's commitment to assessment. (p. 7)

Communication

Communication in the outcomes assessment process is largely dependent upon the leadership and guidance provided by the administration. Generally speaking, the way in which administrators choose to implement the decision-making process plays a critical role in faculty's reaction to decisions made. The single key factor in effective leadership is good communication (Barak & Sweeney, 1995).

In a litany of good leadership management skills, Mitchell in his 1987 work also notes effective and abundant communication as the *first* and *most important* skill. Further, he notes that communication is, "... necessary for optimum productivity in teaching, research, and service" (p. 173). Therefore, those responsible for institutional outcomes assessment must provide leadership in and communications regarding assessment on a timely basis. Further, administration must facilitate effectively the process by intelligently laying out the outcomes assessment program for other administrators and faculty and coaching them in the implementation of the program (M. Sprouse, personal communication, August 10, 2002).

For institutional administration to enjoy the successful implementation of an outcomes assessment program, upper-level administration must relay consistent and clear information to institutional personnel (Muffo, 1996). Hoey (1995) notes that, "Communication in organizations receives wide support in the literature as being of highest importance to organizational effectiveness, evaluation processes, and evaluation use in general" (p. 42). Further, Angelo, Ewell, and López also stress the need for effective communication: "Increased demands for accountability mean that we need to better

communicate the results of assessment to our constituents, especially those right on our own campuses" (1999, p. 61). To have effective communication, however, a culture receptive to and supportive of assessment must exist.

Institutional Culture

The literature supports the need for an open institutional culture, as Muffo states, "Assessment is most effective when undertaken in an environment that is receptive, supportive, and enabling" (1996, p. 5). Culture is affected by the institution's makeup, personnel and social characteristics, and "... consists of those things that make an institution distinct: its history, its traditions, its values, its interaction with the larger environments, its ceremonies, its renewal process ... and its evaluation process ..." (Vaughan, 1992, p. 3).

Rogers uses the terms "homophilous" and "heterophilous" to describe an organizational culture and the acceptance or rejection of change. When people are homophilous, they "... share common meanings, a mutual subcultural language, and are alike in personal and social characteristics, the communication of new ideas is likely to have greater effects in terms of knowledge gain, attitude formation and change, and overt behavior change" (1995, p. 18). The biggest obstacle impeding the diffusion of an innovation is when people are heterophilous – they do not share this common background and meanings.

> Academic culture is defined by Eisenmann (1991) as,
>
> 'An unspoken language that tells faculty, students, and administration what is important on their campus' (as cited in Seldin, 1991). If the campus culture holds in high esteem the goal of assessing student academic achievement for purposes of improving 'the effects of college on student learning and development' (as cited in Wright, 1991) then faculty, students, and

> administration will take assessment seriously. The attitude toward assessment is clearly a reflection of the campus culture, and campus culture is clearly a reflection of the priorities and values inherent in the actions and decisions of campus leaders. Board members, the President, administrators and other campus leaders among faculty and students play key roles in creating a nurturing campus culture by taking an appropriately active and positive role in understanding and fostering assessment goals and activities. (p. 460)

For institutions of higher education to survive and thrive in these difficult economic times, under intense scrutiny and with heavy external accountability pressures, they must carefully plan institutional assessment measures that are consistent with the culture of the institution (Messina & Fagans, 1992).

Successfully Using the Results of Outcomes Assessment in Institutional Decision-Making

Institutions that have developed a culture conducive to outcomes assessment are successful in using the results of outcomes assessment and have the following traits in order: 1) effective integration of the assessment and decision-making processes; 2) effective and dedicated leadership in outcomes assessment and commitment by key individuals; 3) effective and efficient communication about outcomes assessment; 4) good planning and budgeting processes; 5) simple and easy to understand decision-making structures and policies; and, 6) advanced levels of acceptance and expertise among the majority of administrators and faculty.

Institutions successful at using the results of institutional outcomes assessment in decision-making are also set up where data are used to plan and budget to improve divisions

and the institution as a whole (Griffith et al., 1996). The goal is then to establish a closer linkage among assessment, planning, budgeting, and quality.

In a related study of program review use in institutional planning and budgeting, Barak and Sweeny note that, "Those who reported that program review is used in institutional planning and works well were asked to explain what makes it successful. The explanation given most often is that program review provides useful information for improved decision-making ..." (1995, p. 8).

Planning, Budgeting, and Institutional Improvement

In 1988, the National Association of State Universities and Land Grant Colleges developed a Statement of Principles on Outcomes Assessment, of which the last one is most germane to this research: "Within an institution, assessment programs should be linked to strategic planning or program review, or to some comprehensive strategy intended to encourage change and improvement" (Muffo, 1996, p. 5).

The need for cooperation between assessment and planning is prevalent in the literature (Howell, 2000; Kemper & Kemper, 1996; Mentkowski et al., 1991; Muffo, 1996). However, the evidence that this is occurring is lacking in the literature. Howell (2000) notes that,

> The first component of a plan-check-do-and-act strategic planning process... consists of the environmental scan and the formulation of the college's mission, vision, strategic issues, and long-range institutional goals. The second component is comprised of establishing departmental objectives, activities, measures, and methods, and intended outcomes.... [The third component] involves the assessment and evaluation of intended outcomes, and

> the fourth component focuses on using the results of the evaluation to improve academic programs, academic support services, and administrative processes at the college. (p. 2)

Elements common in definitions of strategic planning include: a continuous and systematic process of making decisions about intended future outcomes; organizing the efforts needed to implement decisions; and, measuring and evaluating the results of the decisions against expectations through organized, systematic feedback (Drucker, 1980).

Regarding the budgeting process, Eaton and Miyare note that financial plans are the "linchpin" that connects program review, planning, budgeting, and accountability (1995). According to Eisenman, "Resource allocations and institutional decision-making must reflect and reinforce the importance of the institutional assessment program if faculty, staff, and students are expected to take assessment seriously" (1991, p. 460). Further, the successful use of outcomes assessment results in budgeting decisions, identifies institutional priorities for funding, and identifies resource needs of the institution (Barak & Sweeney, 1995).

One of the most common uses of assessment is to improve the curriculum. According to Ehrmann et al. (1998),

> Assessment followed by corresponding improvement and innovation will help prepare an institution to respond to tomorrow's challenges. Whether assessment is for the purpose of meeting external requirements or the result of an internal decision, that assessment can be a useful diagnostic tool to identify the strengths of the institution (those approaches on which you might wish to

build) and the opportunities for improvement (those approaches not serving you as well as they could). (p. 43)

Summary

There is limited information regarding how to utilize assessment information to improve quality of programs and services (Messina & Fagans, 1992). Although there has been progress in using outcomes assessment practices in higher education, "incorporating assessment into the fabric of institutional life," e.g., classroom assessment, program review, and accreditation, "... knitting those practices into whole cloth continues to be a challenge ... [as assessment is] not well integrated into the life of the institution" (Ehrmann et al., 1998, p. v). Further, it is assumed that most institutions have developed assessment plans that include all aspects of the eight-phase McCann cycle. However, institutional administrators are struggling to implement these plans, as evidenced in the literature and by the high number of citations on outcomes assessment found in NCA-HLC accreditation site visit reports.

The literature also describes factors that may influence institutions in implementing these plans and using the results. But the literature does *not* describe how this implementation is progressing, nor how the results of the process are being used to close the assessment loop.

This exploratory research seeks to examine this progress and the use of results. The specific purpose of this research is to study which areas of institutional decision-making the results of outcomes assessment are being used in and how extensively the following five defined variables influence the use of such results: 1) assessment leadership's knowledge of the assessment process; 2) communication regarding assessment within the institution; 3) upper administration's support of assessment activities; 4) institutional culture regarding

assessment; and, 5) funding provided for assessment activities. By surveying chief academic officers of NCA-HLC accredited community colleges, it is hoped that this research will ultimately inform higher education institutional administrators in how they can use the results of outcomes assessment programs effectively. This research also will add to the assessment literature and prove useful to regional accrediting agencies, as they will gain better insight into their member institutions' perceptions of progress in outcomes assessment as well as challenges faced by their member institutions in outcomes assessment. If institutional administrators do not use the results of the assessment process then institutional improvement is not likely to occur. As Angelo (1993) put it so aptly, effective assessment actually begins at the end.

CHAPTER THREE – METHODOLOGY

Introduction

This chapter concerns the methodological approaches used by the researcher to attain answers to the study's research questions. The first section includes a description of the sample, chief academic officers of community college in the North Central region. The next section details the data collection procedures used, including a description of the survey, its development and administration, and response rates. The final section of this chapter lists the statistical analyses used to examine the data collected.

Sample Description

The target population for this study is drawn from the 992 public two-year institutions of higher education (community colleges) in the United States, as reported by the American Association of Community Colleges. The population of interest is chief academic officers of the 302 community colleges accredited by the North Central Association of Colleges and Schools Higher Learning Commission (NCA-HLC) in 2003. The NCA-HLC is recognized by the United States Department of Education as accrediting institutions of higher education in the following 19 states: Arizona, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, West Virginia, Wisconsin, and Wyoming.

The sample provides an adequate representation of community colleges in the United States, as the general mission of the community college nationwide is similar:
1) provide access to all segments of society; 2) offer a broad selection of programs; 3) serve as a community-based institution; 4) emphasize teaching and learning; and, 5) promote lifelong learning (Vaughan, 2000).

Focus: Community Colleges

In viewing outcomes assessment as a parallel process to program review, Hoey's (1995) following comments on researching community colleges apply:

> ... [T]he research has established that program review is widely used as both an accountability and program improvement mechanism in public two-year institutions, that substantial conceptual and incremental use of program review results is in evidence, and that organizational factors such as key leadership support, organizational communication, clear understanding of the purposes of program review, and frequent action on recommendations at all organizational levels explain a notable amount of the variance in reported long-term impact of program review on two-year colleges. (p. 57)

Hoey and others go on to note that community colleges in particular are forced more so than other institutions of higher education to demonstrate their accountability to their publics (Cohen & Brawer, 1989; Hoey, 1995; Levin, 1998).

Although called for by the scholarly assessment community, few studies have been designed and conducted to determine the impact of institutional outcomes assessment findings on institutional decision-making (Banta, 2002; Maki, 2002). The impact and effectiveness of outcomes assessment at community colleges has been much less thoroughly explored (Hoey, 1995).

The Chief Academic Officer: Responsible for Institutional Assessment

The chief academic officer (CAO) is considered to be the person within a community college who can best judge the effects that assessment programs have within the college, i.e., CAOs are positioned to see the broader picture of outcomes assessment in the context of the

institution (Eaton & Miyare, 1995; Hoey, 1995). Speaking to this study and this sample is the NCA-HLC assessment culture matrix (that infers the agency's requirements), which contains specific language on who should assume the responsibilities of institutional outcomes assessment. The following excerpts are from the NCA-HLC assessment culture matrix (Higher Learning Commission, 2002).

> **Level Two, Shared Responsibility:** *Administration and Board*
>
> The CAO has oversight responsibility for the ongoing operation of the assessment program and for promoting the use of assessment results to effect desired improvements in student learning, performance, development, and achievement. The CAO arranges for awards and public recognition to individuals, groups, and academic units making noteworthy progress in assessing and improving student learning. (p. 22)
>
> **Level Three, Shared Responsibility:** *Administration and Board*
>
> Senior administrators annually provide resources for the assessment program and provide additional resources necessary to enhance assessment practices and improve faculty's understanding of assessment principles and use of assessment results. (p. 22)
>
> **Level Two, Institutional Support:** *Resources*
>
> The CEO [chief executive officer] and CAO annually negotiate a budget for the assessment program sufficient to provide the technological support, physical facilities, and space needed to sustain a viable assessment program and to make professional development opportunities available. (p. 24)

Level Two, Institutional Support: *Structures*

> There is an organizational chart and an annual calendar of the implementation of the assessment program. The assessment program is provided with a Coordinator/Director who reports directly to the CAO. The CEO or CAO has established a standing Assessment Committee, typically comprised of faculty, academic administrators, and representatives of the OIR [office of institutional research] and student government. (p. 25)

Titles of the chief academic officer position and assigned responsibilities vary among community colleges. Other CAO titles include: associate vice president, vice president of academic affairs, vice president or dean of instruction, vice president of academic support, dean for academic services, coordinator of academic achievement, and vice provost. To accomplish these assessment mandates, some institutions have created specific positions such as institutional director of assessment (institutional effectiveness), and institutional director of research to coordinate and conduct institutional assessment activities.

Data Collection

To assess the hypotheses stated in Chapter One, a self-administered survey-type questionnaire was sent to the chief academic officers of the 302 community colleges recognized by the NCA-HLC. This survey was developed by the researcher and titled, *Using the Results of Outcomes Assessment in Institutional Decision-Making: A Survey of Chief Academic Officers* (Appendix 1). This research, including the survey, was declared exempt from the Department of Health and Human Service federal regulations for the protection of human subjects by the Iowa State University Institutional Review Board (Appendix 2).

To measure the extent to which outcomes assessment findings are used in institutional decision-making, portions of the survey were developed around a conceptual framework extrapolated from the McCann-based Outcomes Assessment Cycle and from the Creamer and Creamer PAC Model (Probability of the Adoption of Change), using the "Checklist of Considerations for Developmental Orientation" (1990, p. 187).

The survey included nine major parts with the majority of items using a four- or five-point Likert-type scale. Part I contains items that generally address the institution-wide assessment of student learning. For example, respondents were asked if a formal written assessment plan exists, what it consists of, and to what extent it has been implemented. Part II deals specifically with the extent to which results of assessment are used in the 20 areas of institutional decision-making. Part III focuses on the respondent's knowledge of the outcomes assessment process and use of results in institutional decision-making. Part IV asks respondents to rate the openness, accuracy, frequency and effectiveness of communication regarding assessment at their institution. Part V contains items on institutional leadership concerning assessment. Part VI questions respondents on the institutional culture of assessment. Part VII asks for demographic data, such as the respondent's position within the institution, the position responsible for conducting assessment activities at the institution, and the NCA-HLC's most recent evaluation of institutional assessment activities. Part VIII asks respondents about the adequacy of the institution's assessment budget. Finally, Part IX focuses on respondents' perceptions of institutional success in assessment activities, as well as their perceived satisfaction with the institution's assessment activities. Survey respondents were encouraged to comment in the margins of the survey on any of the items or to qualify their answers. An additional comment section was also included at the end of the survey.

The survey was pilot tested by 15 chief academic officers of NCA-HLC accredited community colleges in the state of Iowa. Suggested revisions were received from all but three of the pilot CAOs and were incorporated into the final version of the survey to increase reliability and validity of the instrument.

Variables tested in this survey are: CAO knowledge of assessment, institutional communication of assessment, institutional leadership concerning assessment, institutional culture concerning assessment, funds budgeted for assessment, and the use of assessment results in institution decision-making.

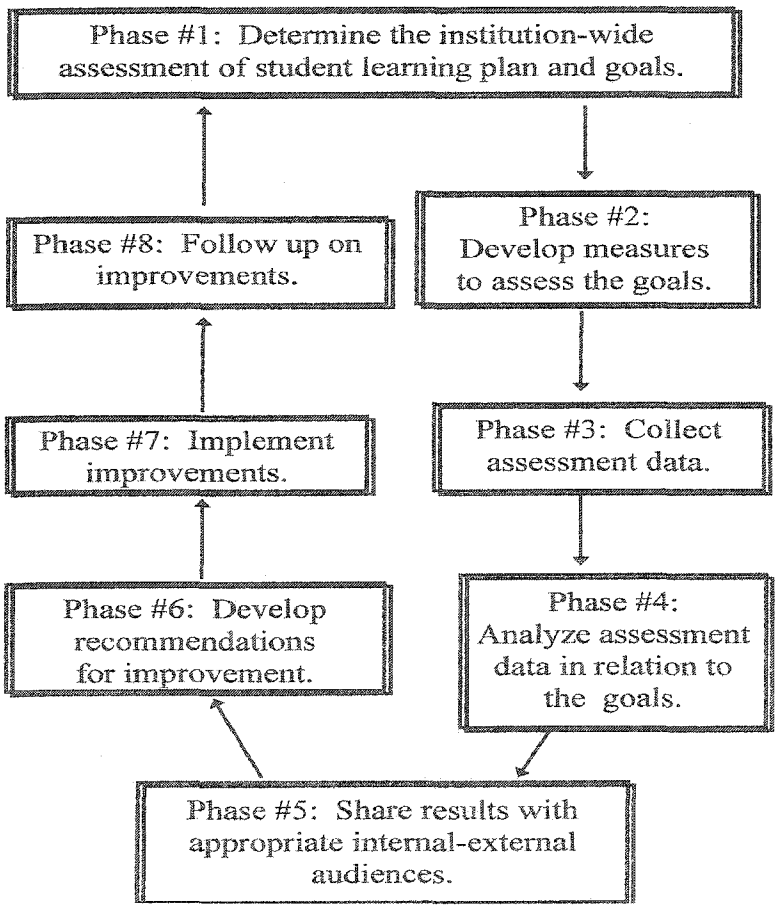
To accomplish the purposes of this research, an adaptation of the McCann cycle was included in the survey for the sake of clarity. The primary adaptation of the cycle is in Phase 1, changing the focus from the "institutional mission, goals and strategic plan" to the "institutional assessment of student learning plan and goals" (Figure 5).

Survey Correspondence and Administration

Because the literature indicates that chief academic officers are responsible for institution-wide outcomes assessment activities (Higher Learning Commission, 2002), initial correspondence was mailed on August 20, 2003 to the chief academic officers of all NCA-HLC accredited community colleges. This initial correspondence was a letter from Dr. Steven Crow, Executive Director of the NCA-HLC, written on the researcher's behalf, asking the CAO's cooperation in the research by completing and returning the survey in a timely manner. The initial correspondence as well as the cover letter included with the formal survey noted that if the CAO is not the individual responsible for the oversight of institutional outcomes assessment activities, then the

survey should be given to the administrator who is responsible for outcomes assessment. It should be noted that the researcher chose to communicate with the CAOs through regular mail rather than e-mail because of feedback received from colleagues (who hold CAO positions) and the pilot test CAOs who noted that this population would most prefer a paper copy of the survey rather than an electronic copy. All correspondence with the sample CAOs is included in Appendices 3-7.

Figure 5. Adaptation of the Assessment Cycle



The institution's address and CAO information were obtained from the NCA-HLC staff headquartered in Chicago. The initial mailing and all mailing labels were provided to

the researcher by the NCA-HLC. In securing institutional information from the NCA-HLC, the researcher noted several personnel and address errors in the agency's data base. This occurred, as explained by NCA-HLC staff, due to a major data base conversion within the agency, which has been ongoing for the past two years. For example, initially, the researcher was provided with 320 labels. However, in examining the labels, duplicate labels were found. Some four-year public institutions were included in the initial set of labels as well. Additionally, over 50% of the returned surveys were not completed by the person to whom the correspondence was addressed because of personnel changes. Numerous notes from those completing the survey stated that the CAO to whom the correspondence was addressed had retired or taken another position within the past year.

The formal survey with cover letter and a self-addressed, stamped return envelope were sent to the 302 CAOs on August 22, 2003. CAOs were asked to return the completed instrument within two weeks, by September 9. The surveys and envelopes were coded to determine which institutions returned the information so appropriate follow-up communications could be sent. A statement of incentive (two $110 subscriptions for a Jossey-Bass assessment journal to be presented at random to those whose survey was postmarked by the initial deadline) was included in the survey cover letter and a follow-up mailing sent to the CAOs on August 26. The winners of the incentive were notified on September 10 and arrangements were made for them to receive their subscription in a timely manner. On September 11, a mailing was sent to non-respondents asking for their cooperation in completing and returning the survey as soon as possible. This mailing noted the current response rate of 40% and the CAOs who received the incentive.

A final follow-up mailing was sent on September 22 to those CAOs who had not yet responded. This letter asked them, once again, for their help in completing and returning the survey as soon as possible. However, this mailing included another copy of the survey and a self-addressed stamped envelope. At the time the final mailing was sent, 56% of the CAOs had completed and returned the survey. By the seventh week of the data collection period, of the 302 CAOs surveyed, 216 had responded for a 72% response rate.

Statistical Analyses

In order to understand the data, several statistical procedures were used. First, descriptive statistics were compiled on all data collected in the survey to understand the variables more fully. Frequency distributions and percentages provide a description of the areas of institutional decision-making where results are used as well as the methods used by institutions to assess student learning. Second, factor analysis was used to make the data set more manageable and was performed on survey items that concerned the 20 areas of institutional decision-making (items II.a., III.b., IV.c., and IV.d.), and the eight phases of the assessment cycle (items III.a. and III.c.). Upon conducting the factor analysis for the noted items, Kendall tau-b, Pearson and Spearman bivariate procedures were conducted to investigate the presence of correlations. Third, two types of Bonferroni tests were used to test the large number of sub-correlations related to each of the five hypotheses. Data were analyzed using the Statistical Package for the Social Sciences (SPSS), version 11.0.

Summary

In determining the methods used to conduct this exploratory research, the purposes of the research were kept in mind, which were to study which areas of institutional decision-making the results of outcomes assessment are being used in and how extensively the

following five variables influence the use of such results: 1) assessment leadership's knowledge of the assessment process; 2) communication regarding assessment within the institution; 3) upper administration's support of assessment activities; 4) institutional culture regarding assessment; and, 5) funding provided for assessment activities. In studying the data derived from the surveys sent to chief academic officers of NCA-HLC accredited community colleges, it is hoped that the resulting data will be used to inform higher education institutional administrators in their efforts of using results of outcomes assessment programs effectively.

CHAPTER FOUR – DATA ANALYSIS AND RESULTS

Introduction

This chapter presents the results of the data analysis from the survey administered to chief academic officers (CAOs) of North Central Association Higher Learning Commission (NCA-HLC) recognized community colleges. To understand the data, several statistical procedures were used. First, descriptive statistics were used to understand the variables more fully. Second, factor analysis was used to make the data set more manageable. Third, Bonferroni tests were used to test the large number of sub-correlations related to each of the five hypotheses.

The first part of this chapter contains a discussion on the demographics of the survey sample followed by a section discussing the data regarding the use of assessment results in institutional decision-making. The last part of the chapter is devoted to data analysis as it relates to each of the study's five research questions.

The purpose of this exploratory research is to determine in which areas of institutional decision-making the results of outcomes assessment are being used and to measure the impact that the following five variables have on community college CAO's use of institutional outcomes assessment results in institutional decision-making, i.e., closing the loop: 1) assessment leadership's knowledge of the assessment process; 2) communication regarding assessment within the institution; 3) upper administration's support of assessment activities; 4) institutional culture regarding assessment; and, 5) funding provided for assessment activities. Descriptive and inferential statistics compiled for this study indicate that all five of these variables significantly influence the use of assessment results to varying degrees.

In the following tables, the valid percent is stated, i.e., the percent calculated based upon those respondents who answered the item (the actual "*n*"), rather than the percent calculated on the total number of surveys returned, $n = 216$.

Demographic Data

The data showed that of the respondents who completed the survey, almost 80% held the position of chief academic officer (Table 1). Further, an overwhelming majority of the CAOs (77.8%) are ultimately in charge of assessment at their institutions (Table 2). Over half of the sample institutions enroll between 1,500 and 6,000 students (Table 3).

More than half of the respondents also reported that their institution's outcomes assessment activities were cited as being in need of improvement by the NCA-HLC in the institution's most recent site visit evaluation report. Further, nearly one-third of respondents reported that their institution's outcomes assessment activities were commended by the NCA-HLC in the institution's most recent site visit evaluation report.

Table 1. Party completing survey

Position	Frequency	Percent
Chief academic officer	163	78.7
Institutional director of assessment	21	10.1
Other, e.g., other administrator or faculty	17	8.2
Institutional director of research	6	2.9

Table 2. Party responsible for outcomes assessment activities in sample institutions

Position	Frequency	Percent
Chief academic officer	161	77.8
Institutional director of assessment	24	11.6
Other, e.g., other administrator or faculty	16	7.7
Institutional director of research	6	2.9

Table 3. Number of full-time students in sample institutions

Number of Students	Frequency	Percent
Less than 1,500 students	33	15.9
1,500-3,000 students	54	26.1
3,000-6,000 students	50	24.2
6,000-10,000 students	32	15.5
10,000-20,000 students	25	12.1
Greater than 20,000 students	13	6.3

Of the 216 respondents, 87.6% reported that their institution has a formal written/documented institution-wide assessment of student learning plan. Of this 87.6%, the following percentage of institutions use the noted (bulleted) assessment methods.

- assessment of general education goals (88.8%)
- program/department/discipline review (84.9%)
- student surveys (82.9%)
- advisory committees (81.5%)
- program/department/discipline assessment plans (78.0%)
- curriculum review (69.8%)
- employer surveys (69.3%)
- entrance/exit examinations (68.3)
- capstone (55.6%)
- alumni surveys (52.2%)
- faculty surveys (46.3%)

The Use of Assessment Results in Institutional Decision-Making

Survey items I.b. and II.a. questioned respondents directly on the use of assessment results in institutional decision-making. Item I.b. asked respondents who have a formal

written/documented institution-wide assessment of student learning plan to what extent the plan has been implemented/the results are used. Roughly 85% reported that the results are used at least sporadically, with 43.3% using the results frequently to consistently (Table 4).

Table 4. Extent to which assessment plan has been implemented

Extent	Frequency	Percent
Results used in all areas of institutional decision-making **consistently**	11	6.0
Results used in all of institutional decision-making areas **frequently**	70	38.3
Results used in institutional decision-making **sporadically**	74	40.4
Results used in institutional decision-making **rarely**	17	9.3
Assessment plan **not implemented**	11	6.0

Survey item II.a. asked respondents to rate the extent to which the results of institution-wide assessment are used in the 20 areas of institutional decision-making, using the following scale.

5 = Results are used consistently
4 = Results are used frequently
3 = Results are used sporadically
2 = Results are used rarely
1 = Results are not used in this area

Those areas with mean ratings greater than 3.5 include: curriculum planning and evaluation, improvement of teaching and learning, program evaluation, and reports to accrediting agencies and upper-level administrators. The means and standard deviations for all 20 areas are noted in Table 5. Areas with mean ratings less than 2.5 include: gift solicitation, student recruitment, job placement for students, and faculty evaluation and hiring.

Table 5. Extent to which results are used in areas of institutional decision-making

Area of Institutional Decision-Making	Mean	Standard Deviation
Self-study reports to accrediting agencies	4.10	1.03
Program evaluation	3.78	1.12
Reports to president or other upper administrators	3.69	1.15
Curriculum planning	3.59	1.02
Curriculum evaluation	3.59	1.10
Improve learning	3.58	1.04
Improve teaching	3.52	1.03
Reports to faculty	3.37	1.10
Reports to external parties (e.g., trustees, regents)	3.33	1.18
Strategic planning	3.25	1.14
Student retention	2.84	1.12
Budgeting process	2.71	1.14
Feedback to students	2.71	1.06
Academic advising	2.59	1.15
Grant proposals	2.53	1.14
Job placement for graduates	2.43	1.17
Student recruitment	2.43	1.16
Faculty evaluation	2.40	1.27
Hiring faculty	2.08	1.14
Gift solicitation	1.82	1.00

Survey item IX.a. asked respondents the degree to which they agreed with the following statement, using a four-point Likert-type scale where 4 = strongly agree and 1 = strongly disagree: "Our assessment practices have resulted in significant institutional improvements." Two-thirds of respondents agreed or strongly agreed with the statement and one-third disagreed or strongly disagreed with the statement.

Item IX.f. asked respondents which variable most severely impedes the use of assessment results in institutional decision-making. Over 60% of respondents noted that the institutional culture regarding assessment was the biggest impediment; 21.2% noted communication regarding assessment; 12.6% noted budgeted funds for assessment; and, 5.1% noted upper administrators' support of the assessment process.

When asked which phase of the outcomes assessment cycle the institution is in concerning the institution-wide assessment of student learning, over one-third of respondents noted phase 1, 2 , 3, or 4 (preparing to collect the data, collecting the data, and analyzing the data). Nearly one-fourth of respondents noted phase 5, 6, 7, or 8 (using the resulting findings from the data). However, about 42% noted that the assessment cycle had been completed at least once at their institution.

Tests Performed on the Data

In addition to acquiring descriptive statistics on the data, factor analysis was performed on survey items that concerned the 20 areas of institutional decision-making (survey items II.a., III.b., IV.c., and IV.d.), and the eight phases of the assessment cycle (items III.a. and III.c.). Given the large number of areas of institutional decision-making (20) and the number of assessment cycle phases (8), using a statistical procedure that reduces the number of variables to manageable sets was necessary to simplify data analysis and reporting. Factor analysis was appropriate to use as it is, "...based on the fundamental assumption that some underlying factors, which are smaller in number than the number of observed variables, are responsible for the covariation among the observed variables" (Kim & Mueller, 1978, p. 12). Factor analysis was used in this research to confirm the proposed factors and to obtain an index score based on the mean of the items that loaded onto the factor. Factors were extracted using the principal component methods of extraction and were rotated to reduce their ambiguity and increase their interpretability (Kim & Mueller, 1978). The varimax (orthogonal) method was used for this rotation. In conducting a factor analysis of the multifaceted survey items, multiple areas were condensed to four or fewer factors. The factors for each of the multi-part items are noted in Figure 6 and are defined in Appendix 8.

Figure 6. Factor analysis for specific survey items

Survey Item	Likert-type Scale	Factors
II.a. Rate the extent to which the results of institution wide assessment of student learning are used in each of the following (20) areas of institutional decision-making, using the following scale.	5 = consistently 4 = frequently 3 = sporadically 2 = rarely 1 = not used	Factor #1: Curriculum improvement, planning processes, and reporting Factor #2: Financial issues and student counsel/services Factor #3: Faculty evaluation and hiring
III.b. For each of the following (20) areas of institutional decision-making, rate *your* knowledge of using the results of institution-wide assessment of student learning in that area.	4 = solid 3 = adequate 2 = vague 1 = severely lacking	Factor #1: Financial issues and student services Factor #2: Planning processes and reporting Factor #3: Curriculum improvement Factor #4: Counsel to students and faculty issues
IV.c. For each of the following (20) areas of institutional decision-making, rate the *frequency* of communication regarding assessment between administrators responsible for institutional outcomes assessment (e.g., CAO) and administrators responsible for that particular area (e.g., CFO, Placement Office Director).	5 = consistent 4 = frequent 3 = sporadic 2 = rare 1 = nonexistent	Factor #1: Financial issues, student services and faculty issues Factor #2: Curriculum improvement Factor #3: Planning processes and reporting
IV.d. For each of the following (20) areas of institutional decision-making, rate the *effectiveness* of communication regarding assessment between administrators responsible for institutional outcomes assessment and administrators responsible for that particular area.	4 = highly effective 3 = somewhat effective 2 = somewhat ineffective 1 = highly ineffective	Factor #1: Financial issues, student services and faculty issues Factor #2: Curriculum improvement Factor #3: Planning processes and reporting
III.a. Using the following scale, rate each of the eight phases of the outcomes assessment cycle in terms of the amount of training *you* would benefit from, i.e., how prepared you feel to conduct the phase.	4 = do not require further training 3 = could benefit by receiving additional training 2 = would definitely benefit by receiving additional training 1 = severely lack training	Factor #1: Preparing to and collecting the data Factor #2: Analyzing the data and using the resulting findings
III.c. Using the following scale, rate *your* knowledge and expertise in each of the eight phases of the outcomes assessment cycle.	5 = fully understand 4 = generally understand 3 = understand somewhat 2 = faint understanding 1 = do not understand	Factor #1: Preparing to collect, collecting and analyzing the data Factor #2: Using the resulting findings from the data

For each of the five hypotheses, several sub-hypotheses or sub-correlations emerged as each of the survey items and survey item factors regarding the use of assessment results (items II.a., I.b., IX.a.) were compared to each survey item and survey item factors regarding the five variables studied: items in part III for CAO knowledge of assessment; items in part IV for communication regarding assessment; items in part V for institutional leadership concerning assessment; items in part VI for institutional culture regarding assessment; and, items in part VIII for the budget of assessment activities. The significant sub-correlations are noted in Table 6.

Table 6. Significant sub-correlations relating to each hypothesis

Survey item (and factor) regarding use of assessment results	**Survey item (and factor) regarding Hypothesis #1 *CAO knowledge* of assessment**	**Kendall's tau-b***
II.a.#1: Using assessment results in curriculum improvement, planning processes, and reporting	III.a.#1: CAO degree of preparation in preparing to and collecting assessment data (cycle)	.199
	III.b.#2: CAO knowledge of using results in planning processes and reporting (area)	.212
	III.b.#3: CAO knowledge of using results in curriculum improvement (area)	.228
	III.c.#1: CAO knowledge of and expertise in using the resulting findings from the data (cycle)	.164
	III.c.#2: CAO knowledge of and expertise in preparing to collect, collecting and analyzing the data (cycle)	.191
	III.d.: CAO overall knowledge and expertise of the assessment process	.298
II.a.#2: Using assessment results in financial issues and student counsel/services	III.b.#1: CAO knowledge of using results in financial issues and student services (area)	.291
	III.c.#1: CAO knowledge of using the resulting findings from the data (cycle)	.113
II.a.#3: Using assessment results in faculty evaluation and hiring	III.b.#4: CAO knowledge of using results in counsel to students and faculty issues (area)	.261
	III.c.#1: CAO knowledge of using the resulting findings from the data (cycle)	.112

* Correlation is significant at the .01 level (2-tailed)

** Correlation is significant at the .05 level (2-tailed)

Table 6. (continued)

Survey item (and factor) regarding use of assessment results	Survey item (and factor) regarding Hypothesis #1 *CAO knowledge* of assessment	Kendall's tau-b*
I.b.: Level of outcomes assessment plan implementation	III.a.#2: CAO degree of preparation in analyzing the data and using the resulting findings (cycle)	.160
	III.a.#1: CAO degree of preparation in preparing to and collecting data (cycle)	.201
	III.b.#2: CAO knowledge of using the results in planning processes and reporting (area)	.170
	III.b.#3: CAO knowledge of using the results in curriculum improvement (area)	.269
	III.c.#2: CAO knowledge of and expertise in using the resulting findings from the data (cycle)	.179
	III.c.#1: CAO knowledge of and expertise in preparing to collect, collecting and analyzing the data (cycle)	.241
	III.d.: CAO overall knowledge and expertise of the assessment process	.368
IX.a.: Assessment practices result in significant improvements	III.a.#2: CAO degree of preparation in analyzing the data and using the resulting findings (cycle)	.238
	III.a.#1: CAO degree of preparation in preparing to and collecting data (cycle)	.220
	III.b.#1: CAO knowledge of using results in financial issues and student services (area)	.229
	III.b.#2: CAO knowledge of using results in planning processes and reporting (area)	.145
	III.b.#3: CAO knowledge of using results in curriculum improvement (area)	.253
	III.b.#4: CAO knowledge of using results in counsel to students and faculty issues (area)	.112**
	III.c.#2: CAO knowledge of and expertise in using the resulting findings from the data (cycle)	.206
	III.c.#1: CAO knowledge of and expertise in preparing to collect, collecting and analyzing the data (cycle)	.250
	III.d.: CAO overall knowledge and expertise of the assessment process	.339
	Survey item (and factor) regarding Hypothesis #2 *communication* of assessment	
II.a.#1: Using assessment results in curriculum improvement, planning processes, and reporting	IV.a.: Openness of communication	.236
	IV.b.: Accuracy of communication	.274
	IV.c.#2: Frequency of communication regarding curriculum improvement (areas)	.316
	IV.c.#3: Frequency of communication regarding planning processes and reporting (areas)	.205

Table 6. (continued)

Survey item (and factor) regarding use of assessment results	Survey item (and factor) regarding Hypothesis #2 *communication* of assessment	Kendall's tau-b*
II.a.#1: Using assessment results in curriculum improvement, planning processes, and reporting	IV.d.#2: Effectiveness of communication regarding curriculum improvement (areas)	.185
	IV.d.#3: Effectiveness of communication regarding planning processes and reporting (areas)	.210
II.a.#2: Using assessment results in financial issues and student counsel/services	IV.c.#1: Frequency of communication regarding financial issues, student services and faculty issues (areas)	.342
	IV.d.#1: Effectiveness of communication regarding financial issues, student services and faculty issues (areas)	.348
II.a.#3: Using assessment results in faculty evaluation and hiring	IV.c.#1: Frequency of communication regarding financial issues, student services and faculty issues (areas)	.285
	IV.d.#1: Effectiveness of communication regarding financial issues, student services and faculty issues (areas)	.228
	IV.d.#2: Effectiveness of communication regarding curriculum improvement (areas)	.192
I.b.: Level of outcomes assessment plan implementation	IV.a.: Openness of communication	.369
	IV.b.: Accuracy of communication	.349
	IV.c.#1: Frequency of communication regarding financial issues, student services and faculty issues (areas)	.146
	IV.c.#2: Frequency of communication regarding curriculum improvement (areas)	.291
	IV.c.#3: Frequency of communication regarding planning processes and reporting (areas)	.260
	IV.d.#1: Effectiveness of communication regarding financial issues, student services and faculty issues (areas)	.203
	IV.d.#2: Effectiveness of communication regarding curriculum improvement (areas)	.220
	IV.d.#3: Effectiveness of communication regarding planning processes and reporting (areas)	.212
IX.a.: Assessment practices result in significant improvements	IV.a.: Openness of communication	.423
	IV.b.: Accuracy of communication	.406
	IV.c.#1: Frequency of communication regarding financial issues, student services and faculty issues (areas)	.223
	IV.c.#2: Frequency of communication regarding curriculum improvement (areas)	.378
	IV.c.#3: Frequency of communication regarding planning processes and reporting (areas)	.190

Table 6. (continued)

Survey item (and factor) regarding use of assessment results	Survey item (and factor) regarding Hypothesis #2 *communication* of assessment	Kendall's tau-b*
IX.a.: Assessment practices result in significant improvements	IV.d.#1: Effectiveness of communication regarding financial issues, student services and faculty issues (areas)	.258
	IV.d.#2: Effectiveness of communication regarding curriculum improvement (areas)	.327
	IV.d.#3: Effectiveness of communication regarding planning processes and reporting (areas)	.230
	Survey item (and factor) regarding Hypothesis #3 *leadership* of assessment	
II.a.#1: Using assessment results in curriculum improvement, planning processes, and reporting	V.a.: Effectiveness of upper administrators' leadership in assessment	.275
	V.b.: Upper administrators set a positive tone for assessment	.252
	V.c.: Upper administrators involved in assessment and use results to make improvements	.255
	V.d.: Upper administrators play a major role in assessment planning and evaluation	.246
	V.e.: Upper administrators endorse and support assessment process	.214
II.a.#2: Using assessment results in financial issues and student counsel/services	V.c.: Upper administrators involved in assessment and use results to make improvements	.164
	V.d.: Upper administrators play a major role in assessment planning and evaluation	.130**
II.a.#3: Using assessment results in faculty evaluation and hiring	V.b.: Upper administrators set a positive tone for assessment	.200
	V.c.: Upper administrators involved in assessment and use results to make improvements	.152
	V.d.: Upper administrators play a major role in assessment planning and evaluation	.204
	V.e.: Upper administrators endorse and support assessment process	.117**
I.b.: Level of outcomes assessment plan implementation	V.a.: Effectiveness of upper administrators' leadership in assessment	.382
	V.b.: Upper administrators set a positive tone for assessment	.340
	V.c.: Upper administrators involved in assessment and use results to make improvements	.432
	V.d.: Upper administrators play a major role in assessment planning and evaluation	.341
	V.e.: Upper administrators endorse and support assessment process	.355

Table 6. (continued)

Survey item (and factor) regarding use of assessment results	Survey item (and factor) regarding Hypothesis #3 *leadership* of assessment	Kendall's tau-b*
IX.a.: Assessment practices result in significant improvements	V.a.: Effectiveness of upper administrators' leadership in assessment	.520
	V.b.: Upper administrators set a positive tone for assessment	.458
	V.c.: Upper administrators involved in assessment and use results to make improvements	.505
	V.d.: Upper administrators play a major role in assessment planning and evaluation	.435
	V.e.: Upper administrators endorse and support assessment process	.363
	Survey item (and factor) regarding Hypothesis #4 *culture* of assessment	
II.a.#1: Using assessment results in curriculum improvement, planning processes, and reporting	VI.a.: Institutional culture supportive of assessment of student learning	.210
	VI.b.: Institutional culture enables assessment of student learning	.294
	VI.c.: Institutional culture holds assessment of student learning in high esteem	.262
II.a.#2: Using assessment results in financial issues and student counsel/services	VI.a.: Institutional culture supportive of assessment of student learning	.182
	VI.b.: Institutional culture enables assessment of student learning	.145**
	VI.c.: Institutional culture holds assessment of student learning in high esteem	.143**
II.a.#3: Using assessment results in faculty evaluation and hiring	VI.a.: Institutional culture supportive of assessment of student learning	.192
	VI.b.: Institutional culture enables assessment of student learning	.133**
	VI.c.: Institutional culture holds assessment of student learning in high esteem	.212
I.b.: Level of outcomes assessment plan implementation	VI.a.: Institutional culture supportive of assessment of student learning	.290
	VI.b.: Institutional culture enables assessment of student learning	.410
	VI.c.: Institutional culture holds assessment of student learning in high esteem	.435
IX.a.: Assessment practices result in significant improvements	VI.a.: Institutional culture supportive of assessment of student learning	.478
	VI.b.: Institutional culture enables assessment of student learning	.497
	VI.c.: Institutional culture holds assessment of student learning in high esteem	.508

Table 6. (continued)

Survey item (and factor) regarding use of assessment results	Survey item (and factor) regarding Hypothesis #5 *budget* for assessment	Kendall's tau-b*
II.a.#1: Using assessment results in curriculum improvement, planning processes, and reporting	VIII.b.: Adequacy of amount budgeted for assessment	.245
	VIII.c.: Adequacy of the use of assessment results in budgeting process	.302
	VIII.d.: Use of assessment results in budget allocations or cutbacks	.386
	VIII.e.: Use of assessment results in budgeting identifies institutional priorities	.285
	VIII.f.: Use of assessment results in budgeting identifies resource needs	.293
	VIII.g.: Use of assessment results in budgeting results in funds being allocated to high-priority areas	.332
	VIII.h.: Use of assessment results in budgeting results in funds not being allocated to ineffective areas	.197
II.a.#2: Using assessment results in financial issues and student counsel/services	VIII.b.: Adequacy of amount budgeted for assessment	.116**
	VIII.c.: Adequacy of the use of assessment results in budgeting process	.238
	VIII.d.: Use of assessment results in budget allocations or cutbacks	.183
	VIII.e.: Use of assessment results in budgeting identifies institutional priorities	.198
	VIII.f.: Use of assessment results in budgeting identifies resource needs	.156
	VIII.g.: Use of assessment results in budgeting results in funds being allocated to high-priority areas	.207
	VIII.h.: Use of assessment results in budgeting results in funds not being allocated to ineffective areas	.252
II.a.#3: Using assessment results in faculty evaluation and hiring	VIII.c.: Adequacy of the use of assessment results in budgeting process	.180
	VIII.d.: Use of assessment results in budget allocations or cutbacks	.201
	VIII.e.: Use of assessment results in budgeting identifies institutional priorities	.247
	VIII.f.: Use of assessment results in budgeting identifies resource needs	.179
	VIII.g.: Use of assessment results in budgeting results in funds being allocated to high-priority areas	.174
	VIII.h.: Use of assessment results in budgeting results in funds not being allocated to ineffective areas	.168

Table 6. (continued)

Survey item (and factor) regarding use of assessment results	Survey item (and factor) regarding Hypothesis #5 *budget* for assessment	Kendall's tau-b*
I.b.: Level of outcomes assessment plan implementation	VIII.b.: Adequacy of amount budgeted for assessment	.236**
	VIII.c.: Adequacy of the use of assessment results in budgeting process	.494
	VIII.d.: Use of assessment results in budget allocations or cutbacks	.509
	VIII.e.: Use of assessment results in budgeting identifies institutional priorities	.416
	VIII.f.: Use of assessment results in budgeting identifies resource needs	.372
	VIII.g.: Use of assessment results in budgeting results in funds being allocated to high-priority areas	.437
	VIII.h.: Use of assessment results in budgeting results in funds not being allocated to ineffective areas	.270
IX.a.: Assessment practices result in significant improvements	VIII.b.: Adequacy of amount budgeted for assessment	.331
	VIII.c.: Adequacy of the use of assessment results in budgeting process	.518
	VIII.d.: Use of assessment results in budget allocations or cutbacks	.581
	VIII.e.: Use of assessment results in budgeting identifies institutional priorities	.452
	VIII.f.: Use of assessment results in budgeting identifies resource needs	.458
	VIII.g.: Use of assessment results in budgeting results in funds being allocated to high-priority areas	.503
	VIII.h.: Use of assessment results in budgeting results in funds not being allocated to ineffective areas	.385

Survey items related to the hypotheses are noted in Figure 7. The variables of each hypothesis are bolded in Figure 7, for example, Hypothesis #1's variables are "the CAO's level of knowledge of assessment" and "the use of assessment results in institutional decision-making."

Upon conducting the factor analysis for the noted items, Kendall tau-b, Pearson and Spearman bivariate correlation procedures were conducted for each correlation. However, the

Figure 7. Survey items matched to each hypothesis

Hypothesis (variables of hypothesis in bold)	Items pertaining to variables	Items pertaining to the use of assessment results
1. There is a relationship between community college **CAO's level of knowledge of assessment** and the **use of assessment results in institutional decision-making**.	III.a.-d.	I.b., II.a., IX.a.
2. There is a relationship between the effectiveness of **communication** within a community college concerning assessment and the **use of assessment results in institutional decision-making**.	IV.a.-d.	I.b., II.a., IX.a.
3. There is a relationship between community college institutional **leadership's** support of assessment and the **use of assessment results in institutional decision-making**.	V.a.-e.	I.b., II.a., IX.a.
4. There is a relationship between the supportive nature of a community college's **culture** regarding assessment and the **use of assessment results in institutional decision-making**.	VI.a.-c.	I.b., II.a., IX.a.
5. There is a relationship between the amount a community college **budgets** for assessment and the **use of assessment results in institutional decision-making**.	VIII.a.-h.	I.b., II.a., IX.a.

Kendall tau-b test was used primarily to report the data, as it is more appropriate for Likert-type items and is less sensitive to departures from normality than is the Pearson test. It should be noted that all three tests yielded similar results.

The sub-correlations for each hypothesis were tested with two types of Bonferroni tests, calculated by hand. Figure 8 notes these tests and tracks the number of significant correlations for each hypothesis. The Bonferroni tests reduced Type II error, or the degree to which the null hypothesis was falsely supported. For the first Bonferroni test, the number of significant sub-correlations from the Kendall tau-b test was totaled and divided by the number of total sub-correlations for that hypothesis. For example, Hypothesis #1 has 26

significant sub-correlations of 45 total; thus, 26/45 = 58% of the sub-correlations were significant. For the second Bonferroni test, conducted to validate the results of the first Bonferroni test, a p-value of .05 was divided by the total number of sub-correlations for each hypothesis. Next, the p-value for each sub-correlation was examined to determined if it was less than this amount. For example, Hypothesis #1 had 45 sub-correlations, divided into .05 is .0011. Of the 45 sub-correlations, 19 had p-values that were less than .0011; thus, 19/45 = 42%. The results of the Bonferroni tests are noted in Figure 8.

Figure 8. Bonferroni tests

Hypothesis	Significant sub-correlations/total sub-correlations	Total number of sub-correlations with p-values less than calculated amount/total sub-correlations
1. There is a relationship between community college **CAO's level of knowledge of assessment** and the **use of assessment results in institutional decision-making**.	26/45 = 58%	19/45 = 42%
2. There is a relationship between the effectiveness of **communication** within a community college concerning assessment and the **use of assessment results in institutional decision-making**.	27/40 = 68%	26/40 = 65%
3. There is a relationship between community college institutional **leadership's** support of assessment and the **use of assessment results in institutional decision-making**.	21/25 = 84%	17/25 = 68%
4. There is a relationship between the supportive nature of a community college's **culture** regarding assessment and the **use of assessment results in institutional decision-making**.	15/15 = 100%	12/15 = 80%
5. There is a relationship between the amount a community college **budgets** for assessment and the **use of assessment results in institutional decision-making**.	34/35 = 97%	28/35 = 80%

Data Analysis Pertaining to the Research Questions

In this section, statistical analysis for each research question is discussed.

Research Question #1: CAO Knowledge of Assessment

Research Question #1 asks, "How does assessment leadership's expertise in assessment affect the use of assessment results in institutional decision-making?" Item III.a. asked respondents to rate the amount of training they might benefit from in each of the eight outcomes assessment cycle phases. The means for each of the eight phases varied slightly between 3.03-3.28, using the following scale. Respondents felt they were at least adequately prepared in all phases but could benefit from additional training.

4 = Solidly prepared/trained in this area and do not require further training
3 = Adequately prepared/trained in this area but could benefit by receiving additional training
2 = Have a vague understanding of this area and would definitely benefit by receiving additional training
1 = Severely lacking training/preparation in this area

The two distinct factors for item III.a. were, 1) preparing to collect and collecting the data; and, 2) analyzing the data and using the resulting findings (Figure 6).

Item III.b. questioned respondents' knowledge of using the results of assessment in each of the 20 areas of institutional decision-making, using the same four-point Likert-type scale as in III.a., noted previously. Means ranged from 1.98 for gift solicitation to 3.33 for program evaluation (Table 7).

In item III.c., respondents were asked to rate their knowledge and expertise in each of the eight phases of the outcomes assessment cycle using the following scale.

Table 7. CAO knowledge in using the results of assessment in areas of institutional decision-making

Areas of Institutional Decision-Making	Mean	Standard Deviation
Curriculum planning	3.21	.705
Curriculum evaluation	3.20	.717
Improve teaching	3.19	.685
Improve learning	3.16	.697
Budgeting process	2.79	.891
Grant proposals	2.44	.941
Gift solicitation	1.98	.877
Student recruitment	2.50	.832
Student retention	2.71	.798
Program evaluation	3.33	.624
Strategic planning	3.10	.754
Self-study reports to accrediting agencies	3.30	.681
Reports to external parties (e.g., trustees, regents)	3.03	.779
Reports to president or other upper administrators	3.26	.703
Feedback to students	2.74	.818
Academic advising	2.66	.840
Job placement for graduates	2.44	.877
Reports to faculty	3.07	.771
Faculty evaluation	2.71	.942
Hiring faculty	2.54	.926

5 = Fully understand this phase and can provide specific examples; expert in development and implementation of this phase.
4 = Generally understand this phase and can provide specific examples; proficient in development and implementation of this phase.
3 = Understand this phase somewhat, but cannot provide specific examples; novice in development and implementation of this phase.
2 = Have a faint understanding of what this phase means; no experience in development and implementation of this phase.
1 = Do not understand this phase.

For this item, means ranged from 3.71 for Phase 8, the last phase, to 4.10 for Phase 1, the first phase. Interestingly, as noted in Table 8, the means generally decreased from Phase 1 to Phase 8.

Using the following five-point Likert-type scale, respondents were asked to rate their overall knowledge and expertise of the assessment process.

Table 8. CAO knowledge of the assessment cycle phases

Assessment Cycle Phases	Mean	Standard Deviation
Phase 1: Determine assessment of student learning plan and goals	4.10	.664
Phase 2: Develop measures to assess goals	3.96	.692
Phase 3: Collect assessment data	3.94	.792
Phase 4: Analyze data in relation to goals	3.79	.826
Phase 5: Share results with internal-external audiences	3.75	.815
Phase 6: Develop recommendations for improvement	3.82	.796
Phase 7: Implement improvements	3.77	.825
Phase 8: Follow up on improvements	3.71	.832

5 = Fully understand the assessment process and can provide specific examples; expert in development and implementation of assessment plans.
4 = Generally understand the assessment process and can provide specific examples; proficient in development and implementation of assessment plans.
3 = Understand the assessment process somewhat, but cannot provide specific examples; novice in development and implementation of assessment plans.
2 = Have a faint understanding of the assessment process; no experience in development and implementation of assessment plans.
1 = Do not understand assessment process.

Over 80% of the respondents rated their knowledge and expertise of assessment as a four or five; 16.8% rated a three; and a scant 1.1% rated a two, with no respondents rating a one.

Noteworthy Correlations for Research Question #1.

As noted previously in Figure 8, there were 45 sub-correlations relating to Hypothesis #1. Approximately 58% of these sub-correlations were significant. These significant correlations between survey items regarding the use of assessment results in institutional decision-making and CAO knowledge of assessment are noted in Table 6. Highlights of this table are noted as follows.

CAO knowledge of the latter half of the assessment cycle (Phases 5-8, using the resulting findings from the data) is correlated significantly to all areas of institutional decision-making. CAO knowledge of the first half of the assessment cycle (Phases 1-4,

preparing to and collecting assessment data) is correlated significantly to the areas of institutional decision-making that include curriculum improvement, planning processes, and reporting.

The extent or level to which institutional outcomes assessment plans have been implemented is correlated significantly to CAO overall knowledge and expertise of the assessment process, as well as to all phases of the assessment cycle. Further, respondents' perceptions of the degree to which assessment practices have resulted in significant improvements at their institutions is correlated significantly to CAO overall knowledge and expertise of the assessment process, including all phases of the assessment cycle. Finally, respondents' perceptions of the degree to which assessment practices have resulted in significant improvements at their institutions is correlated significantly to CAO knowledge of the use of assessment results in all areas of institutional decision-making.

Research Question #2: Communication and Assessment

Research Question #2 asks, "How does institutional communication concerning assessment affect the use of assessment results in institutional decision-making?" Items IV.a. and IV.b. asked respondents to rate the openness and accuracy of institutional communication regarding assessment. Nearly 90% of respondents rated the openness of communication as somewhat free-flowing to free-flowing, using a 4-point Likert-type scale where 4 = free-flowing and 1 = nonexistent. A similar percentage of respondents rated the accuracy of communication as somewhat to very accurate, using a 4-point Likert-type scale where 4 = very accurate and 1 = very inaccurate.

In items IV.c. and IV.d., for each of the 20 areas of institutional decision-making, respondents rated the frequency and effectiveness of communication regarding assessment

between administrators responsible for institutional outcomes assessment and administrators responsible for that particular area of institutional decision-making. The following Likert-type scales were used for the frequency and effectiveness of communication.

Frequency of Communication
1 = nonexistent
2 = rare
3 = sporadic
4 = frequent
5 = consistent

Effectiveness of Communication
1 = highly ineffective
2 = somewhat ineffective
3 = somewhat effective
4 = highly effective

As seen in Table 9, frequency of communication means ranged from 2.06 for gift solicitation to 3.88 for program evaluation. The effectiveness of communication means ranged from 1.93 for gift solicitation to 3.25 for self-study reports to accrediting agencies.

Noteworthy Correlations for Research Question #2.

As noted previously in Figure 8, there were 40 sub-correlations relating to Hypothesis #2. Approximately 68% of these sub-correlations were significant. These significant correlations between survey items regarding the use of assessments results in institutional decision-making and institutional communication of assessment are noted in Table 6. Highlights of this table are noted as follows.

The openness and accuracy of communication is correlated significantly to the areas of institutional decision-making that include curriculum improvement, planning processes, and reporting. The openness and accuracy of communication also is correlated significantly with the level to which institutional outcomes assessment plans have been implemented. This level of implementation is correlated significantly to both the frequency and effectiveness of communication regarding all areas of institutional decision-making.

Table 9. Frequency and effectiveness of institutional communication regarding assessment

Area of Institutional Decision-Making	Mean for *frequency* of communication (5-point scale)	Mean for *effectiveness* of communication (4-point scale)
Curriculum planning	3.83	3.12
Curriculum evaluation	3.81	3.10
Improve teaching	3.65	3.06
Improve learning	3.67	3.09
Budgeting process	3.07	2.61
Grant proposals	2.55	2.25
Gift solicitation	2.06	1.93
Student recruitment	2.72	2.40
Student retention	3.03	2.57
Program evaluation	3.88	3.24
Strategic planning	3.59	3.08
Self-study reports to accrediting agencies	3.86	3.25
Reports to external parties (e.g., trustees, regents)	3.34	2.90
Reports to president or other upper administrators	3.73	3.14
Feedback to students	2.74	2.38
Academic advising	2.79	2.43
Job placement for graduates	2.50	2.27
Reports to faculty	3.39	2.90
Faculty evaluation	2.78	2.45
Hiring faculty	2.47	2.23

Respondents' perceptions of the degree to which assessment practices have resulted in significant improvements at their institutions is correlated significantly to the openness and accuracy of communication. Finally, respondents' perceptions of the degree to which assessment practices have resulted in significant improvements at their institutions also is correlated significantly to the frequency and effectiveness of communication regarding all areas of institutional decision-making.

Research Question #3: Leadership and Assessment

Research Question #3 asks, "How does upper administration's acceptance and support of assessment affect the use of assessment results in institutional decision-making?" Item III.e. asked respondents to rate upper administrators' overall knowledge and expertise of the assessment process. Over 40% of respondents thought that their institutions' upper administrators understood the assessment process at least somewhat and were novices in the development and implementation of assessment plans. Another 40+% rated their upper administrators as generally understanding the assessment process and being proficient in the development and implementation of assessment plans. When asked to rate their overall knowledge and expertise of the assessment process, respondents rated themselves on average at 3.96, as compared to a mean of 3.39 for upper administrators, using a five-point scale, where 5 = fully understand the assessment process and 1 = do not understand.

Item V.a. asked respondents to rate the overall effectiveness of upper administrators' leadership (e.g., the institution's president) in institution-wide assessment activities, using a four-point Likert-type scale where a rating of 1 = highly ineffective and 4 = highly effective. The mean for this item was 3.16, with nearly 85% rating the effectiveness of leadership as somewhat to highly effective.

Items V.b.-e. asked respondents to what degree they agreed with specific statements concerning leadership and assessment, based on a four-point Likert-type scale where 1 = strongly disagree and 4 = strongly agree. Table 10 notes means and standard deviations for each statement. On the whole, respondents agreed with these positively-worded statements. However, over a quarter of respondents disagreed with the statements, "Upper administrators

are involved in assessment and use assessment results for making improvements" and "Upper administrators play a major role in the assessment planning and evaluation process."

Table 10. Ratings of upper administrators' leadership in assessment

Survey items V.b.-e. Upper administrators:	Mean	Standard Deviation
V.b. set a positive tone for the institution regarding assessment activities.	3.53	.630
V.c. are involved in assessment and use assessment results in making improvements.	3.03	.823
V.d. play a major role in the assessment planning and evaluation process.	3.03	.892
V.e. wholeheartedly endorse and support the assessment process.	3.47	.718

Noteworthy Correlations for Research Question #3.

As noted previously in Figure 8, there were 25 sub-correlations relating to Hypothesis #3. Approximately 84% of these sub-correlations were significant. These significant correlations between survey items regarding the use of assessments results in institutional decision-making and institutional leadership concerning assessment are noted in Table 6. Highlights of this table are noted as follows.

Upper administration's overall attitude toward and involvement in assessment is correlated significantly to the areas of institutional decision-making that include curriculum improvement, planning processes, and reporting. Leadership also is correlated significantly to the level to which institutional outcomes assessment plans have been implemented as well as to respondents' perceptions of the degree to which assessment practices have resulted in significant improvements at their institutions.

Research Question #4: Institutional Culture Regarding Assessment

Research Question #4 asks, "How does an institution's culture regarding assessment affect the use of assessment results in institutional decision-making?" Items VI.a.-c. asked

respondents to what degree they agreed with specific statements concerning culture and assessment based on a four-point Likert-type scale where 1 = strongly disagree and 4 = strongly agree. Table 11 notes means and standard deviations for each statement. Generally, respondents agreed with these positively-worded statements. However, about 15% of respondents disagreed that the culture is supportive of assessment and enables assessment. Further, nearly one-third of the respondents disagreed that the culture of the institution holds assessment in high esteem.

Table 11. Ratings of institutional assessment culture

Survey items VI.a.-c. The institutional culture:	Mean	Standard Deviation
VI.a. is supportive of the assessment of student learning.	3.18	.729
VI.b. enables the assessment of student learning.	3.12	.751
VI.c. holds the assessment of student learning in high esteem.	2.92	.813

Noteworthy Correlations for Research Question #4.

As noted previously in Figure 8, there were 15 sub-correlations relating to Hypothesis #4. Approximately 100% of these sub-correlations were significant. These significant correlations between survey items regarding the use of assessments results in institutional decision-making and institutional culture concerning assessment are noted in Table 6. Highlights of this table are noted as follows.

The supportive nature of the institution's culture is correlated significantly to the use of assessment results in all areas of institutional decision-making. Culture also is correlated significantly to the level to which institutional outcomes assessment plans have been implemented as well as to respondents' perceptions of the degree to which assessment practices have resulted in significant improvements at their institutions.

Research Question #5: Assessment Budget

Research Question #5 asks, "How does institutional spending on assessment affect the use of assessment results in institutional decision-making?" Item VIII.a. specifically asked respondents how much the institution budgets at an institutional level for assessment activities. Nearly 23% said that their institution budgets between $5,000 - $10,0000 per year. Nearly seventeen percent have less than $5,000 to spend on assessment activities, and 20% have more than $40,000 in their assessment budgets (Table 12).

Item VIII.b. asked respondents to rate the adequacy of the amount budgeted for institutional assessment, using a scale where 4 = more than adequate and 1 = severely inadequate. Approximately 59% felt that their budgets were adequate and 41% felt that their budgets were inadequate. The mean rating for this item was 2.61.

Table 12. Institutional assessment budgets

Budgeted Amount	Frequency	Percentage
Less than $5,000	34	16.5
$5,000-10,000	46	22.3
$10,000-20,000	28	13.6
$20,000-40,000	32	15.5
$40,000-60,000	10	4.9
$60,000-80,000	15	7.3
More than $80,000	16	7.8
No line item for assessment activities	17	8.3
Do not know assessment budget	8	3.9

Item VIII.c. focused on the adequacy of the use of assessment results in the budgeting process. Using the same scale as item VIII.b., over 60% of respondents felt that the use of assessment results in the budgeting process was inadequate. The mean rating for this item was 2.31. Similarly, over half of the respondents reported through item VIII.d. that either the results of assessment are not used in making budget allocations or cutbacks or that the results are used but this does not work well.

Items VIII.e.-h. asked respondents to what degree they agreed with specific statements concerning the use of assessment results in budgeting at the institution, based on a four-point Likert-type scale where 1 = strongly disagree and 4 = strongly agree. Table 13 notes means and standard deviations for each statement. On the whole, barely half of the respondents agreed with these positively-worded statements. Approximately one-third of respondents disagreed that using assessment results in budgeting identifies institutional priorities or resource needs. Almost half of the respondents disagreed that the use of assessment results in budgeting allows funds to be allocated to high-priority areas. Further, well over half disagreed that the use of assessment results diverted funding away from ineffective areas.

Table 13. Ratings of use of assessment results in institutional budgeting

Survey items VIII.e.-h. The use of assessment results in budgeting at the institution:	Mean	Standard Deviation
VIII.e. identifies institutional priorities.	2.60	.928
VIII.f. identifies resource needs.	2.64	.900
VIII.g. results in funds being allocated to high-priority areas.	2.51	.937
VIII.h. results in funds not being allocated to ineffective areas.	2.26	.862

Noteworthy Correlations for Research Question #5.

As noted previously in Figure 8, there were 35 sub-correlations relating to Hypothesis #5. Approximately 97% of these sub-correlations were significant. These significant correlations between survey items regarding the use of assessments results in institutional decision-making and the budgeting of funds for assessment are noted in Table 6. Highlights of this table are noted as follows.

Respondents' attitudes toward the adequacy of funds budgeted for assessment is correlated significantly to areas of institutional decision-making that include curriculum improvement, planning processes, and reporting; and, financial issues and student counsel/services. Adequacy of the assessment budget also is correlated significantly to the level to which institutional outcomes assessment plans have been implemented, as well as to respondents' perceptions of the degree to which assessment practices have resulted in significant improvements at their institutions.

Summary

Based on the data presented in this chapter, answers to the research questions have been attained. Thus, the purpose of this study has been fulfilled, which was to examine the areas of institutional decision-making in which the results of outcomes assessment are being used and how extensively the following five variables influence the use of such results: 1) assessment leadership's knowledge of the assessment process; 2) communication regarding assessment within the institution; 3) upper administration's support of assessment activities; 4) institutional culture regarding assessment; and, 5) funding provided for assessment activities. Descriptive and inferential statistics were used to examine the data and to measure the impact the five variables have on community college CAO's use of institutional outcomes assessment results in institutional decision-making.

CHAPTER FIVE – SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

Closing the assessment loop and using the results of the assessment process is difficult to do but is key for institutional improvement. Slowly but surely a closing-the-loop mentality is working its way into the pedagogy of higher education. With the assessment movement now in existence for the better part of the last half century and accreditation's call for mandatory compliance with assessment standards, the time has come to study how institutions are progressing in closing the loop. More so now than at any point in the history of higher education, institutions *are* attempting to use of results of assessment in institutional decision-making processes.

This research has fulfilled the call to examine how institutions are closing the assessment loop, as the purpose of this study was to identify *where* and to what *extent* the results of assessment are being used in institutional decision-making. Further, this research has uncovered the extent to which five defined variables influence the use of assessment results in institutional decision-making.

The implementation of institutional outcomes assessment plans at community colleges are less likely to succeed if they do not excel in the areas concerning five defined variables, i.e., without 1) *assessment leadership's extensive knowledge* of the assessment process; 2) *effective communication* regarding assessment within the institution; 3) *upper administration's full support* of assessment activities; 4) *an institutional culture that supports* assessment; and, 5) *adequate funding* provided for assessment activities, using the results of assessment will have negligible effects.

In analyzing the data from the surveys completed by 216 community college CAOs of NCA-HLC institutions (a 72% response rate of the sample), it was found that, of the 20 areas of institutional decision-making, results of outcomes assessment are most used in: 1) curriculum planning and evaluation; 2) improvement of teaching and learning; 3) program evaluation; and, 4) reports to accrediting agencies and upper-level administrators. Areas in which results are least used include: 1) gift solicitation; 2) student recruitment; 3) job placement of graduates; and, 4) faculty evaluation and hiring.

Further, statistics compiled for this study indicate that all five of the variables significantly influence the use of assessment results to varying degrees. However, institutional culture regarding assessment and funding provided for assessment activities most impact the use of assessment results. The following sections of this chapter will explore some conclusions and implications that can be made based on this data and resulting recommendations regarding theoretical and practical applications of these data.

Conclusions

The conclusions of this study are addressed according to the research hypotheses set forth in Chapter One. Findings refer to the 20 areas of institutional decision-making (defined in Chapter One) and to the five variables that influence the use of results in institutional decision-making: 1) assessment leadership's knowledge of the assessment process; 2) communication regarding assessment within the institution; 3) upper administration's support of assessment activities; 4) institutional culture regarding assessment; and, 5) funding provided for assessment activities.

Hypothesis #1:

There is a relationship between community college chief academic officer's level of knowledge of assessment and the use of assessment results in institutional decision-making.

Over half of the sub-correlations concerning this hypothesis were significant. Further, CAO knowledge of the use of results varied widely among the areas of institutional decision-making. Finally, CAO knowledge of the latter half of the assessment cycle (Phases 5-8, using the results) is correlated significantly to all areas of institutional decision-making.

Hypothesis #2:

There is a relationship between the effectiveness of communication within a community college concerning assessment and the use of assessment results in institutional decision-making.

On the whole, over 60% of the sub-correlations concerning this hypothesis were significant. Specifically, the frequency and effectiveness of communication is correlated significantly to the use of assessment results in all areas of institutional decision-making and to the level to which institutional outcomes assessment plans have been implemented.

Hypothesis #3:

There is a relationship between community college institutional leadership's support of assessment and the use of assessment results in institutional decision-making.

Over 80% of the sub-correlations concerning this hypothesis were significant. Further, leadership's support is correlated significantly to the level to which institutional outcomes assessment plans have been implemented.

Hypothesis #4:

There is a relationship between the supportive nature of a community college's institutional culture regarding assessment and the use of assessment results in institutional decision-making.

All of the sub-correlations concerning this hypothesis were significant. Further, the supportive nature of the institution's culture is correlated significantly to the use of assessment results in all areas of institutional decision-making.

Hypothesis #5:

There is a relationship between the amount a community college budgets for assessment and the use of assessment results in institutional decision-making.

Nearly all of the sub-correlations concerning this hypothesis were significant. Further, the adequacy of funds budgeted for assessment is correlated significantly to the level to which institutional outcomes assessment plans have been implemented.

Implications Based on Data Analysis

There are several implications that can be made from these findings, based upon the conclusions drawn regarding the hypotheses and the data gathered in response to the research questions. These implications are discussed on the following pages.

General Implications

It was encouraging to note that at this point in time nearly 90% of the respondents stated that their institution had a written plan regarding the institutional assessment of student learning. An assumption of this study was that most community colleges had advanced in their outcomes assessment processes so that they had completed the outcomes assessment cycle at least once and are at least attempting to use the results in institutional decision-

making. However, although data showed that more than 40% of the CAOs surveyed noted their institution had completed the assessment cycle at least, almost 60% of the institutions had not completed the cycle but were somewhere mid-cycle. This 60% is, however, attempting to use results that they have garnered thus far. Additionally, nearly 60% of respondents noted that, at most, results are used in institutional decision-making sporadically. This leaves a large number of institutions in the critical final phases of the assessment process not consistently using the results. These statistics viewed in light of the finding that more than half of the CAOs noted that their institution's assessment activities were found to be lacking by the NCA-HLC calls for the scholarly assessment community, as well as accrediting agencies, to thoroughly examine the cause for this nonuse.

Areas of Institutional Decision-Making

This research noted that CAOs feel most proficient in using the results in the areas of institutional decision-making that concern curriculum planning and evaluation, improvement of teaching and learning, program evaluation, and reports to accrediting agencies and upper administration. Additionally, CAOs feel that assessment results are not used as much as they could be in the areas of gift solicitation, student recruitment, job placement of graduates, and faculty evaluation and hiring. Therefore, these latter areas of institutional decision-making must be examined closely to determine how assessment results from these areas can be used effectively.

Impact of the Five Variables

In examining the data as a whole, it was noted that the five defined variables have a significant impact on the use of outcomes assessment results in institutional decision-making. This significance prompts definition of the variables as a whole. The "BLCCK Variables"

(pronounced 'block'), represent the variables of budget, leadership, culture, communication and knowledge and how they individually affect the way assessment results are used. Viewing these variables as a unit gives substance and clarity to the challenges faced by administrators in the assessment process.

Budget.

To be effective, budgeting processes must be based on assessment data used to make budgeting decisions. The adequacy of an institution's assessment budget greatly impacts the use of assessment results in institutional decision-making as shown by the survey data. Nearly all of the sub-correlations related to the budget hypothesis were significant. Respondent answers to survey items were telling as well with over 40% stating that their institution's assessment budgets were inadequate and over 60% stating the use of assessment results in the budgeting process was inadequate. These results indicate that this population would benefit by educational/information strategies developed by the scholarly assessment community that specifically address using the results of the assessment process in the institutional decision-making process of budgeting. Resource management and institutional-decision making must mirror and support the importance of assessment within the institution.

Leadership.

In terms of an institution's motivation to use assessment results, it is logical to infer that the more institutional leadership embraces the assessment philosophy the more likely assessment results will be used and the more assessment is likely to succeed. Respondents rated the effectiveness of leadership's role in institutional assessment highly. However, a large majority of the sub-correlations related to the leadership support hypothesis were significant. Additionally, respondents noted that institutional leadership does not play a

major role in the assessment process, i.e., leadership is not involved in the assessment process, nor do they use results of assessment to make improvements. The scholarly assessment community as well as accreditation agencies must be sensitive to this somewhat uncontrollable variable concerning assessment and address ways to handle situations where leadership is not supportive or knowledgeable regarding assessment activities. No matter the motivation for assessment, i.e., internal (leadership) or external (accreditation), the importance of determining who manages and evaluates the information and how it relates to student learning and instruction is crucial. Without effective leadership, assessment is much less likely to succeed.

Culture.

In order for assessment to succeed, the leadership must integrate assessment activities and strategies into the whole institution. In other words, a shift in culture must occur. Further, assessment is an *ongoing* process, a cycle that is always questioning the goals in place, and not a one-time-only project. Over 60% of respondents rated institutional culture as the primary impediment to using assessment results in institutional decision-making. Further, all of the correlations relating to the institutional culture hypothesis were significant with the supportive nature of the institution's culture being correlated significantly to the use of assessment results in all areas of institutional decision-making. Although it is difficult to affect institutional culture, taking years or even decades, the scholarly assessment community along with administrators, faculty and accreditation agencies must persevere to influence and encourage a culture of assessment within institutions of higher education. A culture shift such as assessment must be in place long enough to pervade all aspects of the institution.

Communication.

The openness and accuracy of communication is correlated significantly to the level to which institutional outcomes assessment plans are implemented. This level of implementation is correlated significantly to both the frequency and effectiveness of communication regarding all areas of institutional decision-making. Further, a majority of sub-correlations relating to the communication hypothesis were significant.

Suggesting to better the effectiveness of communication throughout an institution of higher education is a rhetorical statement; however, educational efforts by the scholarly assessment community concerning the communication of assessment matters (also fostering an assessment culture) would be most helpful to institutional administrators.

Knowledge.

On the whole, respondents rated positively their knowledge of the assessment process. However, respondents were less positive when questioned specifically about using the results of assessment in each of the 20 areas of institutional decision-making. On a 5-point scale, responses ranged from a mean of 1.98 for gift solicitation to 3.33 for program evaluation.

Although most CAOs stated that they truly understand the assessment process, it should be noted that CAO knowledge of the latter half of the assessment process is correlated significantly to using the results in all areas of institutional decision-making. The extent to which assessment plans have been implemented is also correlated significantly to CAO overall knowledge and expertise of the assessment process, including all phases of the assessment cycle. Interestingly, CAO knowledge of the assessment cycle *decreased* as phase numbers increased (i.e., respondents knew less about Phase 8 than they did Phase 1). This

observation combined with the significant sub-correlation of CAO knowledge of the latter half of the assessment cycle to using the results calls for the scholarly assessment community to investigate additional training for this population in the latter half of the assessment cycle.

Follow-up on Implications

To deal effectively with the issues identified in this research, following are a number of proposed options.

- This data can be shared in the form of an executive summary report sent to key staff of: 1) regional accrediting agencies, such as NCA-HLC and, 2) organizations that promote the assessment of student learning, such as the America Association of Higher Education (AAHE). Further, proposals for presentation at national conferences can be submitted to these organizations as well.
- Education about *all* phases of the assessment cycle and the use of assessment results in institutional decision-making is still needed for community college administrators. Future sponsored training sessions could focus on: 1) using assessment results in budgeting processes; 2) effectively dealing with institutional leadership in assessment matters; 3) influencing the assessment culture of the institution; 4) improving communication in all areas of the institution regarding assessment; 5) the latter half of the outcomes assessment process and the use of assessment results; 6) the outcomes assessment process presented at different levels of implementation, such as beginner – those who have little or no working knowledge of outcomes assessment or the process; intermediate – those who have begun the outcomes assessment process but are

struggling through the data collection and data analysis phases; and, advanced – those who are on the verge of closing the assessment cycle loop in implementing and following up on recommendations.

- Encourage national organizations such as the American Association of Higher Education to convene: 1) a national task force on the use of outcomes assessment results in institutional decision-making for community colleges, addressing the impact of the BLCCK Variables; and, 2) a "state of institutional assessment in community colleges" conference.
- To keep the public and higher education informed, accreditation agencies need to keep track of and monitor the progress accredited institutions are making as a whole in assessment efforts. For example, encourage regional accrediting agencies to document and make public the type and number of challenges and strengths institutions noted in on-site evaluation reports in the area of outcomes assessment.
- Encourage regional accrediting agencies to carefully review the manner in which the outcomes assessment standards/requirements are applied. Since accreditation site visit activities are, for the most part, carried out by volunteer peer reviewers, it is important that site visitors apply the standards in a similar and consistent manner. Site visitor training manuals and/or site visitor training workshops could be revised to include detailed sections on outcomes assessment and the acceptable measure of the outcomes assessment standard.
- Examine the methods institutions are using to assess student learning. For example, a majority of CAOs noted that their institutions use the following to

assess student learning: general education goals; program review; student, faculty, alumni, employer surveys; advisory committees; program assessment plans; curriculum review; entrance/exit examinations; and, capstone projects/courses.

- Examine past and current educational training efforts (e.g., sessions, workshops) and consultant services available in institutional outcomes assessment, carefully scrutinizing quality and content of such efforts and services.
- Call for a review of materials (e.g., strategies, manuals) published by regional accrediting agencies; specialized agencies; national assessment organizations; and, national organizations representing institutions of higher education.

Recommendations for Future Research

Because this study was exploratory on many levels, its features, particularly the survey, provide the basis for further research. It is important to note, however, that the survey was designed specifically for this study and, although it was pilot tested prior to being used and several drafts produced, it is not a precise instrument but has the potential to become one.

Until this point in time, no study had been conducted documenting the use of assessment results in institutional decision-making at the community college level. This research enables institutional administrators, accreditation staff, and assessment scholars to carefully examine the BLCCK Variable's effect on using assessment results. Further, this research has noted the areas of institutional decision-making in which results of the assessment process are used, noting the areas where more education is needed for a more effective use of results. This research also gives guidance to regional accrediting agencies

and national organizations representing institutions of higher education as to the type, level and content of courses, materials and presentations on outcomes assessment that should be made available to institutional administrators and faculty. Also important is that this study identifies areas of additional research, expounding on the results from this study. The following suggestions for further research would add to the knowledge and practical application bases of the outcomes assessment process.

- Analyze further the BLCCK Variables in an effort to develop solutions to change these variables from impediments into catalysts in the assessment process.
- Conduct a qualitative study on those chief academic officers who were willing to be interviewed, as noted from the survey. Discuss at length the influence that the BLCCK Variables have on their responsibilities regarding institutional assessment.
- Conduct this same type of research with other types of institutions, such as four-year public, and two- and four-year private institutions.
- Investigate further the resources available within public two-year institutions for outcomes assessment and how these resources are used specifically.
- Explore the differences in survey respondents, i.e., CAOs compared to respondents who were not CAOs.

Concluding Remarks

In Light of the Current Literature

In examining the results of this research in light of the current assessment literature reviewed in Chapter Two, this research has added to and enhanced the literature base. This

research is consistent with previous findings about change at an institutional level being a long and difficult process. Further, this research concurs with the literature regarding impediments in the assessment process. The BLCCK Variables were derived from a study of the literature and must be recognized and dealt with by the scholarly assessment community. This research has added to the assessment literature by: 1) better defining the Variables; 2) bringing all five of the Variables together as a unit; and, 3) assessing the Variables' impact on the assessment process. In short, the BLCCK Variables impact the assessment process to a significant degree and must be reckoned with.

This study reiterates this impact in that: 1) an adequate budget is crucial to the success of the assessment process; 2) exemplary leadership is essential to the assessment process; 3) institutional culture can make or break the flow of the assessment process; 4) effective communication is, of course, vital to the assessment process; and, 5) upper administration must have extensive knowledge and understanding of the assessment process. With this research in hand, administrators can now begin to face the challenges that lie ahead in the institutional assessment process.

In General

These results have shed light on what is occurring at the institutional level in outcomes assessment. Accrediting agencies, governmental agencies, and assessment focused organizations would be well served to study these results. Although this research initially was proposed to include interviews with respondents, the scope and amount of information collected in the survey and the opportunity for respondents to comment provided the researcher with a more than adequate amount of data on which to conduct the analysis. However, it must be noted that *over 50%* of respondents were willing to be interviewed. This

finding alone should rouse the curiosity of assessment scholars to find out what this population has to say. Further, although the survey may have been somewhat unwieldy in some respects, its detail and length gave respondents pause for deep introspection into their institution's assessment practices.

A portion of this detail was seen in the 20 areas of institutional decision-making identified in this study. Respondents felt they were more knowledgeable in using the results in some areas more so than others. However, the criteria to determine in which areas respondents were more or less knowledgeable were established in a logical fashion by the researcher to serve the purposes of this study. In looking outside of these criteria (e.g., means > 3.5 = more knowledgeable and means < 2.5 = less knowledgeable on a 4-point scale) we find that, of the 20 areas, several area means fell between the defined 2.5 and 3.5. Therefore, respondent knowledge in these areas could be improved as well. This data would then suggest that, in creating solutions to help institutional administration use the results in institutional decision-making, the focus must not only be on each of the 20 areas of institutional decision-making, but holistically on the seven clusters of areas, which include: curriculum, classroom, budget, institutional improvement, administrative, student, and faculty.

The detailed results of this study also revealed that over half of the community college CAOs in the NCA-HLC region have not yet completed the assessment cycle. However, respondents also stated that they are actively trying to use the results of the assessment process in some form or another. The concern then arises about the effectiveness of those efforts in light of cycle incompletion. How are they approaching assessment? Who or what is guiding them in their efforts?

If through a thorough analysis of this study, the scholarly assessment community concludes that this research is truly valid and reliable, then it must not only *address* these questions and related issues but must *act* on these issues by creating an action plan, which would include: 1) The identification of practical and effective solutions to help institutional administrators use the results of the assessment process in institutional decision-making; and, 2) The development of educational workshops, manuals, and in-service presentations aimed at institutional administrators to help them work effectively with the BLCCK Variables.

Maki is hopeful regarding the assessment movement as she states that, "Motivated by institutional curiosity, assessment will become, over time, an organic process of discovering how and what and which students learn." (2002, p.5). The results of this study do show that the institutional culture is slowly shifting to becoming a more assessment-based culture. More institutional leaders are becoming receptive to the assessment philosophy and proponents of it. Because outcomes assessment is a vital part of the educational process today and is essential to improvement of the higher education system, it is crucial that the scholarly assessment community do whatever it can to aid institutional administrators in supporting effective facilitation and implementation of the outcomes assessment process.

APPENDIX 1.

Survey Instrument

Using the Results of Outcomes Assessment in Institutional Decision-Making: A Survey of Chief Academic Officers

This survey is being conducted to better understand the use of outcomes assessment results in institutional decision-making. As Dr. Steven Crow Executive Director of the Higher Learning Commission of the North Central Association noted in a previous communication, the Higher Learning Commission is assisting me with this research and expects to learn much from it. Therefore, I ask that you complete and return the survey by **September 9**. If your response is received by September 9, you will be placed in a random drawing to receive one of two Jossey-Bass assessment journal subscriptions of your choice.

This survey should be completed by the individual who is in charge of institutional outcomes assessment activities. If you are not that person, I would be most grateful if you would pass this cover letter and survey to the appropriate individual.

Please answer all of the questions as they apply to your institution at the present time. If you wish to comment on any of the items or qualify your answers, feel free to use the space in the margins. Your comments will be reviewed and taken into account.

Identification numbers are for my private use as the principal investigator. The list of numbers and participants will be kept under lock and key until the data are processed and then the list will be destroyed. Presentation of the statistical results will be in aggregate with no individual institution identifiable.

The completed survey should be returned in the enclosed self-addressed stamped envelope. If the envelope is misplaced or damaged, please return the completed survey to:

Janet L. Woldt
4102 76th Street
Urbandale, Iowa 50322

Thank you so much for taking your valuable time to participate in this research project. If you would like to receive a summary of the survey results, please e-mail me at **jwoldt@iastate.edu**. Further, if you have any questions regarding this survey, please e-mail or call me at 515/707-5176.

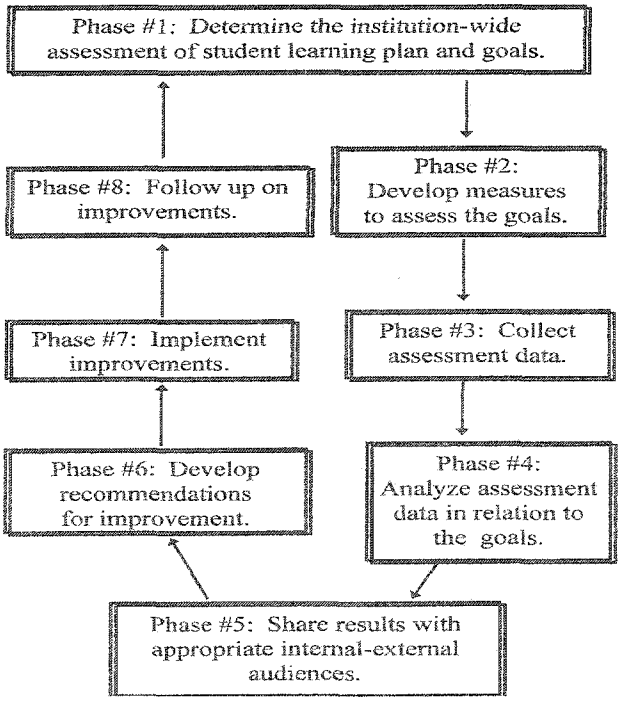
Janet L. Woldt, M.S.
Ph.D. Candidate in Educational Leadership and Policy Studies
Iowa State University

Introduction

"Closing the loop" is a commonly used phrase in discussing the elusive epitome of the outcomes assessment process. However, there has been little written about and even less research conducted on closing the loop. This survey seeks to fill in that research gap and determine how institutions are closing the loop, or how institutional administrators use the results (or findings) of the outcomes assessment process in institutional decision-making.

For this survey, the following model of the outcomes assessment process will be used, based on Ann McCann's eight-phase outcomes assessment cycle (1994). This cycle, similar to other outcomes assessment cycles, provides a comprehensive view of the phases in the outcomes assessment process. Please note that items within the survey refer to this cycle. Additionally, several items in the survey refer to general areas of institutional decision-making, including, curriculum, classroom, budget, institutional improvement, administrative, student and faculty (and are detailed in various survey items). Use of assessment results is depicted in the latter phases of the outcomes assessment cycle, Phases #5-#8. Therefore, use of assessment results is defined, for this survey, as using the results of institution-wide assessment of student learning in institutional decision-making.

Outcomes Assessment Cycle



McCann, A.L. (1994). Educational assessment model. Unpublished manuscript, Baylor College of Dentistry Texas A&M University.

Please complete all sections of this survey. Confidentiality of the survey results will be maintained.

Part I: Institution-Wide Assessment of Student Learning

I.a. Does your institution have a formal written/documented institution-wide assessment of student learning plan that is accessible to administrators and faculty? ____(1) Yes ____(2) No

I.b. If you answered Yes to I.a., to what extent has the plan been implemented? (check one only)

____(5) Results are used in all areas of institutional decision-making consistently
____(4) Results are used in all areas of institutional decision-making frequently
____(3) Results are used in institutional decision-making sporadically
____(2) Results are used rarely in institutional decision-making
____(1) The plan has not been implemented

I.c. What does the assessment of student learning at the institution include? (check all that apply)

____(1) Assessment of general education goals
____(2) Individual program /department/ discipline review
____(3) Individual program /department/ discipline assessment plans
____(4) Curriculum review
____(5) Student surveys
____(6) Faculty surveys
____(7) Alumni surveys
____(8) Employer surveys
____(9) Advisory committees
____(10) Capstone projects/courses
____(11) Entrance/exit examinations
____(12) Monitoring reports
____(13) Dashboard monitoring
____(14) Other, please note_____

_____

Part II: Areas of Institutional Decision-Making

II.a. Rate the extent to which the results of institution-wide assessment of student learning are used in each of the following areas of institutional decision-making, using the following scale.

5 = Results are used consistently
4 = Results are used frequently
3 = Results are used sporadically
2 = Results are used rarely
1 = Results are not used in this area

____(1) Curriculum planning
____(2) Curriculum evaluation
____(3) Improve teaching
____(4) Improve learning
____(5) Budgeting process
____(6) Grant proposals
____(7) Gift solicitation
____(8) Student recruitment
____(9) Student retention
____(10) Program evaluation
____(11) Strategic planning
____(12) Self-study reports to accrediting agencies
____(13) Reports to external parties (e.g., trustees, regents)
____(14) Reports to president or other upper administrators
____(15) Feedback to students
____(16) Academic advising
____(17) Job placement for graduates
____(18) Reports to faculty
____(19) Faculty evaluation
____(20) Hiring faculty

OVER

Part III: Knowledge of the Outcomes Assessment Process

III.a. Using the following scale, rate each of the eight phases of the outcomes assessment cycle (noted in the survey introduction) in terms of the amount of training *you* would benefit from, i.e., how prepared you feel to conduct the phase.

4 = Solidly prepared/trained in this area and do not require further training
3 = Adequately prepared/trained in this area but could benefit by receiving additional training
2 = Have a vague understanding of this area and would definitely benefit by receiving additional training
1 = Severely lacking training/preparation in this area

____(1) Determine assessment of student learning plan and goals
____(2) Develop measures to assess goals
____(3) Collect assessment data
____(4) Analyze data in relation to goals
____(5) Share results with internal-external audiences
____(6) Develop recommendations for improvement
____(7) Implement improvements
____(8) Follow up on improvements

III.b. For each of the following areas of institutional decision-making, rate *your* knowledge of using the results of institution-wide assessment of student learning in that area, using the scale in III.a.

____(1) Curriculum planning
____(2) Curriculum evaluation
____(3) Improve teaching
____(4) Improve learning
____(5) Budgeting process
____(6) Grant proposals
____(7) Gift solicitation
____(8) Student recruitment
____(9) Student retention
____(10) Program evaluation
____(11) Strategic planning
____(12) Self-study reports to accrediting agencies
____(13) Reports to external parties (e.g., trustees, regents)
____(14) Reports to president or other upper administrators
____(15) Feedback to students
____(16) Academic advising
____(17) Job placement for graduates
____(18) Reports to faculty
____(19) Faculty evaluation
____(20) Hiring faculty

III.c. Using the following scale, rate *your* knowledge and expertise in each of the eight phases of the outcomes assessment cycle.

5 = Fully understand this phase and can provide specific examples; expert in development and implementation of this phase.
4 = Generally understand this phase and can provide specific examples; proficient in development and implementation of this phase.
3 = Understand this phase somewhat, but cannot provide specific examples; novice in development and implementation of this phase.
2 = Have a faint understanding of what this phase means; no experience in development and implementation of this phase.
1 = Do not understand this phase.

____(1) Determine assessment of student learning plan and goals
____(2) Develop measures to assess goals
____(3) Collect assessment data
____(4) Analyze data in relation to goals
____(5) Share results with internal-external audiences
____(6) Develop recommendations for improvement
____(7) Implement improvements
____(8) Follow up on improvements

GO TO NEXT PAGE

III.d. ____Using the following scale, rate your *overall* knowledge and expertise of the assessment process.

5 = Fully understand the assessment process; expert in development and implementation of assessment plans.
4 = Generally understand the assessment process; proficient in development and implementation of assessment plans.
3 = Understand the assessment process somewhat; novice in development and implementation of assessment plans.
2 = Have a faint understanding of the assessment process; no experience in development and implementation of assessment plans.
1 = Do not understand assessment process.

III.e. ____Using the scale in III.d., rate *upper administrators'* overall knowledge and expertise of the assessment process.

Part IV: Institutional Communication

IV.a. How would you rate the *openness* of communication regarding assessment at the institution? (check one only)

____(4) Free-flowing
____(3) Somewhat free-flowing
____(2) Somewhat nonexistent
____(1) Nonexistent

IV.b. How would you rate the *accuracy* of communication regarding assessment at the institution? (check one only)

____(4) Very accurate
____(3) Somewhat accurate
____(2) Somewhat inaccurate
____(1) Most definitely inaccurate

IV.c. For each of the following areas of institutional decision-making, rate the *frequency* of communication regarding assessment between administrators responsible for institutional outcomes assessment (e.g., CAO) and administrators responsible for that particular area (e.g., CFO, Placement Office Director) using the scale below.

5 = Consistent 4 = Frequent 3 = Sporadic 2 = Rare 1 = Nonexistent

____(1) Curriculum planning
____(2) Curriculum evaluation
____(3) Improve teaching
____(4) Improve learning
____(5) Budgeting process
____(6) Grant proposals
____(7) Gift solicitation
____(8) Student recruitment
____(9) Student retention
____(10) Program evaluation
____(11) Strategic planning
____(12) Self-study reports to accrediting agencies
____(13) Reports to external parties (e.g., trustees, regents)
____(14) Reports to president or other upper administrators
____(15) Feedback to students
____(16) Academic advising
____(17) Job placement for graduates
____(18) Reports to faculty
____(19) Faculty evaluation
____(20) Hiring faculty

IV.d. For each of the following areas of institutional decision-making, rate the *effectiveness* of communication regarding assessment between administrators responsible for institutional outcomes assessment and administrators responsible for that particular area using the scale below.

4 = Highly effective 3 = Somewhat effective 2 = Somewhat ineffective 1 = Highly Ineffective

____(1) Curriculum planning
____(2) Curriculum evaluation
____(3) Improve teaching
____(4) Improve learning
____(5) Budgeting process
____(6) Grant proposals
____(7) Gift solicitation
____(8) Student recruitment
____(9) Student retention
____(10) Program evaluation
____(11) Strategic planning
____(12) Self-study reports to accrediting agencies
____(13) Reports to external parties (e.g., trustees, regents)
____(14) Reports to president or other upper administrators
____(15) Feedback to students
____(16) Academic advising
____(17) Job placement for graduates
____(18) Reports to faculty
____(19) Faculty evaluation
____(20) Hiring faculty

OVER

Part V: Institutional Leadership

V.a. How would you rate the overall effectiveness of upper administrators' leadership (e.g., president, vice president, chancellor, provost) in institution-wide assessment activities? (check one only)

____(4) Highly effective
____(3) Somewhat effective
____(2) Somewhat ineffective
____(1) Highly ineffective

Use the following scale to rate each of the following statements concerning upper administrators at your institution.

4= Strongly agree 3= Somewhat agree 2 = Somewhat disagree 1 = Strongly disagree

V.b. ____Upper administrators set a positive tone for the institution regarding assessment activities.
V.c. ____Upper administrators are involved in assessment and use assessment results for making improvements.
V.d. ____Upper administrators play a major role in the assessment planning and evaluation process.
V.e. ____Upper administrators wholeheartedly endorse and support the assessment process.

Part VI: Institutional Culture

Use the scale above from Part V.b.-e. to rate each of the following statements.

VI.a. ____The institutional culture is supportive of the assessment of student learning.
VI.b. ____The institutional culture enables the assessment of student learning.
VI.c. ____The institutional culture holds the assessment of student learning in high esteem.

Part VII: Demographics

VII.a. Which of the following *best* describes your position within the institution? (check one only)

___(4) Chief academic officer (e.g., Vice President of Academic Affairs, Vice President or Dean of Instruction, Vice President of Academic Support, Dean for Academic Services, Vice Provost)
___(3) Institutional director of assessment (or, institutional effectiveness)
___(2) Institutional director of research
___(1) Other, please note_____

VII.b. Who is ultimately responsible to ensure that assessment activities are conducted for the institution? (check one only)

____(4) Chief academic officer
____(3) Institutional director of assessment
____(2) Institutional director of research
____(1) Other, please note_____

VII.c. How many full- and part-time students were enrolled at your institution in Spring 2003? (check one only)

____(6) Less than 1,500
____(5) 1,500-3,000
____(4) 3,000-6,000
____(3) 6,000-10,000
____(2) 10,000-20,000
____(1) Greater than 20,000

VII.d. Were the institution's outcomes assessment activities noted as a *Strength* (Higher Learning Commission term) in the most recent site visit report from the Higher Learning Commission of the North Central Association (HLC-NCA); e.g., was the institution commended for its assessment activities?

____(1) Yes ____(2) No

VII.e. Were the institution's outcomes assessment activities noted as a *Challenge* (HLC term) in the most recent site visit report from the HLC-NCA; e.g., was the institution required to submit a progress report, monitoring report, or contingency report on the institution's outcomes assessment activities?

____(1) Yes ____(2) No

GO TO NEXT PAGE

Part VIII: Budget

VIII.a. How much does the institution budget at an institutional level for assessment activities? (check one only)

____(1) Less than $5,000
____(2) $5,000-$10,000
____(3) $10,000-$20,000
____(4) $20,000-$40,000
____(5) $40,000-$60,000
____(6) $60,000-$80,000
____(7) More than $80,000
____(8) No line item for assessment activities
____(9) Do not know

VIII.b. Rate the adequacy of the amount budgeted for institutional assessment. (check one only)

____(4) More than adequate
____(3) Adequate
____(2) Inadequate
____(1) Severely inadequate

VIII.c. Rate the adequacy of the use of assessment results in the budgeting process. (check one only)

____(4) More than adequate
____(3) Adequate
____(2) Inadequate
____(1) Severely inadequate

VIII.d. Which of the following statements best describes the use of assessment results in making budget allocations or cutbacks? (check one only)

____(4) Results are used – works well
____(3) Results are used – works somewhat well
____(2) Results are used – does not work well
____(1) Results are not used

Use the following scale for each of the remaining items in Part VIII, which are statements concerning the **use** of **assessment results** in **budgeting** at the institution.

4 = Strongly agree 3 = Somewhat agree 2 = Somewhat disagree 1 = Strongly disagree

VIII.e. ____Identifies institutional priorities
VIII.f. ____Identifies resource needs
VIII.g. ____Results in funds being allocated to high-priority areas
VIII.h. ____Results in funds not being allocated to ineffective areas

Part IX: Success and Satisfaction

IX.a. Our assessment practices have resulted in significant institutional improvements. (check one only)

____(4) Strongly Agree ____(3) Agree ____(2) Disagree ____(1) Strongly Disagree

IX.b. ____Using the scale below, how satisfied are you *overall* with the assessment practices of the institution?

4 = Very satisfied: few improvements needed
3 = Satisfied: improvements needed
2 = Dissatisfied: improvements needed
1 = Very dissatisfied: substantial improvement needed

IX.c. ____Using the scale directly above in IX.b., rate your *overall* satisfaction with the use of assessment results in institutional decision-making at the institution.

OVER

IX.d. Using the following scale, for each area of institutional decision-making, rate your satisfaction with the use of assessment results in that area.

4 = Very satisfied: few improvements needed | 3 = Satisfied: improvements needed | 2 = Dissatisfied: improvements needed | 1 = Very dissatisfied: substantial improvement needed

____(1) Curriculum planning
____(2) Curriculum evaluation
____(3) Improve teaching
____(4) Improve learning
____(5) Budgeting process
____(6) Grant proposals
____(7) Gift solicitation
____(8) Student recruitment
____(9) Student retention
____(10) Program evaluation
____(11) Strategic planning
____(12) Self-study reports to accrediting agencies
____(13) Reports to external parties (e.g., trustees, regents)
____(14) Reports to president or other upper administrators
____(15) Feedback to students
____(16) Academic advising
____(17) Job placement for graduates
____(18) Reports to faculty
____(19) Faculty evaluation
____(20) Hiring faculty

IX.e. Referring to the outcomes assessment cycle, note at which phase the institution is at concerning the institution-wide assessment of student learning, *or* note if the institution has completed the cycle at least once. (check one only)

____(1) Determine assessment of student learning plan and goals
____(2) Develop measures to assess goals
____(3) Collect assessment data
____(4) Analyze data in relation to goals
____(5) Share results with internal-external audiences
____(6) Develop recommendations for improvement
____(7) Implement improvements
____(8) Follow up on improvements
____(9) The institution has completed the cycle at least once

IX.f. Which one of the following most severely impedes the use of assessment results in institutional decision-making (check one only)?

____(4) Upper administrators' support of the assessment process
____(3) Institutional communication regarding assessment
____(2) Institutional culture regarding assessment
____(1) Budgeted funds for assessment

IX.g. Would you be willing to participate in a brief telephone interview to discuss the institution's assessment practices? ____(1) Yes ____(2) No

IX.h. If you answered "Yes" to the previous item (IX.g.) please note your name, e-mail address, and telephone number with area code. You may be contacted later this fall.

Name:_____

E-mail address:_____

Telephone number: ( ) _____

Thank you for responding by ***September 9, 2003.***

Comments:_____

_____

_____

_____

_____

APPENDIX 2.

Exemption Letter from the Iowa State University Institutional Review Board

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Compliance
Vice Provost for Research and
Advanced Studies
2810 Beardshear Hall
Ames, Iowa 50011-2036
515 294-4566
FAX 515 294-7288

TO: Janet Woldt

FROM: Ginny Austin, IRB Coordinator

RE: IRB ID # 03-616

DATE REVIEWED: July 28, 2003

The project, "Using the Results of Institutional Outcomes Assessment in Institutional decision Making: A survey of Chief Academic Officers of Public Two-Year Institutions in the North Central Association Higher Learning Commission Region" has been declared exempt from Federal regulations as described in 45 CFR 46.101(b)(2).

> (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

To be in compliance with ISU's Federal Wide Assurance through the Office of Human Research Protections (OHRP) all projects involving human subjects, must be reviewed by the Institutional Review Board (IRB). Only the IRB may determine if the project must follow the requirements of 45 CFR 46 or is exempt from the requirements specified in this law. **Therefore, all human subject projects must be submitted and reviewed by the IRB.**

Because this project is exempt it does not require further IRB review and is exempt from the Department of Health and Human Service (DHHS) regulations for the protection of human subjects.

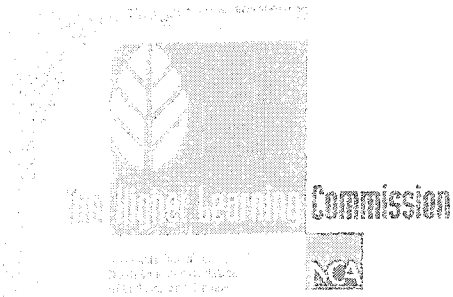
We do, however, urge you to protect the rights of your participants in the same ways that you would if IRB approval were required. This includes providing relevant information about the research to the participants. Although this project is exempt, you must carry out the research as proposed in the IRB application, including obtaining and documenting (signed) informed consent, if applicable to your project.

Any modification of this research should be submitted to the IRB on a Continuation and/or Modification form to determine if the project still meets the Federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

cc: Educational Leadership and Policy Studies

APPENDIX 3.

Initial Correspondence: Letter from
Dr. Steven Crow, Executive Director of the NCA-HLC



30 North LaSalle Street, Suite 2400 | Chicago, IL 60602-2504 | 312-263-0456
800-621-7440 | Fax: 312-263-7462 | www.ncahigherlearningcommission.org

Serving the common good by assuring and advancing the quality of higher learning

August 20, 2003

Dr. Dane Grove
Vice President of Academic Services
Lincoln Land Community College
PO Box 19256
5250 Shepherd Road
Springfield, IL 62794-9256

Dear Dr. Grove:

Within the next week, you will receive a survey titled, Using the Results of Outcomes Assessment in Institutional Decision-Making: A Survey of Chief Academic Officers. This survey is being sent to you and other chief academic officers of public two-year institutions of higher education accredited by The Higher Learning Commission of the North Central Association. This research is being conducted by Janet Woldt, a doctoral candidate at Iowa State University, as part of her doctoral dissertation research. In this research, Ms. Woldt will ask you to share your thoughts on and perceptions of outcomes assessment as it relates to the assessment of student learning. As The Higher Learning Commission is assisting Ms. Woldt with her research and expects to learn from it, I ask that you complete and return the survey to her by September 9.

This research project is designed to study institutions' assessment of student learning programs and their implementation. Additionally, the research will examine specific areas of institutional decision-making in which results from the assessment of student learning are used. Furthermore, this study will look at potential impediments that are encountered in the outcomes assessment process. In studying data gathered from this research, we hope to assist those responsible for institution-wide assessment activities in becoming even more successful and effective in outcomes assessment activities.

Ms. Woldt has an Associate of Science in Dental Hygiene from Indiana University, a Bachelor of Science in Dental Hygiene from Northwestern University, and a Master of Science in Education, with an emphasis in higher education administration and community colleges, from Iowa State University. She is currently pursuing her Doctorate of Philosophy from Iowa State University in higher education administration and leadership. Before returning to graduate school, Ms. Woldt was employed by the American Dental Association Commission on Dental Accreditation. During her time with the Commission, she served as the Manager of Dental Hygiene Education. Here, she had the opportunity to work with and counsel dental hygiene education program directors, deans, and chief academic officers on an individual basis regarding accreditation and standards-related issues, including outcomes assessment. Her academic interests and research have focused on outcomes assessment and she has presented nationally on impediments encountered in the outcomes assessment process and how to overcome them.

Although The Higher Learning Commission is assisting Ms. Woldt with her research, it is not being conducted on behalf of The Higher Learning Commission.

Thank you for your cooperation in these research efforts. If you have any questions about this research or believe that the survey should be directed to a person other than yourself, please call Ms. Woldt at 515/334-5672 or e-mail her at jwoldt@iastate.edu.

Sincerely,

Steven D. Crow

Steven D. Crow
Executive Director

cc: Susan E. Van Kollenburg, Director, Communications and Meetings
Janet L. Woldt, PhD Candidate, Educational Leadership and Policy Studies, Iowa State University

APPENDIX 4.

Correspondence Sent with Survey

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

College of Education
Department of Educational
Leadership and Policy Studies
N243 Lagomarcino Hall
Ames, Iowa 50011-3195
515 294-4143
www.educ.iastate.edu/elps

August 22, 2003

Dear Chief Academic Officer:

Last week, you received a letter from Dr. Steven Crow Executive Director of the Higher Learning Commission regarding my research project on the use of assessment results in institutional decision-making. The enclosed survey regarding that project is being sent to you and to and other chief academic officers of public two-year institutions of higher education recognized by the Higher Learning Commission of the North Central Association.

In order for the results of this study to be accurate and representative, it is important that each survey be completed and returned by September 9 in the enclosed self-addressed stamped envelope. Completion time of the survey is approximately 20-25 minutes. If your response is received by September 9, you will be placed in a random drawing to receive one of two Jossey-Bass assessment journal subscriptions of your choice (valued at up to $110). Winners will be notified on September 10.

This survey should be completed by the individual who is in charge of institutional outcomes assessment activities. If you are not that person, I would be most grateful if you would pass this cover letter and survey to the appropriate individual.

Your participation in this research is voluntary and you may withdraw from the study at any time. All of the information you provide will remain confidential. The use of the numeric identifier on the first page of the survey is to assist me in determining who has returned the information so that appropriate follow-up communications can be sent.

It is my hope that upon collecting, analyzing, and sharing this data with the higher education community and accrediting agencies, the outcomes assessment process may be better understood and solutions on how to improve the implementation of outcomes assessment plans may be found. Such solutions may involve further research based on the outcomes of this research, and the development of enhanced training resources to enable more effective facilitation and implementation of the outcomes assessment process.

If you would like to receive a summary of the survey results, please e-mail me at jwoldt@iastate.edu. Further, if you have any questions regarding this survey, please e-mail or call me at 515/707-5176.

Thank you so much for your valuable time in this research.

Sincerely,

Janet L. Woldt, M.S.
Ph.D. Candidate in Educational Leadership and Policy Studies
Iowa State University

APPENDIX 5.

First Follow-Up Correspondence

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

College of Education
Department of Educational
Leadership and Policy Studies
N243 Lagomarcino Hall
Ames, Iowa 50011-3195
515 294-4143
www.educ.iastate.edu/elps

August 26, 2003

Dear Chief Academic Officer:

On August 22, *Using the Results of Outcomes Assessment in Institutional Decision-Making: A Survey of Chief Academic Officers* was mailed to you. Enclosed with the survey was a cover letter, which requested your cooperation in completing and returning the survey to me by September 9, and a self-addressed stamped envelope. If you have already completed and returned the survey, please accept my sincere appreciation and disregard this request. If you have not completed and returned the survey, please do so as soon as possible.

Because this survey was sent only to public 2-year institutions of higher education in the NCA region, your participation is critical to the success of this project and to the accuracy of the results. Data generated from this survey will be used to develop solutions that would enable more effective facilitation and implementation of the outcomes assessment process.

If you did not receive a survey, or it was misplaced, please e-mail me at jwoldt@iastate.edu or call me at 515/707-5176 and I will send another survey to you. Thank you for your cooperation in completing this survey.

Sincerely,

Janet L. Woldt, M.S.
Ph.D. Candidate in Educational Leadership and Policy Studies
Iowa State University

p.s. If your response is received by September 9, your name will be placed in a random drawing. Two names will be drawn and each winner will receive a subscription to a Jossey-Bass assessment journal of their choice (valued at up to $110). Winners will be notified on September 10.

APPENDIX 6.

Second Follow-Up Correspondence

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

College of Education
Department of Educational
Leadership and Policy Studies
N243 Lagomarcino Hall
Ames, Iowa 50011-3195
515 294-4143
www.educ.iastate.edu/elps

September 11, 2003

Dear Chief Academic Officer:

Just wanted to let you know that thus far I've had a return rate of 40% for my survey titled, *Using the Results of Outcomes Assessment in Institutional Decision-Making: A Survey of Chief Academic Officers*, which I sent to you at the end of August. Also, yesterday I notified Randy Fletcher of Danville Area Community College in Danville, Illinois and Joanna Michelich of Cochise College in Douglas, Arizona that they were the winners of the random drawing for the Jossey-Bass assessment journal subscriptions.

If this letter and your completed survey have crossed in the mail, thank you so much for your help in my research and have a great fall term! If not, I would be most grateful if you would complete and return the survey to me ***as soon as possible***.

Please contact me at **jwoldt@iastate.edu** or 515/707-5176 if you have any questions or if you need another survey sent to you either by mail or electronically.

Thanks so much for your help.

Sincerely,

Janet L. Woldt, M.S.
Ph.D. Candidate in Educational Leadership and Policy Studies
Iowa State University

APPENDIX 7.

Final Correspondence

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

College of Education
Department of Educational
Leadership and Policy Studies
N243 Lagomarcino Hall
Ames, Iowa 50011-3195
515 294-4143
www.educ.iastate.edu/elps

September 22, 2003

Dear Chief Academic Officer:

In late August, you received a letter from *Dr. Steven Crow Executive Director of the North Central Association Higher Learning Commission* requesting your cooperation in my survey research project on the use of assessment results in institutional decision-making. This letter was followed by the survey mailing and two additional mailings that requested your cooperation in completing and returning the survey.

Currently, I have not yet received your completed survey. Perhaps the first survey did not reach you; therefore, I am sending the survey to you again and ask that you take 20-25 minutes to complete it. Because this survey was sent only to public 2-year institutions of higher education in the NCA region, your participation is critical to the success of this project and to the accuracy of the results. Data generated from this survey will be used to develop solutions that would enable more effective facilitation and implementation of the outcomes assessment process.

You can fax the completed survey to me at **515/334-5672** or you can mail it to me in the enclosed *self-addressed stamped* envelope by October 6. If faxing the survey, please e-mail me at **jwoldt@iastate.edu** to let me know you are faxing it. If you have already returned the survey, please disregard this request and thank you so much for your help in this project.

If you have questions, please e-mail me at **jwoldt@iastate.edu** or call me at 515/707-5176. Thank you for your cooperation in completing this survey.

Sincerely,

Janet L. Woldt, M.S.
Ph.D. Candidate in Educational Leadership and Policy Studies
Iowa State University

APPENDIX 8.

Factor Definitions

Appendix 8. Factor Analysis Definitions for Various Survey Items

(factors comprised of areas of institutional decision-making noted under each factor)

Survey Item II.a. Use of Assessment Results in Institutional Decision-Making

Factor #1: "Curriculum improvement, planning processes, and reporting"

- Curriculum planning
- Curriculum evaluation
- Improve teaching
- Improve learning
- Budgeting process
- Program evaluation
- Strategic planning
- Self-study reports to accrediting agencies
- Reports to external parties (e.g., trustees, regents)
- Reports to president or other upper administrators
- Reports to faculty

Factor #2: "Financial issues and student counsel/services"

- Grant proposals
- Gift solicitation
- Student recruitment
- Student retention
- Feedback to students
- Academic advising
- Job placement for graduates

Factor #3: "Faculty Evaluation and Hiring"

- Faculty evaluation
- Hiring faculty

Survey Item III.a. CAO Degree of Preparation in Each of the Eight Assessment Cycle Phases

Factor #1: "Preparing to and collecting data"

- Determine assessment of student learning plan and goals
- Develop measures to assess goals
- Collect assessment data

Factor #2: "Analyzing the data and using the resulting findings"

- Analyze data in relation to goals
- Share results with internal-external audiences
- Develop recommendations for improvement
- Implement improvements
- Follow up on improvements

Survey Item III.b. CAO Knowledge of Use of Assessment Results in the Areas of Institutional Decision-Making

Factor #1: "Financial issues and student services"
- Budgeting process
- Grant proposals
- Gift solicitation
- Student recruitment
- Student retention
- Job placement for graduates

Factor #2: "Planning processes and reporting"
- Program evaluation
- Strategic planning
- Self-study reports to accrediting agencies
- Reports to external parties (e.g., trustees, regents)
- Reports to president or other upper administrators

Factor #3: "Curriculum improvement"
- Curriculum planning
- Curriculum evaluation
- Improve teaching
- Improve learning

Factor #4: "Counsel to students and faculty issues"
- Feedback to students
- Academic advising
- Reports to faculty
- Faculty evaluation
- Hiring faculty

Survey Item III.c. CAO Knowledge and Expertise in Assessment Cycle Phases

Factor #1: "Preparing to collect, collecting and analyzing the data"
- Determine assessment of student learning plan and goals
- Develop measures to assess goals
- Collect assessment data
- Analyze data in relation to goals

Factor #2: "Using the resulting findings from the data"
- Share results with internal-external audiences
- Develop recommendations for improvement
- Implement improvements
- Follow up on improvements

Survey Item IV.c. Frequency of Communication

Factor #1: "Financial issues, student services and faculty issues"
- Budgeting process
- Grant proposals
- Gift solicitation
- Student recruitment
- Student retention
- Feedback to students
- Academic advising
- Job placement for graduates
- Faculty evaluation
- Hiring faculty

Factor #2: "Curriculum improvement"
- Curriculum planning
- Curriculum evaluation
- Improve teaching
- Improve learning
- Program evaluation
- Reports to faculty

Factor #3: "Planning processes and reporting"
- Strategic planning
- Self-study reports to accrediting agencies
- Reports to external parties (e.g., trustees, regents)
- Reports to president or other upper administrators

Survey Item IV.d. Effectiveness of communication

Factor #1: "Financial issues, student services and faculty issues"
- Budgeting process
- Grant proposals
- Gift solicitation
- Student recruitment
- Student retention
- Feedback to students
- Academic advising
- Job placement for graduates
- Faculty evaluation
- Hiring faculty

Factor #2: "Curriculum improvement"
- Curriculum planning
- Curriculum evaluation
- Improve teaching
- Improve learning
- Reports to faculty

Factor #3: "Planning processes and reporting"
- Program evaluation
- Strategic planning
- Self-study reports to accrediting agencies
- Reports to external parties (e.g., trustees, regents)
- Reports to president or other upper administrators

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BIOGRAPHICAL SKETCH

Janet Lynn Woldt (nee, Hartwig) was born April 25, 1964 in Gary, Indiana. She received the Associate of Science in Dental Hygiene from Indiana University in 1986, the Bachelor of Science in Dental Hygiene in 1990 from Northwestern University, and the Master of Science in Education in 2001 from Iowa State University. She was awarded the Sigma Phi Alpha dental hygiene honor society scholarship in 1990 from Northwestern. In 2001, she was inducted into the Phi Kappa Phi Higher Education National Honor Society. From 1995-1997 she served as President of the Evelyn E. Maas Society, which represents dental hygiene alumni of Northwestern University. From 1995-1998, she served on the Northwestern University Dental School Alumni Advisory Board as well. From 1986-1990, she practiced as a clinical dental hygienist in Northwest Indiana. She served as an adjunct instructor at Indiana University from 1988-1990, where she taught courses in clinical methods, oral anatomy, and ethics and jurisprudence. From 1990-1994 she served as the Examination Coordinator of the Academy of General Dentistry (AGD), where she supervised editorial, content and statistical standards for the Fellowship Examination and for the Self-Assessment Quiz, which appeared in the AGD's journal, *General Dentistry*. From 1994-1999, Ms. Woldt worked for the American Dental Association Commission on Dental Accreditation, as Manager of Dental Hygiene Education. In this position, she provided guidance and consultative services to the dental hygiene educational community regarding accreditation, curriculum and administrative issues; and, formulated and implemented policies related to dental hygiene education, utilization, legislation and licensure. From 1997-1999, she played a key role in the revision of the *Accreditation Standards for Dental Hygiene Education Programs* (copyright 1998) and developed the *Guide for Developing an Accredited Dental*

Hygiene Education Program (copyright 1998). While conducting her graduate studies at Iowa State University (1999-2003), Ms. Woldt served as a Research and Teaching Assistant in Educational Leadership and Policy Studies, and as an Administrative Assistant in the Office of the Vice Provost for Undergraduate Programs.