AN ABSTRACT OF THE DISSERTATION OF

Jerry A. Somerville for the degree of Doctor of Philosophy in Education presented on May 30, 2007

Title: Critical Factors Affecting the Meaningful Assessment of Student Learning Outcomes: A Delphi Study of the Opinions of Community College Personnel

Abstract approved:

Darlene F. Russ-Eft

The two-fold purpose of this study was to identify critically important factors that affect the meaningful assessment of student learning outcomes and study why they were critically important. A three-round Delphi process was used in both a pilot project and in a full study to solicit the opinions of individuals who were actively involved in student learning outcomes at community colleges. Panelists reviewed and rated, on a five point importance scale, a list of statements describing facilitating and thwarting conditions associated with the assessment of student learning outcomes. The research was conducted in three phases: (a) developing a tentative taxonomy of influential factors and constructing the first-round questionnaire, (b) piloting the questionnaire and the research procedures with seven panelists representing seven different institutions in California, and (c) conducting the full study. The 22 panelists of the full study came from 12 community colleges from throughout the continental United States and represented six different campus groups: faculty members, campus researchers, administrators, consultants, administrative support personnel, and assessment coordinators.

From an analysis of the results, six factors emerged as critically important followed by four other factors that were classified as extremely important. The six critically important factors were: (a) knowledge/experience of campus leaders, (b) trust, (c) opportunities for dialogue/ collaboration, (d) leadership, (e) faculty engagement, and (f) use of assessment results. The four factors that were classified as extremely important were: (a) building campus knowledge, (b) having an assessment plan, (c) having communication strategies in place, and (d) having administrators engaged in assessment.

Critical Factors Affecting the Meaningful Assessment of Student Learning Outcomes: A Delphi Study of the Opinions of Community College Personnel

by
Jerry A. Somerville

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APPROVED:

Major Professor, representing Education

Dean of the College of Education

Dean of the Graduate School

I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Jerry A. Somerville, Author

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TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

LIST OF TABLES

DEDICATION

This dissertation is dedicated to the memory of Elaine Mary Cushing Somerville and Angus Drummond Somerville. My parents taught me the values of doing every task to the best of my abilities and of persisting against the odds. Without a deep appreciation for these values, I could not have achieved this dream.

Critical Factors Affecting the Meaningful Assessment of Student Learning Outcomes:
A Delphi Study of the Opinions of Community College Personnel

CHAPTER ONE: PURPOSE AND SIGNIFICANCE

In 1993 in an open letter to the American public titled *An American Imperative: Higher Expectations for Higher Education,* the Wingspread Group on Higher Education stated that a "dangerous mismatch exists between what American society needs of higher education and what it is receiving. Nowhere is the mismatch more dangerous than in the quality of undergraduate preparation" (Wingspread Group on Higher Education, 1993, p. 1). This report recommended that institutions place learning at the forefront, and to accomplish this will require an overhaul of the "architecture of postsecondary education" (p. 14). According to O'Banion (1996b; 1997a; 1999a; 1999b), this report triggered a reform movement in higher education known as the learning revolution. Others (Barr & Tagg, 1995; Boggs, 1999) have referred to this as the paradigm shift from instruction to learning.

The Wingspread Group report and others that followed "captured the attention of legislators, national higher education organizations, and a growing number of faculty and administrators" (O'Banion, 1997a, p. 7). In response to public concern and in an effort to address the diverse learning needs of students, regional accrediting bodies have incorporated "student learning outcomes into accreditation evaluation processes" (Beno, 2004, p. 65). Student learning outcomes were defined as "knowledge, skills, and abilities that a student has attained at the end (or as a result) of his or her engagement in a particular set of higher education experiences" (Council for Higher Education Accreditation, 2003, p. 5). Increasingly, governors and state legislators have demanded accountability by requiring colleges to report on various performance measures (Alfred, Ewell, Hudgins, & McClenney, 1999; Burke & Minassians, 2004). For at least the past 15 years, community colleges across the nation have been implementing student learning outcomes but have stalled at the assessment phase. Miles and Wilson (2004, p. 98) reported that community colleges "universally identified assessment as the most difficult aspect" of implementing student learning outcomes.

As community colleges throughout the country respond to accreditation requirements that they establish and assess student learning outcomes, it can be informative for all colleges to know what factors promote or thwart the effective assessment of these outcomes. With this knowledge, colleges could determine the factors they possess that affect the assessment process and could address potential barriers before implementing an assessment plan.

Research Purpose and Questions

The research topic for this dissertation is concerned with student learning outcomes at the community college level. A research problem associated with this topic is that community colleges seem to have stalled at the assessment phase, which prompts the question: Why? More specifically, it leads to the purpose of this study, which is to identify factors that influence community colleges' capacity to assess student learning outcomes effectively. With this purpose in mind, the study will address the following two research questions:

- What are the critical factors affecting the meaningful assessment of student learning outcomes in the community college setting?
- Why are these factors critical to the meaningful assessment of student learning outcomes in the community college setting?

The answer to the first question will identify the factors or implementation strategies that are essential to an effective assessment process. The factors may include facilitating and thwarting conditions. They may be process stoppers or core elements or strategies that impact other factors or processes. This important knowledge will inform community college leaders about which factors or strategies will have the greatest impact.

The answer to the second question provides information about the connection among factors and serve as a foundation for building a theoretical model. It could give clues about what factors are more or less critical, which factors depend on other factors, and thus inform leaders of assessment on which factors should be addressed first and which ones later in the process

Research Significance

The case for significance of studying influential factors associated with effective assessment of learning outcomes is based on six points. First, establishing student learning outcomes and effectively assessing them have implications for the quality of education. Second, many community colleges are implementing student learning outcomes; however, it appears that few of them are successfully assessing these outcomes (Friedlander & Serban, 2004; Wilson, Miles, Baker, & Schoenberger, 2000). Third, knowing the influential factors, colleges will be better able to evaluate and improve their capacity to assess outcomes. Fourth, the results will inform professional practice and improve the capacity of leaders of the student learning outcomes movement. Fifth, answers to my research questions will enhance my expertise as a leader of the student learning outcomes movement. Finally, this investigation will contribute to the scholarship of assessment.

Improving the Quality of Education

Student learning outcomes is a significant issue, and the colleges' response to it has implications in the much broader arena of improving the quality of education. A former Associate Director of the Commission on Institutions of Higher Education of the North Central Association of Colleges and Schools expressed the opinion that, if member institutions are to be successful in serving learners of the 21st Century, they have to become student-centered learning organizations committed to continuous improvement, and that "assessing student achievement is a critical component in evaluating overall institutional effectiveness" (Lopez, 1999, p. 4). Copa and Ammentorp (1998) make the point that student learning outcomes need to be consistently incorporated into the operation of the institution.

> Learning outcomes must be integrated into the fabric of the institution. All dimensions of the institution must make contributions and add value in striving for the learning outcomes, otherwise the outcomes will be merely rhetorical and have little real meaning or impact …. [Two-year institutions of higher education] must strive for what it means to provide the highest quality learning experiences…. Everyone is advanced when educational institutions increase the competence of learners to the highest level possible. This means reaching for educational standards that may not yet be easily or clearly measured, yet

represent hopes and aspirations that may later become commonplace. (pp. 69-70)

Failing to Assess Student Learning Outcomes Effectively

The American Association of Community Colleges (2002) reported that as of October 2002 there were 1,171 public, private, and tribal community colleges in the United States. The vast majority of these institutions were accredited by one of six regional accrediting bodies (The University of Texas at Austin, 2005), and now all of these accrediting bodies require institutions to establish systematic and ongoing processes for identifying and assessing student learning outcomes. However, few, if any, community colleges have effectively assessed these outcomes (Friedlander & Serban, 2004; Wilson, Miles, Baker, & Schoenberger, 2000).

Measuring Up 2004 (2004) is the third in a series of biennial, state-by-state report cards from the National Center for Public Policy and Higher Education on the effectiveness of higher education in the United States. In the first two reports (*Measuring up 2000*, 2000; *Measuring up 2002*, 2002) on the subject of assessing student learning, all states were given incomplete grades. Not until the 2004 report (*Measuring up 2004*, 2004) did five states (Illinois, Kentucky, Nevada, Oklahoma, and South Carolina) receive plus grades for their progress. All other states continued to receive incompletes grades. “If we cannot document expanded or improved learning…we cannot say with any assurance that learning has occurred” (O'Banion, 1999c, p. 3). Without meaningful assessment, community colleges do not have credible evidence on which to evaluate their effectiveness and thus make improvements.

Improving the Capacity of Colleges to Assess Outcomes

According to Beno (2004), two challenges facing community colleges are to establish sound methods of assessing student learning and to develop the capacity to discuss the meaning of assessment results. However, there is a lack of knowledge among faculty about assessment and an absence of models for developing and sustaining assessment efforts (Friedlander & Serban, 2004; Serban, 2004). Knowing the factors related to effective assessment, community colleges would be better able to evaluate and improve their capacity to

assess learning outcomes, document student learning, and meet the challenges established by accreditation standards. Without this knowledge, community colleges may continue to be ineffective in assessing student learning outcomes.

Improving the Capacity of Leaders

Serban (2004) stated that there was a lack of expertise on community college campuses to guide institutions in their assessment efforts. The results of my study will inform professional practice and improve the capacity of leaders to guide community colleges in establishing effective methods of assessment. The results of the proposed research will inform the practice of those who are responsible for leading or guiding a community college in the implementation of student learning outcomes. This might be administrators, campus research officers, faculty leaders, or consultants. It might also appeal to anyone who is evaluating colleges' efforts to implement student learning outcomes, such as directors of accreditation bodies and accreditation site-visit team members. It provides a perspective for understanding and appreciating the difficulties community colleges face in making institutional changes to assess student learning. Further, it is informative for writers, researchers, and policymakers who are concerned with the assessment of student learning.

Enhancing my Expertise

This research expands my professional expertise in methods that I can employ in my current responsibilities and in my future professional work. It improves my capacity to lead the learning outcomes transformation at community colleges.

New accreditation standards (Accrediting Commission for Community and Junior Colleges, 2002) of the Western Association of Schools and Colleges (WASC) regional accrediting body, which incorporate student learning outcomes, became effective in the fall of 2004. Napa Valley College (NVC), the institution where I am currently employed, will be evaluated with the new standards when it begins its self-study in 2008-09 and have a site visit in 2009-10. In its next accreditation cycle, NVC is expected to have established a systematic and ongoing process by which "the institution identifies student learning outcomes for courses,

programs, certificates, and degrees; assesses student achievement of these outcomes; and uses assessment results to make improvements" (Accrediting Commission for Community and Junior Colleges, 2002, p. 5). My responsibility at NVC is to guide college personnel in the development of this systematic and ongoing process. The answers I seek to my research questions will inform my practice for my current professional duties at NVC and will increase my capacity to assist other community colleges that are struggling with similar issues to those at Napa Valley College.

Contributing to the Scholarship of Assessment

Banta and her associates (Banta, 2002b) acknowledge that the scholarship of assessment in higher education is still relatively rare. In a more recent publication, Banta (2004) lamented that she was "finding it harder to include a community college article in every issue of [her periodical, *Assessment Update*] because the manuscript flow had dwindled" (p. 3). The executive editor (Kinnick, 2005) of *The Journal of Applied Research in the Community College* has also reported a drop off in the number of manuscripts submitted for review.

Mentkowski and Loacker (2002) defined the scholarship of assessment as a "systematic inquiry on assessment as a member of a community of professionals" (p. 83). Banta (2002b) concurred and added that the inquiry was 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… assessment scholars and practitioners. (p. x)

An intent of this study is to contribute scholarly research to the limited body of knowledge about student learning outcomes assessment in community colleges.

Summary

In response to the public concern about the ability of higher education to meet the needs of American society, regional accrediting bodies have established standards for developing and assessing student learning outcomes. For at least the past 15 years, community colleges across the United States have been developing student learning outcomes but have stalled at the

assessment phase. The purpose of this research is to identify the critical factors of a meaningful assessment of student learning process, and to understand the reasons why these critical factors are important. The case for significance of studying these influential factors is based on six points. First, establishing student learning outcomes and effectively assessing them have implications for the quality of education. Second, although many community colleges have implemented student learning outcomes, few of them have effectively assessed these outcomes. Third, knowing the influential factors, colleges are better able to evaluate and improve their capacity to assess outcomes. Fourth, the results of my study inform professional practice and improve the capacity of leaders of the student learning outcomes movement. Fifth, this research improves my professional capacity to lead the learning outcomes transformation at community colleges. Finally, this research contributes to the scholarship of assessment as it relates to community colleges.

CHAPTER TWO: REVIEW OF LITERATURE

The intent of this chapter is to provide a context in which to understand the need for and the design of the proposed research. The first section will be a limited review of forces that have influenced the student learning outcomes movement. The second section will describe the progress of community colleges in establishing student learning outcomes, their limited efforts to assess outcomes, and their limited use of the assessment results. From these first two sections, a perspective was gained on what the student learning outcomes movement is, why it started, and what it hopes to accomplish. In addition, these two sections describe the progress community colleges hsve made and the difficulties they are experiencing in creating and assessing student learning outcomes. The final section presents the views of assessment professionals about institutional capacity to assess learning outcomes.

A multifaceted approach was used for gathering information for this chapter. I first searched several databases [*Academic Search Premier, Encyclopedia of Education, Dissertation Abstracts, Education Full Text, ERIC (FirstSearch), ERIC (EBSCOhost), Professional Development Collection*] using various combinations of the following key words: outcomes, intended outcomes, student outcomes, learning outcomes, assessment, performance, measures, and indicators. Of the references retrieved, I read the most recent articles, books, and dissertations, and perused the references listed for each of these sources. I noted and later retrieved resources associated with my topic. My research strategy also included a search of recent authors associated with assessment in general and with the assessment of student learning in particular. My initial search began with the authors Trudy Banta, Peter Ewell, Peggy Maki, Marilee Bresciani, and Andreea Serban. Their publications led me to other authors, such as Alexander Astin, Thomas Angelo, Patricia Cross, Jeffery Seybert, Catherine Palomba, Edward Morante, James and Karen Nichols, Trudy Bers, Barbara Walvoord, and Linda Suskie. I then culled my results for references related to community colleges. In the majority of cases, I limited my search to publications from 1990 forward, and for the most part I have only included articles published since the mid-1990s. A convenient starting place for my literature review,

particularly for the second section of this chapter, was the result of an exhaustive review of literature on assessment in higher education. This review was the first phase of a multi-year research project that began in 1996 and covered literature published between 1985 and 1996 (Peterson, Einarson, Augustine, & Vaughan, 1999). Before reviewing this important research and the studies that followed, section one will describe the forces that have contributed to making student learning outcomes assessment a responsibility of the nation's community colleges.

Forces Contributing to the Student Learning Outcomes Movement

This section will provide the reader with a description of the forces and events that precipitated higher education's focus on student learning outcomes. This will include subsections on student learning outcomes as an outgrowth of the outcomes-based education paradigm, a shift in higher education from a focus on instruction to a focus on learning, the public's dissatisfaction with higher education in meeting societal needs, the movement of governmental bodies and regional accrediting agencies toward requiring performance measures and student learning outcomes, and the emergence of assessment as a major function of higher education.

Origins of Student Learning Outcomes

The concept of student learning outcomes appears to have its roots in the Outcome Based Education (OBE) movement, which began in the United States in the 1970s, picked up momentum in the 1980s, and has continued into the 1990s and the new millennium. Its early implementation was in K-12 education; however, one notable extant higher education example of OBE is at Alverno College, a small, private, liberal arts, women's college in Wisconsin. During the early 1970s, Alverno College began implementing what it termed Ability Based Curriculum and as a part of this implementation began assessing learning outcomes (Alverno College, 2004).

According to Spady (2002), OBE was influenced by the works of John Carroll (1963) and Benjamin Bloom (1968; 1956), and over the years has also been referred to as "Mastery Learning, Outcome-Based Instruction or Outcomes-Driven Model" (Spady & Marshall, 1991, p.

1). The concept of OBE is relatively straightforward: define what learners should be able to do successfully at the conclusion of an educational experience, develop curriculum and instruction based on what students are expected to learn, and assess what students were expected to achieve (Spady, 2002). In this paradigm "education (the means) is based on the outcome (the end), not the other way around" (p. 1829). Learners have several chances to demonstrate the outcome and are deemed to be successful "when they can demonstrate the intended learning outcomes" (p. 1829).

With OBE, successful learning or performance becomes the constant, and the time required to gain the knowledge or skill is flexible. However, our current educational systems have just the opposite configuration (O'Banion, 1997b; Spady, 2001, 2002). Education is delivered in class hours, semester or quarter courses, and academic years (O'Banion, 1997b), and the delivery of education must fit into these established constraints. Being time-bound is just one aspect of the current architecture of education that is a barrier to OBE implementation. Another is being curriculum-bound.

Those attempting to implement OBE often create outcomes based on the existing curriculum (Spady, 2001, 2002). OBE suggests just the reverse of this. The content of the curriculum should be defined by what the learner is expected to be able to do at the end of the learning experience. Spady and Marshall (1991) and Wiggins and McTighe (2001) described this as designing curriculum backwards from the outcomes or the desired results. Similarly, Stiehl and Lewchuk (2002) stated that curriculum design begins with "envisioning what students need to be able to DO in the rest of life that [educators] are responsible for in the classroom" (p. 28). Copa and Ammentrop (1997) took this concept of developing outcomes even further by stating:

> The most sophisticated strategy for developing learning outcomes is … one [that] starts outside the educational institution by identifying and doing in-depth analysis of the changing context of life in the future and the resulting problems and opportunities likely to be faced in living and improving the state of affairs in the workplace, family and community. Based on the analysis of problems and opportunities, the focus shifts to the areas of competence that will be most needed and effective. (p. 3)

Implementation of OBE has followed three distinct paths: a) a disciplinary path with a focus on mastery of specific skills, but with minimal change in curriculum structures, b) an interdisciplinary path with an emphasis on higher order skills beyond learning content, such as communication, critical thinking, planning, and problem solving, and c) the future focused path, which emerged in the late 1980s and which makes a dramatic break with the time and curriculum-bound structures of traditional educational practice (Spady, 2002).

This future focused path is the transformational concept of OBE, and those who subscribe to this meaning have viewed with skepticism the attempts to implement outcomes into existing time- and curriculum-bound systems. They often referred to these outcomes as “CBO” rather than OBE. “Among other things, CBO stands for curriculum-based outcomes, calendar-based organizations, content-bound objectives, convention-bound orientations, and convenience-based operations” (Spady, 2002, p. 1928). The transformational concept of OBE emphasizes the notion of competence beyond education to the career, family, and community roles individuals assume. Proponents argued that “life, not school, is the real measure of an education's significance and impact…and the design of outcomes and learning systems must begin precisely there” (Spady, 2002, p. 1830).

Spady (2002) stated that, because of the inertia that surrounds our time- and curriculum-bound educational structure and because of external bodies’ increased demands for educational accountability, the widespread implementation of “authentic Outcome Based Education” (p. 1831) may not happen. It may only survive in small or alternative-type schools that can “transcend the constraints and inflexibilities of our traditional education…. Because [education] is under enormous pressure to show results, public systems will continue to advocate for outcomes but almost inevitably in a CBO format” (p. 1831).

In summary, the emphasis on student learning outcomes in the United States can be traced back to the OBE movement in the 1970s. OBE’s focus is on learning: define what learners are expected to learn, design curriculum and instruction based on what students are expected to learn, and assess what students were expected to learn. Also inherent in the OBE

concept is that students have several chances to demonstrate their learning and that the time to achieve it will vary from student to student. OBE does not fit well with the current architecture of education, in which a student is expected to learn specific subject content within a specified time frame. One of the barriers to the student learning outcomes assessment movement might be the inertia surrounding the current architecture of education, which may not permit the restructuring of education around OBE concepts.

Movement from Instruction to Learning

From the 1980s through the present, a small group of individuals, often connected to higher education organizations in the United States, led a movement to encourage colleges and universities to take teaching and student learning more seriously. In the mid-1980s, Alexander Astin (1991), the director of the Higher Education Research Institute at University of California, Los Angeles, gained national prominence when he challenged the way higher education was measuring quality, saying its methods were flawed and calling for a renewed emphasis on learning. He argued that the quality of higher education should be measured by the value added to the student's learning. Learning had to be the focus of assessment (Lazerson, Wagener, & Shumanis, 1999).

During the late 1970s and early 1980s, in response to public concern about higher education in the United States, Derek Bok, president of Harvard University, chided higher education institutions that they needed to be more attentive to the contribution, or lack of it, they were making to their students' knowledge. He made the point that colleges and universities must take teaching and learning seriously. He recruited statistics professor Richard Light from Harvard as head of a small group to investigate the learning environment of the university. The research group expanded beyond Harvard to include over 100 individuals from several colleges and universities. The purpose of the group's research was to foster innovation in higher education and to evaluate the effectiveness of these innovations. The published results of their research became known as the Light Reports. These reports became very popular since they coincided

with a time when the quality of higher education was being questioned by the public (Lazerson et al., 1999).

K. Patricia Cross, an initial member of Light's assessment group at Harvard and later a Gardner professor of Higher Education at University of California, Berkeley, established prominence for her work on community colleges, adult education, and life-long learning. She contributed two arguments to the learning reform movement. First, she discovered there was a disconnect between the research on learning and the teaching practices in the classroom of community colleges. She observed that the researchers were having minimal impact on classroom teaching practices because they were talking at—rather than with—faculty and failing to consider teacher experiences at the classroom level. Second, she concluded that assessment of student learning and feedback to students about the results of that assessment could be used to improve both teaching and learning. Cross consolidated her views on assessment and research in two books. The first in 1993 with Thomas Angelo is *Classroom Assessment Techniques: A Handbook for College Teachers,* and the second in 1996 with Mimmi Steadman is *Introduction to Classroom Research* (Lazerson et al., 1999).

In an article titled "The Learning Decade," William Flynn (2003), in a community college publication, described the 1990s as a time the focus on learning (as opposed to instruction) emerged and began to gain momentum. He reiterated Cross's concern about the disconnect between learning research and classroom practice:

> Despite the significant body of literature on the value of collaborative or self-paced learning environments, the learning–community movement, and assessment as a pedagogical tool, we had done little to infuse these approaches into our curriculum except on the fringe. We all agree that students presented us with multiple learning styles, that critical thinking should be incorporated into every course. Yet, there was little concrete evidence that we implemented our beliefs or that we practiced what we preached. (p. 2)

According to O'Banion (1998b), a fundamental shift in thinking about education, especially in community colleges, began to emerge in the early 1990s. It began "initially as a reaction to the failure of educational reform in the 1980s and… [was] fueled by rapidly advancing technology and shrinking financial support of education" (p. 1). O'Banion believed that to place

“learning first requires a major shift in mission,” (p. 1) and an overhaul of the current architecture of education. O’Banion has been a guiding force in the learning-centered community college movement and has promoted this concept through his extensive writings (O'Banion, 1996a, 1996b, 1997a, 1997c, 1998a, 1998b, 1999a, 1999b, 1999c; O'Banion & Milliron, 1998), his leadership with the League for Innovation in the Community College, and his instrumental work in the recent creation of a learning-centered Ph.D. program for community college leaders at Walden University (O'Banion & Kaplan, 2003). Others have also contributed to this learning-center concept in the community colleges (Barr & Tagg, 1995; Boggs, 1995, 1999; McClenney, 1998, 2004a, 2004b).

One of the most prominent publications to emerge was the 1995 article “From teaching to learning: A new paradigm for undergraduate education” (Barr & Tagg, 1995). In it, Barr and Tagg described the principal elements of the paradigm shift from instruction to learning. Colleges and students are co-producers of learning, and colleges must share the responsibility for the “degree to which students learn” (Barr & Tagg, 1995, p. 2). The focus for colleges becomes creating “an environment conducive to learning” (p. 4) and necessarily incorporates the assessment of learning outcomes. Learning becomes acquiring the “skills and knowledge that will help students achieve their goal in work and life” (p. 2).

In 2000, The League for Innovation for the Community College (*21st century learning project*, 2002) selected twelve community colleges to participate in a three-year learning college project based on the work of O’Banion. The colleges in this project were to work on developing organizational cultures in which all aspects of the college support learning as the fundamental priority and which include methods for determining institutional effectiveness through the collection of meaningful data (Wilson, 2002). It was anticipated that the results of this project would then serve as a “basis for model programs and best practices” (*21st century learning project*, 2002, p. 1).

In O’Banion’s (1997a; 1999b) opinion, if community colleges wish to build a learning-centered perspective into their culture, they must constantly ask themselves two basic questions.

"1) Does this action improve and expand learning? and 2) How do we know this action improves and expands learning?" (1997a, p. 9; 1999b, p. 2). And according to McClenney (2004a), community colleges that subscribe to the "learning-college" concept exhibit six fundamental characteristics:

1. The institution has clearly defined outcomes for student learning.
2. The institution systematically assesses and documents student learning.
3. Students participate in a diverse array of engaging learning experiences aligned with required outcomes and designed in accord with good educational practice.
4. Data about student learning typically prompt reflection, decisions, and action.
5. The institution emphasizes student learning in its process for recruitment, hiring, orienting, deploying, evaluating, and developing personnel.
6. Key institutional documents and policies, collegial efforts, and leadership behavior consistently reflect a focus on learning. (p. 14)

These characteristics suggest that community colleges subscribe to the concept of building a culture of evidence. However "for a long time, a lot of community college people have lived reasonably comfortably in a culture of anecdote…. By in large they are stories about the *best* student experiences rather than the *typical* student experiences" (McClenney, 2004a, p. 14). Apparently "community college leaders… agree that colleges must be more data-driven" (Bailey & Mariana, 2005, p. 26); however, in practice, assessment is limited and the results are not often used (Bailey & Mariana, 2005; Peterson, Augustine, Einarson, & Vaughan, 1999a; Peterson, Einarson et al., 1999). Schuyler (1997) questioned whether a system-wide paradigm shift is even possible because "traditional administrative and instructional structures are steadfastly and deeply entrenched" (p. 3). This belief echoed Spady's (2002) thoughts that the widespread implementation of "authentic Outcome Based Education" (p. 1831) may not happen.

In summary, the movement from instruction to learning, over the past 25 years, was sparked by several prominent university and community college leaders. These leaders were saying that colleges and universities must take teaching and learning seriously; the methods used to judge educational quality were flawed because they were not assessing learning; there was a disconnect between research on learning and the teaching practices in the classroom;

and college and universities must create environments that facilitate learning—, in other words, become learning-centered institutions. If learning is a mission of higher education, then assessment of learning is integral to evaluating institutional effectiveness. The liertature suggests that assessment of learning at community colleges is limited and where assessment is conducted, the results are not often used.

This section offers insights regarding institutional capacity and motivation to implement meaningful student learning outcomes and assessment processes. Prominent individuals have established a need for universities and colleges to become more learning centered and more effective in assessing learning. However, how do community colleges make that change? Do college personnel need to learn about developing environments that facilitate learning, being a learning-centered college, being data driven, implementing effective assessment practices, and using data to make changes? Are leaders needed who comprehend and value the need to become learning centered, understand how people learn, and know of effective assessment practices?

Dissatisfaction with Higher Education

O'Banion (1996b; 1997a; 1999a; 1999b) identified the 1993 report *An American Imperative: Higher Expectations for Higher Education* (Wingspread Group on Higher Education, 1993) as the trigger event that began a reform movement in higher education; however, there were several events preceding this report that brought the learning revolution and the idea of student learning outcomes to the forefront in higher education. There was a convergence of economic, political, and educational events that began in the early 1980s and continued into the 1990s (Erlich, 2005; National Governors' Association, 1986; Nettles & Cole, 2001), which provided an environment for this report to trigger reform.

"In 1984, K. Patricia Cross noted that in the last few years over 30 national reports of education reform had been issued along with over 300 task reports on reform from the 50 states" (cited in O'Banion, 1997a, p. 2). "By all accounts [1983 was] the year that America's frustration with schools really took concrete form" (Spady, 2001, p. 2). The most prominent report that year

was *A Nation at Risk* (National Commission on Excellence in Education, 1983). The purpose of the report was to “generate reform of our educational system in fundamental ways and to renew the nation's commitment to schools and colleges of high quality throughout the length and breadth of our land” (p. 1). This report, referring to schools and colleges, stated that the “educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and as a people” (p. 5).

A Nation at Risk “triggered one of the most extensive reform movements in the history of education” (O'Banion, 1997a, p. 2). Although the focus of this report was primarily on K-12 education, it was highly critical of both schools and colleges. It referred to the “shoddiness” (National Commission on Excellence in Education, 1983, p. 4) in many walks of American life that was reflected in the nation’s schools and colleges. It admonished schools and colleges to set high standards for all learners and assist them in every way possible to meet those expectations. The report defined these standards in terms of the knowledge, skills, and abilities expected of school and college graduates (p. 1, findings section). The report also expressed that “educational reform should focus on the goal of creating a learning society” (p. 5) which extends beyond the educational opportunities of our schools and colleges and “into homes and work places; into libraries, art galleries, museums, and science centers; indeed into every place where the individual can develop and mature in work and life” (p. 5). The report went on to state that “learning is that indispensable investment required for success in the information age we are entering” (National Commission on Excellence in Education, 1983, p. 2). One indicator of risk was that businesses were “required to spend millions of dollars on costly remedial education and training programs in such basic skills as reading, writing, spelling and computation” (p. 3).

In 1984, public criticism became more focused on higher education with the publication of a report by the National Institute of Education Study Group, *Involvement in Learning: Realizing the Potential of American Higher Education.*

> This report called into question what college students were learning and recommended there be higher expectations placed on student learning, by engaging students in active learning pursuits, and providing feedback that gave

> students a measure of how they were performing so they could improve. (Erlich, 2005, p. 6)

Criticism continued in 1986 with the report, *Time for Results: The Governor's 1991 Report on Education* (National Governors' Association, 1986). This report described concerns about a decline in the education level of college graduates, the lack of data about the skills and knowledge of college graduates, and a dissatisfaction with the ability of accrediting bodies to "hold member institutions accountable for student performance" (p. 156). The report went on to recommend the need for states to address the outcomes of education. It admonished accrediting bodies to require member colleges and universities to go beyond measures of input and process to establishing and assessing student learning outcomes. This assessment of learning and institutional quality must include data about student's skills, abilities, and cognitive learning at various times in students' undergraduate education. Further, the governors expressed the opinion that the value of assessment would be to document learning, to indicate areas for curriculum and institutional improvement, and to demonstrate to constituencies the value of a college education (National Governors' Association, 1986).

In 1993, the Wingspread Group on Higher Education (1993) released a report that was extremely critical of higher education. In an open letter to the American public titled, *An American Imperative: Higher Expectations for Higher Education,* the Wingspread group stated:

> Education is in trouble, and with it our nation's hopes for the future. America's ability to compete in a global economy is threatened… [and a] dangerous mismatch exists between what American society needs of higher education and what it is receiving. Nowhere is the mismatch more dangerous than in the quality of undergraduate preparation (p. 1)…. [The] demographic, economic and technological changes [in American society] underscore the mismatch between what is needed and what it provides. (p. 4)

The *American Imperative* report recommended that institutions place learning at the forefront. "Putting learning at the heart of the academic enterprise will mean overhauling the conceptual, procedural, curricular, and other architecture of postsecondary education on most campuses" (Wingspread Group on Higher Education, 1993, p. 14). This meant designing curricula to meet the needs of students, systematically applying what is known about teaching and learning, and

rigorously assessing what students “know and are able to do in order to improve both student learning and intuitional performance” (Wingspread Group on Higher Education, 1993, Putting Learning First section, p. 1).

The Wingspread Group report suggested that higher education is responsible for educating students in the critical skills identified in the SCANS report, *What Work Requires of Schools* (Secretary's Commission on Achieving Necessary Skills, 1991), which had been published just two years earlier. The authors of the *American Imperative* report apparently believed these skills to be so important that they included the SCANS agenda in an appendix to their report.

The purpose of the SCANS report was to define the skills students needed to meet the demands of the work place. The report identified five competencies required of effective workers: Resources, Interpersonal Skills, Information, Systems, and Technology. In turn, these competencies were built on a three-part foundation of Basic Skills, Thinking Skills, and Personal Qualities (Secretary's Commission on Achieving Necessary Skills, 1991). The SCANS report drew the following implications for education by stating, “The most effective way of teaching skills is ‘in context’. Placing real learning objectives within real environments is better than insisting that students first learn in the abstract that they will then be expected to apply” (Secretary's Commission on Achieving Necessary Skills, 1991, p. 16). Also, “assessment is for the purpose of guiding learning, and it should be integrated with instruction” (Secretary's Commission on Achieving Necessary Skills, 1991, p. 17).

In summary, through a convergence of economic, political, and educational events, America’s frustration with higher education took form in the early 1980s. Criticism has continued to the present; various reports have expressed consistent themes. Higher education plays an integral role in the success of the United States economy. The concern has been about the educational level of graduates and the perception that their skills are not meeting the demands of the work place. Learning is at the heart of the academic enterprise, and institutions need to apply what is already known about teaching and learning. There has been a lack of data about

the skills and knowledge of college graduates, and assessing student learning is needed as a measure of institutional quality. Finally, assessment must be rigorous and must include data about students' skills, abilities, and cognitive learning. From this section, it became clear that colleges and universities are being pressured to provide evidence of learning as it relates to the economic needs of the country. Critics are demanding that higher education apply what is known about teaching and learning and that it rigorously assess what students know and are able to do.

Pressure for Accountability

Demographic, economic, and technological changes in our society are defining the content and structure of work. In turn, these changes are dictating the knowledge, skills, and abilities that are required in the workplace (Lerman & Schmidt, 1999; National Center for Higher Education Management Systems, 2000; National Research Council, 1999) and thus represent the forces that are pushing for change in higher education (O'Banion, 1997b).

As higher education has become more critical to the United States economy and as state and federal government support for education has increased, so has the scrutiny of education by governmental entities (McClenney, 2004a; Nettles & Cole, 2001; Zumeta, 2001) and taxpayers (Alfred et al., 1999). Several sources over the years have reminded educators and policymakers alike that the responsibility for American education rests with the states (*Measuring up 2002*, 2002; National Commission on Excellence in Education, 1983; National Governors' Association, 1986; Nettles & Cole, 2001; Shulock & Moore, 2002; Zumeta, 2001). Since "public colleges and universities are legal creatures of the state and are substantially supported by tax revenues" (Zumeta, 2001, p. 156), several sources (National Commission on Excellence in Education, 1983; National Governors' Association, 1986) have called on state legislators and governors to institute reforms in educational policy and fiscal planning.

The early reluctance by state leaders to involve themselves in higher education policy has diminished as the economic and social importance of higher education has grown. Policymakers have begun asking colleges and universities to demonstrate their effectiveness and efficiency by imposing accountability indicators in the form of performance measures

(Nettles & Cole, 2001). Two different surveys, one in 1997 by Christal and another in 1998 by Burke and Serban, documented that several states were implementing performance funding measures as a means to improve efficiency (Zumeta, 2001). These measures, however, are more often process indicators (measures of how resources are being used) rather than output indicators (measures of how much is produced) or the social value indicators of the output (measures of outcome) (Zumeta, 2001).

In summary, as higher education has become more critical to the United States economy and as state and federal government support for education has increased, so has the scrutiny of education by governmental entities. Policymakers have begun asking colleges and universities to demonstrate their effectiveness and efficiency by imposing accountability indicators in the form of performance measures. Addressing these accountability requirements and balancing them with other institutional responsibilities may limit institutional capacity to fully address the assessment of student learning.

Influence of Accreditation

Accreditation is part of what has been referred to as the "triad" (Eaton, 2003; Stoops & Parsons, 2003), a partnership that was formed as the result of the Higher Education Act of 1965.

> The triad establishes relationships between the federal government and eligibility for funding, state government and its responsibility for chartering institutions, and voluntary membership associations that require accreditation for membership. The triad evolved from the passage of the Higher Education Act of 1965, which provided the first broad-based, permanent, federally funded student financial aid programs for students in public and private universities. (Stoops & Parsons, 2003, p. 33)

The Higher Education Act is a federal statute that must be periodically renewed. Over the years, in successive renewals, accreditation has taken on a more significant role. The 1992 reauthorization of the Higher Education Act included revisions that gave the United States Department of Education "increased authority over the accreditation process" (Stoops & Parsons, 2003, p. 33) and assigned regional accrediting agencies the responsibility for assessing member institutions according to several new criteria, one of which was "student outcome measures" (p. 33). Four years prior to the 1992 reauthorization, William J. Bennett, the

United States Secretary of Education, issued an executive order (Bennett, 1988) that established new criteria for the Secretary's recognition of postsecondary accreditation agencies. These required accrediting bodies to evaluate member institutions on the degree to which they "document the educational achievement of their students" (p. 25098) at the institutional and program levels and the extent to which the results are systematically used to "foster enhanced student achievement" (p. 25099).

From the mid-1980s to the present, accreditation has been under pressure to show its relevance for ensuring quality in higher education (Bennett, 1988; Eaton, 2006; National Governors' Association, 1986; Schray, 2006a).

> As of the mid-1980s and early 1990s, outcomes assessment and in particular, the assessment of student learning…began to emerge as a means by which accrediting associations could continue to secure their role on ensuring the public of the quality and effectiveness of higher education institutions. (Nettles, Cole, & Sharp, 1997, p. 15)

The Southern Association of Schools and Colleges pioneered institutional assessment in 1984 by requiring member institutions to demonstrate they had implemented processes to assess institutional effectiveness (Nettles et al., 1997; O'Banion, 1997b; Wright, 2002). These requirements focused more on performance indicators, such as the number of transfers, number of students placed in jobs, number of students completing pre-collegiate courses and then succeeding in college level programs (O'Banion, 1997a), and less on the assessment of learning. In 1989, North Central Association of Colleges and Schools (one of six regional accrediting bodies) incorporated the assessment of student academic achievement into its accreditation process (Lopez, 1999; Wright, 2002). By 1992, all six regional accrediting association had revised or adopted new standards aimed at assessing educational outcomes (Nettles et al., 1997; Schray, 2006b). In a 1998 nation-wide survey of 548 of associate of arts institutions (Peterson, Augustine et al., 1999a), the authors concluded that responding to accreditation requirements was viewed by associate of arts institutions as a "major purpose for engaging in student assessment activities" (p. 57). Associate of arts institutions were defined according to the Carnegie Classification system. These included colleges in which the highest

degree conferred was the associate's degree or in which bachelor's degrees accounted for less than 10 percent of all undergraduate degrees (Carnegie Foundation for the Advancement of Teaching, 2007)

In the 1998 reauthorization of the Higher Education Act, student learning outcomes took a more prominent position with the reordering of the federal standards for recognition of accrediting organizations. This repositioning moved the assessment of student achievement from the middle of the list of standards to first position (Eaton, 2003; Schray, 2006b).

The Council for Higher Education Accreditation (CHEA) is a private, non-profit organization of colleges and universities that coordinates accreditation activity in the United States. It serves as the national advocate for voluntary self-regulation through the accreditation process (Council for Higher Education Accreditation, 2004). In September of 2003, CHEA published *Statement of Mutual Responsibilities for Student Learning Outcomes: Accreditation, Institutions, and Programs.* The purpose of this document was to define the roles of accreditors, institutions, and programs with regard to the development and assessment of student learning outcomes (Council for Higher Education Accreditation, 2003). CHEA defined the role of colleges and universities by stating "institutions and programs are responsible for establishing clear statements of student learning outcomes and for collecting, interpreting, and using evidence of student achievement" (Council for Higher Education Accreditation, 2003, p. 1). Wright (2002) asserts that the "single most powerful contributor to assessments staying power has been its championing by regional and professional accreditors" (p. 253). She goes on to say that accreditation has provided the external pressure that has pushed institutions toward establishing assessment processes.

In summary, from the mid 1980s to the present, accreditation bodies have been under pressure to show its relevance for ensuring quality in higher education. In response to demands by the United States Department of Education, accrediting bodies now require member institutions to establish student learning outcomes and to collect, interpret, and use evidence of student achievement. This represents another requirement imposed on community colleges that

they must balance in relation to other responsibilities. Responding to external requirements may create resistance within an institution and limit the capacity of community colleges to establish meaningful student learning outcomes and assessment processes.

Emergence of Assessment

Assessment of student performance in higher education has been an activity in the United States since 1900 when the College Entrance Examination Board was organized to assess student achievement on a national scale (The College Board, 2005). Some assessment professionals (Black & Kline, 2002; Gray, 2002) identified Ralph Tyler as one of the first to connect desired learning outcomes to the measurement of them. Between 1932 and 1940, Tyler conducted a study in which he "measured the effectiveness of different types of schooling" (Black & Kline, 2002, p. 226) by using outcomes as the criteria in the form of "student behaviors" (Gray, 2002, p. 50). Since the mid-1980s, assessment has emerged as an important focus of educational policy at the national, state, and institutional levels.

Ewell (2002a) pointed to 1985 as the birth of the current assessment movement in higher education. The first national conference on assessment in higher education took place in Columbia, South Carolina, in the fall of that year. The National Institute of Education (NIE) and the American Association of Higher Education (AAHE) cosponsored the conference, and the impetus, according to Ewell (2002a) , was the report *Involvement in Learning: Realizing the Potential of American Higher Education (Study group on the conditions of excellence in American higher education, 1984)*. The report recommended that higher expectations be established for students, that students could benefit from active learning environments, and that both students and institutions could benefit from feedback on their performance through the use of appropriate research methods (Ewell, 2002a). This report was one among several similar reports:

> A host of national reports appeared in the mid-1980s challenging the ways higher education conducted its business…. At the state level, the assessment of student learning quickly emerged as a primary way to hold institutions accountable. During the 1980s the number of states that required public

> colleges and universities to assess learning outcomes went from near zero to over 40. (Lazerson, Wagener, & Shumanis, 2000, p. 2)

The state-mandated assessments of the 1980s had not affected undergraduate education. Thus, states imposed a new wave of mandates for "clear, comparative measures of student learning" (Lazerson et al., 2000, p. 2). By the mid-1990s, accountability became the emphasis of state assessment initiatives. This time assessment results were tied to funding allocations. Over half the states began mandating that colleges and universities report on such performance measures as enrollments, graduation rates, time to degree, persistence, retention, professional licensure exam (e.g., registered nurse, psychiatric technician, respiratory therapist) pass rates, and transfer rates. States chose to require these performance measures over the learning outcomes measures because they were more easily obtained (Lazerson et al., 1999).

As described in an earlier section, the voices for assessing student learning came from within the academy (Ewell, 2002a; Lazerson et al., 1999) and assessing student learning was a focus adopted in the mid-1980s by accrediting bodies (Nettles et al., 1997). Today, community colleges must respond to these two competing demands for assessment: performance measures and student learning outcomes. Since the mid-1980s, the number of postsecondary institutions engaged in some form of student assessment activity has steadily increased. However, according to the results of a 1998 national survey of higher education institutions (Peterson, Augustine et al., 1999a):

> On average associate of arts institutions [were] not fully engaged with student assessment … given the limited types of assessment data collected, the limited points in time of the data collection and the limited number of studies connecting student performance to institutional experiences. (p. 27)

Further, when compared to other sectors of higher education, associate of arts institutions were "more likely to collect data on college-readiness skills…, academic intentions, and academic progress…[and,] least likely to collect data on higher order skills, students' personal growth, and former students' civic and social roles" (Peterson, Augustine et al., 1999a, p. 27). Fewer still reported any observable effects from their assessment efforts. Associate of arts institutions were not using student assessment data to any great extent in making educational decisions about

academic mission or goals, design or redesign of programs or majors, allocation of resources for academic units, modification of general education requirements, and changes in teaching methods (Peterson, Augustine et al., 1999a). This pattern appears to have continued to the present day (Bers, 2004; McClenney, 2003; Serban & Friedlander, 2004; Wilson et al., 2000). It seems that community colleges are investing time and effort in student assessment, however to date have realized few benefits from "its potential to improve student and institutional performance" (Peterson, Augustine et al., 1999a, p. 5).

According to Peterson, Augustine et al. (1999a), the approach an institution took toward student assessment varied according to institutional type. They found statistically significant differences by institutional type on "support for, practices and policies regarding, and uses and impacts of student assessment. [These differences were] typically stronger than the differences by other institutional characteristics, such as size or whether the institution is private or public" (p. 6). It also appeared that community colleges face different challenges than other segments of higher education:

> The challenges associate of arts institutions face as they develop student assessment programs are quite different from those faced by other institutions. These differences stem, in part, from the instructional mission, curricular focus, governance structure, faculty roles and responsibilities, and the student climate typically associated with associate of arts colleges. (Peterson, Augustine et al., 1999a, p. 6)

If few benefits are being realized from institutional assessment, then is it worthwhile to continue these efforts? Prominent scholars (Astin, 1991; Banta, 2002b; Bresciani, Zelna, & Anderson, 2004; Ewell, 2002a; Maki, 2004; Palomba & Banta, 2001) argued that it is. They viewed assessment as the means to improve institutional performance and student learning. However, "to date the majority of postsecondary institutions have little documented evidence of whether and to what degree their assessment efforts have influence decision making or produced discernable impacts on student [performance], faculty [behavior], or external constituencies" (Peterson & Einarson, 2001). This lack of evidence is just the point that the Academic Senate for California Community Colleges (ASCCC) made in its objections to the new

2002 Western Association of Schools and Colleges (WASC) accreditation standards for establishing student learning outcomes and assessment processes. In recent publications (Gilbert, Brewster, Near, Rudmann, & Sine, 2004; Simpson, 2003), the ASCCC has taken the position that the push for measurable student learning outcomes by the accrediting commission is not based on science but on ideology. The senate asked the question, “Where is the research that tells that this effort will improve educational quality?… There is no ‘clear showing’ of the inadequacy of current practices” (Simpson, 2003, p. 5).

Some have characterized assessment efforts as positivist (Ewell, 2002a) in nature and dominated by “traditional psychometric theory” (Mentkowski & Loacker, 2002), which has not allowed for alternate ways of knowing that are valued by other disciplines, such as the humanities. Ewell (2002a) and Gray (2002) noted there were two sets of philosophical beliefs that contributed to the current “tension over assessment” (p. 56). One included the quantitative tradition (Ewell, 2002a) or objectivist and utilitarian assumptions (Gray, 2002) and the other included the qualitative, developmental traditions (Ewell, 2002a) or subjectivist and intuitional assumptions (Gray, 2002). Each appealed to a different faculty population and led to different views about learning, its evaluation, and the use of assessment results. Gray (2002) contended that both philosophical beliefs must be accommodated if an assessment plan is to be successful. Erwin and Wise (2002) stated that the current assessment boom may exist because of the inability of current methods to measure the quality of learning. The methods we now have do not effectively measure learning, and we need to develop new methods that will assess “complex thinking processes” (p. 74). Further, it was the contention of Pellegrino, Chudowsky, and Glaser (2001) that most assessments of student learning were based on earlier conceptions of learning that are “not fully in keeping with current knowledge about human cognition and learning” (p. 54).

In summary, since the mid-1980s, assessment has emerged as an important focus of educational policy at the national, state, and institutional levels. Institutions are now charged with two different assessment responsibilities. One focus, more often a result of state assessment initiatives, is institutional accountability. Colleges and universities are required to report on

various performance measures. The other assessment responsibility is on student learning, which was a focus adopted by accreditation bodies. Assessing higher order learning may be hampered by assessment's positivist, psychometric tradition. Different ways of thinking about assessment and new forms of assessment may be necessary, if assessment is to become valued by faculty. The evidence suggests community colleges face different challenges than other higher education institutions in their efforts to establish assessment processes. Even though assessment activities are increasing at community colleges, few comprehensive programs exist, and few benefits are evident. Are the challenges of balancing competing assessment priorities limiting the ability of community colleges to establish and maintain meaningful student learning outcomes and assessment processes, or, is the external pressure a facilitating factor pushing community college to establishing such processes?

Summary

The intent of this section of the literature review on forces contributing to the student learning outcomes movement was to provide a context in which to understand the next section, which presents the literature regarding the assessment of student learning and the capacity of community colleges to implement assessment processes. Thus far, I learned that the concept of student learning outcomes is about change: how we think about education, how we structure education, and how we assess learning. The concept of student learning outcomes appears to have emerged from the Outcomes Based Education (OBE) movement. The basic premises of OBE are that the content of the curriculum should be defined by what the learner is expected to be able to do at the end of the learning experience, that successful learning is the constant, and that the time required to gain the knowledge or skill is flexible. However, our current educational systems have just the opposite configuration. This deep-rooted architecture of education represents a profound barrier to the implementation of the transformative concept of OBE. The inertia surrounding the current architecture of education may limit the capacity of community colleges to establish student learning outcomes and assessment processes. I also learned of prominent leaders who subscribe to the learning-centered approach, who believe that the quality

of higher education should be measured by the value added to students' learning, and who emphasize that student learning must be the primary focus of assessment. The institutions that are learning-centered have defined outcomes for student learning and systematically assess and document student learning.

Further, I learned of the disconnect between the research on learning and teaching practices in the classroom. The assessment of students' learning and the feedback to students at the classroom level (as opposed to the institutional or program level) could be used to improve both teaching and learning. During the 1990s, the focus on learning (rather than instruction) gained momentum in the community college and was reflected in the works of several individuals, many of whom have been associated with national community college organizations. Educational leaders have called for universities and colleges to become more learning centered and more effective in assessing learning. How do community colleges make that change? Do college personnel need to learn about developing environments that facilitate learning, being a learning-centered college, being data driven, implementing effective assessment practices, and using data to make changes? Are leaders needed who comprehend and value the need to become learning centered, who understand how people learn, and who know of effective assessment practices?

Demographic, economic, and technological changes in our society are defining the content and structure of work and, in turn, are dictating the knowledge, skills, and abilities that are required in the workplace. There is public dissatisfaction with higher education in meeting the demands of these societal changes. Further, policymakers have increased their demands for accountability in higher education and for the assessment of learning. State and federal policymakers have pressured colleges and universities for accountability by requiring institutions to report on various performance indicators. They have also put pressure on accrediting agencies to hold member institutions accountable for documenting student learning. That pressure, in turn, has been placed on colleges and universities to establish processes for the development and assessment of learning outcomes. The primary reason that community

colleges are addressing student learning outcomes assessment is in response to accreditation requirements. This pressure could serve to facilitate or thwart colleges' ability to implement a meaningful student learning outcomes and assessment process.

Finally, although many community college leaders subscribe to the concept of building a culture of evidence with regard to student learning, for the most part they live in a culture of anecdote. In practice, the assessment of student learning at community colleges is limited, and the results are not often used to make informed decisions about educational policies and practices. This particular topic deserves more investigation and will be expanded upon in the next section.

The information presented in this first section has implications for the research questions of this study. The pressure from external forces for accountability and assessment of student learning may be factors pushing community colleges to engage in student assessment. The current architecture of education and the teaching practices of faculty may be barriers to the ability of an institution to shift its culture to one of assessing student learning. Assessment results are not often used in practice, and the limited research shows few observable results from assessment efforts. Including faculty in designing the assessment process and involving them in developing methods to facilitate the use of assessment results appear to be influential factors for a meaningful assessment process.

One implication for research design that can be drawn from the information presented in this section is that community colleges face different challenges than other segments of higher education. Relying on research related to university practices may not be appropriate for community colleges. Selecting participants from community colleges who understand the student population, mission, faculty roles, and educational climate are important for answering the research questions. With the context provided in this section, the next section will address the recent literature on assessment of student learning at the community college level.

Implementation of Student Learning Outcomes Assessment Processes

The intent of this section is to describe the progress of community colleges in developing and assessing student learning outcomes. This section will first present the results of a major multi-year study of assessment in higher education, the *Student Learning and Assessment Project*. There is a wealth of information to be drawn from the results of this research, and it will serve as a starting point for the review of subsequent research on the development and assessment of student learning outcomes in community colleges. The section continues with a review of the League for Innovation in the Community College projects and the *Measuring Up Biennial Reports*. Following the review of these major projects, several additional relevant research studies will be examined under the heading of "Other Recent Research."

The Student Learning and Assessment Project

In 1996, the National Center for Postsecondary Improvement, supported in part by funding from the United States Department of Education, commissioned a national study to determine the ways in which institutions of higher education collected and used assessment information. The study was conducted in three phases. The first phase was an extensive review of the student assessment literature prior to 1997. From this review, seven interacting domains emerged which served as a conceptual framework for phases two and three of the project. Phase two was a national survey of all higher education institutions in the nation, and phase three consisted of case study investigations of seven of the institutions that participated in the national survey. Of the seven case studies two were community colleges. The findings from this project have a direct bearing on the focus of my proposed research and are described in the following paragraphs.

The first phase of the Student Learning and Assessment Project was an exhaustive review of the literature of student assessment in higher education, limited to material that was published between 1985 and 1996 (Peterson, Einarson et al., 1999). The purpose of the review was to determine what was "known about the organizational and administrative context for student assessment in postsecondary institutions" (p. 2). This review revealed a paucity of

research that addressed institutional-level student assessment topics. Further, the nature of the literature was primarily descriptive or prescriptive studies rather than “any systematic examination of the relationships” (Peterson, Augustine et al., 1999a, p. 1) among various approaches to assessment and the positive or negative effects of these efforts. Of the external forces pushing institutions to engage in assessment, accreditation was the strongest motivator, followed by state-level requirements, and then national incentives. There had been very little empirical examination of the effect of campus leadership on shaping support for student assessment practices. Limited evidence existed about the effect of student assessment on student performance or faculty behavior. And there was little systematic research on the association among external influences, internal practices, assessment approaches, and the use of student assessment results. The authors concluded that the “literature on student assessment is very much an emerging arena of study” (p. 4).

The second phase of the *Student Learning and Assessment Project* was the first comprehensive national survey of college and university assessment practices. The survey was mailed to the chief academic administrator at 2,524 public and private, associate of arts and baccalaureate institutions (Peterson, Einarson et al., 1999). Completed surveys were received from 1,393 institutions, and of this number, 548 were received from associate of arts institutions. This represented a 54% response rate for the subset of associate of arts institutions. There was no indication from the report that there was any follow up to non-responding institutions to encourage participation. As well, there was no indication that the authors compared the characteristics of the non-respondents to the respondents to determine differences in characteristics between the two subgroups. The study was designed to determine “what approaches institutions use to assess student performance, how institutions are organized to promote and support student assessment, and how they use student assessment to improve student, faculty and academic performance in the institution” (Peterson, Augustine et al., 1999a, p. 2).

A wealth of information was collected about community college assessment practices. It was revealed that the student assessment information which associate of arts institutions collected was more often data on “basic college-readiness skills, academic intentions, academic progress, satisfaction, and post-college outcomes” (Peterson, Augustine, Einarson, & Vaughan, 1999b, p. 2) and was less often data on students' higher order skills. Institutions, to a great extent, used tests and to a lesser extent used “assessment methods such as observations of student performance, student portfolios or comprehensive projects, capstone courses, student interviews, employer interviews, and alumni interviews” (p. 2).

Associate of arts institutions did provide faculty and academic administrators with limited opportunities for professional development in student assessment. “Approximately half of associate of arts respondents report that they offer annual forums on student assessment, provide regular workshops for academic and student affairs administrators, and have a faculty governance committee that regularly addresses assessment issues” (Peterson, Augustine et al., 1999b, p. 3). Very few colleges provided incentives or rewards to encourage college personnel to engage in assessment activities. Academic affairs administrators were described as being the most supportive of student assessment. “Even the chief executive officer was described, on average, as being only somewhat supportive of student assessment” (Peterson, Augustine et al., 1999b, p. 3). The survey results indicated accreditation demands and improving undergraduate education were both seen by institutions as very important reasons for student assessment. However, institutions which cited accreditation as the primary reason for collecting assessment information were less likely to use assessment data in “making faculty-related decisions” (Peterson, Augustine et al., 1999a, p 57).

With regard to institutional support for assessment, most associate of arts institutions had some type of committee for student assessment; usually chaired by academic affairs administrators and typically without students. “Half of the associate of arts institutions surveyed have evaluated their plan or policy for student assessment’’ (Peterson, Augustine et al., 1999b,

p. 4). Fewer than half of institutions reported having computer support for tracking student progress through their institution (Peterson, Augustine et al., 1999b).

The third phase of the *Student Learning and Assessment Project* was a case study investigation of seven institutions that had participated in the phase two survey. These colleges and universities were selected because they were actively engaged in student assessment and because they represented one of four Carnegie (2007) classifications of institutions: doctoral/research, comprehensive, baccalaureate, and associate of arts. A team of four researchers visited each of the seven institutions and used a research protocol that included the officials to be interviewed, the questions to be asked, and the documents to be collected. The purpose was to gather "relevant information about the institutions' approach to, support for, management policies and practices for, and uses of student assessment" (Peterson, Vaughan, & Perorazio, 2001, p. 1).

Two of the institutions selected for investigation were community colleges, one located in Florida and the other in Washington state. At the Florida community college researchers found that assessment was occurring and was initiated in response to "state mandates [and] accreditation requirements" (Peterson et al., 2001, p. 68). There was institutional support for assessment; however, it had a strong emphasis on state reporting requirements. Leadership for assessment was provided by administrators. Faculty development opportunities were described as fair. Data used for educational improvement was noticeable at the course level but was minimal at the department and institution level. Administrators were more concerned about assessment for state reporting requirements than the assessment of student learning. The college was viewed as developing an assessment culture around "meeting state reporting requirements" (p. 72), with minimal attention to the assessment of student learning.

At the community college in Washington, investigators found that assessment was alive but not integrated into campus policies and procedures. Assessment was initiated in response to accreditation and state reporting requirements. It was supported by grants and had only modest support from faculty and administrators. Beyond grant funding, the college had limited resources

to support assessment. The leadership for assessment resided with administrators. Student assessment occurred primarily at the classroom level by a few active faculty members. The college had no formal assessment plan, and assessment activities were informal and fragmented. Assessment data was collected, but not analyzed or used to any great extent. The researchers concluded that the college was slow to adopt an assessment culture (Peterson et al., 2001).

It is interesting that investigators selected these two community colleges because they "appeared to be involved actively in student assessment and to be promoting and supporting it within their institutions" (Peterson et al., 2001, p. 6). If these colleges are examples of the best that community colleges are doing, then the description of assessment activity (or the lack of it) at these two colleges corroborates Serban and Friedlander's (2004) contention that there is a lack of "comprehensive, practical, and sustainable models that practitioners in community college settings might use for assessing, documenting and using information about learning outcomes" (pp. 2-3).

The results of the three phases of the *Student Learning and Assessment Project* offer several implications for my study. There is a paucity of research that addresses institutional-level student assessment. Specifically, there is little research about the effect of campus leadership on student assessment practices; the effect of student assessment on student performance or faculty behavior; the association among external influences, internal practices, and assessment approaches; and the uses of student assessment results. What was learned from this project has implications for the research questions and the design of my study. State mandates and accreditation requirements represent external pressures on community colleges. Accreditation appears to be the strongest motivator pushing associate of arts institutions to engage in assessment. An assessment plan that is reviewed periodically and that is systematic and integrated into the policies and practices of the institution is seen as important element of a successful plan. Many institutions have an assessment committee, and it appears most are chaired by administrators. Professional development opportunities for college personnel to learn

about assessment appear to be another important element of successful processes. It seems there are few of these professional development opportunities for community college faculty and administrators, and very few colleges provide incentives or rewards to encourage college personnel to engage in assessment activities. As a further hindrance, few institutions have computer support for tracking student progress.

The results of the research presented in this section also offer implications for the design of the proposed study. Of the limited systematic research on community colleges, survey and case study methods were evident. The response rate for the nationwide survey of the *Student Learning and Assessment Project* was a modest 54%. There was no indication of any follow up to non-responding institutions to encourage participation, and there was no indication that the authors compared the characteristics of the non-responders to responders to determine differences in characteristics between these two subgroups. If a survey method were to be used in my study, it would be sound practice to remedy both of these deficiencies. For my study, non-responders may represent an important source of data. A potential difference between responders and non-responders at the institutional level might be associated with the progress or lack of progress of an institution in establishing student learning outcomes assessment processes. Another difference might be associated with employee groups within an institution. Are specific groups of employees more or less enthusiastic about the assessment of learning outcomes, and is this characteristic associated with being a responder vs. a non-responder? In either case, non-responders may represent an important source of data on factors that thwart a meaningful assessment process. It appears that academic affairs administrators hold prominent positions in assessment activities at associate of arts institutions. Whatever the method of research, it would be important to include input from academic affairs administrators who are actively involved in student learning outcomes and assessment.

League for Innovation in the Community College Projects

The League for Innovation in the Community College took the lead in research into student learning outcomes in community colleges with two grant funded projects: the *21st*

Century Learning Outcomes Project and the *21st Century Learning College Project*. The goals of the first phase of the *21st Century Learning Outcomes Project* were to identify what constitutes 21st century skills, to conduct a survey of the 677 U.S. and Canadian member colleges of the League regarding outcomes practices, and to make site visits at five member institutions (Wilson et al., 2000). The researcher gave no criteria for selecting the five colleges for site visits. The survey was mailed to the chief academic officer at each of the 677-member institutions. The survey yielded 259 completed surveys, a response rate of 38%. There was no indication that there was follow-up with non-responders encouraging their participation and no reported analysis comparing the characteristics of responders and non-responders.

The results from the focus groups, site visits, and survey revealed that "more colleges are teaching the [21st century] competencies than are defining, assessing and documenting them" (Wilson et al., 2000, p. 54). Further, the study found that those institutions that have focused on "competencies do not necessarily have an institutional initiative or plan for ensuring the definition, delivery and documentation of these outcomes" (Wilson et al., 2000, p. 55). The authors of this study reported that none of the colleges studied in the first phase of the project had "fully defined and implemented an institutional-wide system that supports the delivery and documentation of student learning" (Wilson et al., 2000, p. 58). They indicated that the greatest barriers to integrating outcomes in the community colleges were lack of time, resources, and adequate models for assessing and documenting student achievement.

In the second phase of the project, the League sponsored 16 self-selected community colleges with the purpose of "designing and testing innovative outcomes-based methods for defining, delivering, and assessing student learning practices" (*21st century learning outcomes project*, 2002, p.1) for community colleges. This three-year project began in the fall of 2000; however, to date there has been no published report describing the results of the project. A summary account of issue sessions that were held for project participants in March of 2001 was posted on the League Web site (*Creating an organizational culture for learning*, 2001). In that report, participants identified several suggestions for maintaining momentum for the

implementation of student learning outcomes and assessment processes. These suggestions were:

> Including students in the process, publishing the benefits of outcomes, linking the process to the college's strategic planning, providing educational opportunities for college staff, and recruiting curriculum design specialists because they are effective change agents. Organizations that appear to be successful have champions for the process who are well respected and who are accepted by faculty and administrators. These organizations also have committed financial resources to support the process. (Creating an organizational culture for learning, 2001, p. 6)

In June of 2001, in a workshop that was convened by the League for these 16 project colleges, Kay McClenney made the following observations about why developing and assessing learning outcomes is so difficult:

- Lack of collaboration among disciplines and other groups within the institution
- Lack of knowledge about assessment processes and tools
- Lack of awareness of the need for outcomes-based education
- Lack of appropriate, effective assessment tools and models
- A perception that some important learning outcomes are not measurable
- Traditional insulation from accountability for individual student learning at the classroom level
- Traditional resistance to self-assessment in higher education
- Traditional external requirements for accountability, funding, and policy that are rarely tied to individual student learning, leading to a lack of incentive for outcomes-based efforts
- Increasing demands and constricting resources, which leave little time or incentive for educational reform efforts of this magnitude. (*Defining and teaching learning outcomes*, 2001, p. 5)

The purpose of the second project, the *21st Century Learning College Project*, was to assist 12 community colleges to become more learning centered and use their efforts to "serve as a basis for model programs and best practices" (*21st century learning project*, 2002, p. 1). These 12 colleges became known as Vanguard Learning Colleges. Among the goals of the project, these colleges were to develop strategies to improve learning outcomes, assessment processes to measure these outcomes, and methods for documenting the achievement of them. The project began in January 2000 and was funded for a three-year period.

Midway through the project, representatives from these colleges came together in sessions sponsored by the League. In one of these session participants identified the following as assessment challenges:

- Maintaining partnerships
- Lack of knowledge of methodologies and tools
- Limited resources (financial, time, personnel)
- Difficulty of getting buy-in
- Effective communication at all levels
- Assessing the assessment
- How does assessment compete with other institutional and workload priorities?
- Viewing assessment as integral to our mission as educators at every level and not separate
- Overcoming our fears
- Creating incentives and recognition for assessment efforts. (*Defining and teaching learning outcomes*, 2001, p. 4-5)

In an article describing the progress of these 12 Vanguard Learning Colleges, McClenney (2003), who served as the Learning College Project evaluator, stated "the work of defining and assessing student learning outcomes is some of the hardest and also some of the most important work in undergraduate education" (p. 5). She added that the overall status of the work of these 12 Vanguard Learning Colleges was "characterized as Random Acts of Progress" (p. 5). In spite of the progress made by the Vanguard Learning Colleges, they continued to have the following significant challenges:

- to move from definition of learning outcomes to design and implementation of assessments;
- to improve the quality of assessments (e.g., moving from faculty checklists to authentic student performances);
- to upgrade reporting and information systems so that assessment results can be more readily reviewed and used in decision making;
- to examine the educational processes behind the outcomes and target areas of needed improvement;
- to link learning assessments to grades and degrees;
- to ensure that assessment itself promotes learning; and
- to bring disparate efforts to scale, so that assessment is systematic and college wide. (p. 6)

The information from these projects offers implications for my research questions. Colleges may be teaching 21st century competencies, but they are not assessing and documenting them, and institutions do not necessarily have assessment plans. The greatest

barriers were lack of time, resources (financial and personnel), and adequate assessment models. Other challenges included getting buy-in, communicating effectively at all levels, assessing the assessment, competing with other institutional and workload priorities, overcoming fears, creating incentives, recognizing efforts, and viewing assessment as integral to the mission of being educators. The following were suggested as facilitators to an assessment process: including students in assessment planning, communicating the benefits of outcomes, linking assessment to the college's strategic planning, offering educational opportunities for college personnel, and having campus champions for the process who are well respected and accepted by faculty and administrators.

These projects also offered implications for the research design. The project used focus groups, surveys, and site visits to selected institutions. The survey procedures suffered from flaws similar to the previous project: low response rate, lack of follow-up, and lack of comparison between responders and non-responders. These flaws need to be addressed if a survey method is to be used in my research. Another concern is that the survey only sampled one college group—chief academic officers. If a survey method is used, it seems a greater variety of perspectives would be achieved by including other community college groups in addition to chief academic officers.

The Measuring Up Biennial Reports

Measuring Up 2000, 2002, and 2004, prepared by The National Center for Public Policy and Higher Education, represented a series of biennial report cards on the performance of higher education in the United States. Each state was graded and compared to other states on five dimensions of "college opportunity and effectiveness" (*Measuring up 2004*, 2004, p. 6). One of these dimensions was student learning. For the 2000 and 2002 report cards, all states were given incomplete grades because of the lack of comparable data across states that would allow for meaningful state-to-state comparison. In the 2004 report, 45 of the 50 states were again given incomplete grades. Five states received "plus" grades because of their participation in a pilot study to develop "comparable learning measures" (*Measuring up 2004*, 2004, p. 13). It was

anticipated that the pilot study would “provide a better understanding of how to assess the educational capital of the states” (Miller, 2002, p. 3). According to Ewell (2002b), a problem the project faced was the lack of sophisticated “instruments for assessing skills like critical thinking and problem solving” (p. 6), and the creation of new methods that reliably assess college-level learning requires considerable time, effort, and money.

From the results of the five-state pilot project, it was determined that it was feasible to expand the project to all states, with the goal of creating a benchmark for college-level learning that would permit state-to-state comparison. However, in addition to the lack of sophisticated measures of learning, the project identified other barriers to be overcome if the project were to be successful: logistics of administering tests, institutional commitment to the process, student motivation to participate, and the cost of implementation (*Measuring up 2004*, 2004). These obstacles have implications for the research questions of my study in that they could represent factors that thwart a community college’s capacity to implement a meaningful assessment process. Cost of implementation, credible methods of assessing student learning, active participation by stakeholders (in the case of an institution: faculty members, administrators, administrative support personnel, and students), and logistics of administering a systematic and ongoing process of assessment are all factors that may influence institutional capacity to meaningfully assess student learning.

Other Recent Research

This section presents the results of several smaller studies. The purpose of one study was to identify common learning outcomes for a state-wide system of colleges; other studies were concerned with implementation of learning outcomes assessment, and still others were studies of college programs that were shifting from a content-based to an outcomes-based curriculum. Each of these studies offer implications for the proposed research.

In a study to identify the critical academic skills for Kansas community college graduates, Larson and Wissman (2000) used a Delphi technique to solicit the opinions of thirteen faculty members and ten administrators from Kansas community colleges. This study

was one aspect of a larger statewide effort to identify the core indicators of community college effectiveness. The three-round Delphi process generated 199 skill statements; consensus was reached on five critical academic skills that Kansas community college associate degree holders should be able to demonstrate.

The strength of this study and an implication for the design of my study is that the researchers were able to generate a lengthy list of ideas and distill them down to five critical academic skills on which panelists agreed. It demonstrates the use of the Delphi method for soliciting ideas from a group of experts who were geographically separated. The study was able to identify outcomes; however, the concerns and frustrations expressed by panelists relate to institutional capacity to assess these outcomes. One limitation of the study was the attrition rate of the panelists. The authors recruited 15 deans and 15 faculty members from the 19 Kansas community colleges. Of these 30 panelists 23 began the study and 20 completed all three rounds. The authors did not offer reasons why panelists dropped from the study, nor was an analysis conducted comparing those who participated and those who dropped.

Sunell (2003) investigated the "suitability of adopting a learning-outcomes approach as a strategy for educational reform in British Columbia's colleges and university college" (p. 1). British Columbia's colleges "prepare adult learners for post-secondary studies and provide courses and programs in trades, vocational, career technical and academic studies leading to certificates, diplomas, associate degrees and applied degrees' [and university colleges] "offer undergraduate and master's degrees, often in specialized subject areas, as well as courses and programs in trades, vocational, and career technical" (British Columbia Ministry of Advanced Education, 2007) The author surveyed 313 department administrators from among British Colombia's higher education institutions and conducted follow-up interviews with eight of the respondents. Sunell reported that participants expressed a range of reactions to the learning-outcomes concept, from strong support to overt resistance. Barriers to the implementation of student learning outcomes included "competing priorities, lack of resources, faculty workload, organizational, pedagogical issues, concerns about the vocationalization of postsecondary

education and [the] perceived relationship [of learning outcomes] to the provincial government's accountability movement" (Sunell, 2003, p. 1). The author reported that those respondents who implemented a learning-outcomes approach viewed the changes positively, that respondents from academic areas viewed the approach less favorably than those from the applied disciplines, and that the approach was seen as valuable in concept but was not translated into practice, particularly at the course level.

In another study on the influence of assessment on curriculum, D'Amico (1996) conducted telephone interviews with 34 higher education institutions and on-site interviews at four campuses in four states. D'Amico concluded:

> Considerably less assessment activity occurring on the campuses than would be expected, based on reports in assessment literature… [There is a] lack of systematic reporting and analyzing of assessment results... The value of assessment seems to be to encourage the establishment of learning outcomes within and across departments. Assessment appears to influence decisions about curriculum at the department level more that at the institutional level…. [And] assessment activities appear to be conducted outside of the normal routine of the institution and not as part of the dominant culture. (p. iv)

Koslowski (2005) conducted a qualitative study of one small independent baccalaureate college's struggle to "embrace the principles of quality and outcomes assessment" (p. 4). The purpose was to describe the perceptions of administrators and faculty about the institution's efforts to implement learning outcomes assessment. The researcher interviewed 12 purposefully chosen individuals from the campus population of faculty and administrators and analyzed the data using a grounded theory approach.

Koslowski (2005) identified three themes that were associated the college's "persistent culture of resistance… [to the] implementation of outcomes assessment" (p. 8). The first was a misunderstanding about the college mission and the goals of assessment. There was no clear, unified understanding among college personnel about the mission of the college. In addition, faculty did not see a connection between the college mission and the activities associated with implementing quality and assessment principles.

Second, administrators and faculty members had considerably different perceptions about the amount and effectiveness of preparation to implement outcomes assessment. Administrators believed that much had been accomplished through the development of an infrastructure to support assessment and the organization of educational opportunities for college personnel. Faculty's perception was that little had been done. They cited that there was little follow through on the part of administration.

Third, Koslowski (2005) indicated that there appeared to be a collective entrenchment in old ways of thinking. Further, the resistance was associated with college personnel who were older, had been at the college longer, and had tenure. It was the researcher's impression that the "mere talk of implementing quality measures and assessing teaching and learning" (pp. 16-17) contributed to this "persistent culture of resistance" (p. 8).

Koslowski (2005) pointed to the need to implement effective communication strategies about assessment to overcome the college's resistance. He also offered the opinion that higher education operates differently from business and industry. The organizational structures of higher education make colleges more resistant to external pressure for change. Koslowski (2005) cited that the day-to-day activities of faculty and administrators were largely independent of each other, and members of each group were motivated by self-interest and territory protection. According to Koslowski, this made colleges more resistant to external pressure for change.

Salvador (1996) studied selected internal and external factors that influence assessment practices in community colleges. The author conducted a national survey of four sub-populations (executive administrators, mid-level administrators, faculty, and research/assessment coordinators) of 136 community colleges in 45 states. The results revealed that all four subgroups were more aware of assessment practices at the entry and process stages than at the exit stage and that executive administrators and research/assessment coordinators knew the most about assessment practices and faculty the least. Further, in comparison to the other subgroups, faculty knew less about assessment activity beyond the classroom. The author

concluded that community colleges should carefully evaluate their communication strategies for informing faculty and staff about assessment practices.

The American Productivity and Quality Center conducted a benchmarking study (Brown, Keeton, & McMorrow, 1998) to identify best practices in assessing student learning outcomes. The study examined practices at six institutions selected from a list of best-practice organizations. These organizations included four universities, one investor services organization, and one community college. The study reported the following 11 key findings:

1. Good assessment plans are strategic in nature. They clarify the purposes of the assessment activities and tie each to the organization's mission, vision, and key goals.
2. Widespread involvement of all stakeholders, established early and maintained over time, yields an organizational culture that embraces assessment.
3. The adoption and implementation of an assessment plan is best begun promptly when the need is recognized and then allowed to evolve slowly. It is important to balance the need for buy-in with the time required for a sound implementation.
4. In-depth analysis and periodic review of the needs and interests of internal and external stakeholders drive the choice of which learning outcomes to assess and how they are assessed.
5. The use of multiple methods of assessment can enhance reliability. Additionally, to ensure that a process is valid and measures what it is intended to measure, each activity and instrument should be tied to its purpose and the strategy for achieving that purpose.
6. Integrating assessment with other ongoing performance improvement efforts within an organization enhances the long-term viability of the assessment program and its usefulness to the overall organization.
7. Successful organizations take a decentralized approach to assessment, pushing responsibility and ownership to those on the front lines.
8. Assessment is integral to learning and most effective when included as a responsibility for each member of the organization, as opposed to being an add-on effort.
9. The primary purpose of obtaining and reporting assessment findings are to improve the organization and, in particular, its employees' and students' learning. Accordingly, the findings are best used in non-punitive ways.
10. Educating those who will use the assessment data is the key to shifting the focus of assessment from the data to an overall process.
11. Best-practice organizations continually communicate the assessment activities and results to their constituents. (pp. 9-10)

Several qualitative studies, although not directly focused on assessment, described processes for implementation of student learning outcomes and offered implications for assessment practices. The purpose of a dissertation by Jennifer Webster (2001) was to

“document a community college faculty development process through which the faculty learned to reconstruct their curriculum around significant learning outcomes and authentic assessment strategies” (Webster, 2001, abstract). Webster identified her method as a “qualitative observational case study” (p. 133), which described and analyzed the efforts of one program at a community college. Webster followed a team of community college English as a Second Language (ESL) faculty members in their efforts to redesign the ESL program curriculum to include student learning outcomes and authentic assessment. Webster’s findings suggested several factors associated with effective outcomes-based curriculum reconstruction efforts. These were active involvement of mid-level managers, intentional communication with stakeholders, open dialogue among the participants, and the use of systemic and strategic thinking. Webster also emphasized that collaborative curriculum redesign is a time-consuming process.

The purpose of a dissertation by Rebecca Meier (2001) was to “examine how faculty curriculum committees from different disciplines moved through a major curriculum change process from content-focused curriculum to outcomes-based curriculum” (Meier, 2001, abstract). This was a qualitative study that evaluated data from observations of curriculum committees, interviews with committee members, a questionnaire, and the Gregorc Style Delineator (a learning style assessment tool developed by Anthony Gregorc) completed by committee members of four different disciplines at one community college. Meier’s study investigated the behavior of four disciplines at one college. This behavior may or may not be found at other colleges. However, her research suggested that, regardless of the discipline, there were several factors that promote the process of outcomes-based curriculum planning. These included involving mid-level administrators as well as faculty; enlisting the help of a knowledgeable outcomes-based curriculum facilitator; developing an understanding of committee member differences and similarities in thought processes, academic preparation, and workplace experience; increasing faculty dialogue to facilitate faculty collaboration and increase energy and commitment; and using systemic thinking, strategic thinking, visualization, and metaphors.

Davis (2002) investigated how the adoption of learner outcomes “influenced pedagogical methods, instructional content, classroom assessment or other aspects of professional practice” (Davis, 2002, abstract). At one community college, the author interviewed twelve faculty members who were involved with revising instructional objectives in course syllabi to learner outcomes. Davis reported that the process of establishing learner outcomes “influenced professional practice and fostered discussions about instructional methods, classroom assignments/activities, and assessment strategies” (p. 114). The value of this study and the Webster and Meier studies rests in their emphasis on involving faculty at the course level in developing and assessing learning outcomes.

In a case study of three institutions, Waite (2004) examined how each community college implemented student learning outcomes. The author interviewed administrators, faculty, and staff about their perceptions and insights related to student learning outcomes. Waite’s findings “suggest formidable challenges exist in initiating this movement” (p. 1). Faculty expressed fears that it would be linked to faculty evaluations; others saw it as just another fad. Administrators expressed concern about external mandates if colleges were unable to document outcomes. Sustainability of outcomes efforts, both in terms of personnel and fiscal resources, was also a concern.

Waite (2004) identified several themes that might influence the capacity of community colleges in implementing a student learning outcomes and assessment process. Communication and opportunities for dialogue were key ingredients in the initial planning stage. “Venues such as convocations, orientations, retreats and workshops were the most common avenues for conversation and dialog” (Waite, 2004, p.112). College presidents who were visible early in the process helped overcome institutional resistance. Having trust in the people guiding the process was important for faculty, and providing educational opportunities about student learning outcomes often reduced resistance. Waite concluded that implementing assessment of student learning is a major paradigm shift for community colleges.

In summary, considerably less assessment activity is occurring on the campuses than would be expected, based on reports in the assessment literature. There appears to be a lack of systematic reporting and analyzing of assessment results. Assessment activities appear to be conducted outside of the normal routine of the institution and not as part of the dominant culture. The executive administrators and research/assessment coordinators knew the most about assessment practices and faculty the least. Those who implemented a learning-outcomes approach viewed the changes positively; however, faculty from academic areas viewed the approach less favorably than those from the applied disciplines. Most saw student learning outcomes as a valuable concept but did not translate it into practice. Current research suggests that community colleges should carefully evaluate their communication strategies for informing faculty and staff about assessment practices. Having the colleges leaders visible early in the process, particularly college presidents, and having several opportunities for college personnel to learn of, dialogue about, and collaborate on student learning outcomes and assessment appear to be important in facilitating meaningful student learning outcomes and assessment processes. Assessment of student learning is perceived as a major culture shift for the community colleges, and institutions should realize that it is a time-consuming process.

The results of these studies indicate that potential barriers to the implementation of student learning outcomes assessment included the following: entrenchment in old ways of thinking by older well established faculty and administrators, organizational structure of higher education, faculty fears that outcomes assessment would be linked to faculty evaluations, beliefs that the movement is just another fad, worry that student learning outcomes would lead to increased workload, and concerns that this approach would lead to vocationalization of postsecondary education. Administrators expressed apprehension about capacity to respond to external mandates and the ability to document outcomes, to sustain assessment effort, and to balance institutional priorities with limited resources.

Current research points to several factors that appeared to facilitate the process of outcomes-based curriculum planning. These include having college presidents who were visible

early in the process and involving mid-level administrators as well as faculty helps to overcome resistance. Enlisting the help of a knowledgeable outcomes-based curriculum facilitator; communicating with stakeholders; increasing faculty dialogue to facilitate faculty collaboration; building trust in the people guiding the process; and providing educational opportunities about student learning outcomes were also seen as important facilitators.

These studies offer implications for the design of my study in that they all used a qualitative methodology. Several studies interviewed participants in a case study approach and one study surveyed panelists with a Delphi method. A concern with the Delphi method is the potentially high attrition rate of panelists.

Summary

From this section on the recent research, I learned that the implementation of student learning outcomes and assessment processes is less evident than one might expect from reports and the assessment literature. College personnel from liberal arts areas are less receptive to the concept of student learning outcomes assessment than those from the career-technical areas. While many college personnel expressed belief in the value of assessing student learning outcomes, few have put it into practice. Further, those involved in assessing student learning appear to be conducting their activities outside of the normal routine and culture of the institution. The evidence also suggests a lack of systematic reporting, analysis, and use of assessment results. I found that implementing student learning outcomes and assessment is a major shift in perspective for community colleges; implementation takes time and formidable challenges exist.

Several implications can be drawn for my research questions. Potential barriers to the implementation of the assessment process include competition among external and internal priorities, lack of resources, impact on faculty workload, issues of pedagogy, concerns about the vocationalization of postsecondary education, fears by faculty that assessment would be linked to faculty evaluations, and concerns that it is just another fad. Administrators expressed concern

about external mandates if colleges were unable to document outcomes. Sustainability of outcomes efforts, both in terms of personnel and fiscal resources, was also a concern.

A few potential factors that may help facilitate the implementation of student learning assessment processes included employing effective communication strategies with stakeholders, involving mid-level managers in the process, maintaining open dialogue among participants, having the visible and active involvement of the college president early in the process, trusting those guiding the process, and providing educational opportunities for college personnel about student learning outcomes and assessment.

Implications for research design include a variety of methods for collecting survey data—large-scale surveys, smaller telephone surveys, and in-person interviews—and a variety of community college groups to consider as participants—chief instructional officers, mid-level administrators/managers, faculty, and campus researchers. From the Salvador (1996) study, I learned that chief instructional officers and campus researchers had the most knowledge about student learning outcomes and faculty had the least knowledge. Also from the Sunell (2003) study, I learned that liberal arts faculty and career-technical faculty might view the value of student learning outcomes and assessment differently. When recruiting participants for this study, it would be important to select chief instructional officers, campus researchers, liberal arts faculty, and career-technical faculty who are/were actively involved in the implementation of student learning outcomes and assessment on their campus.

The Delphi survey technique was used in one study, rather than asking a large number of participants to respond to a lengthy set of predetermined close-ended questions. The Delphi technique appears to be a useful method to solicit the opinions of a smaller group (15-35) of participants using open-ended questions; Delphi permits a deeper consideration of the topic by the participants, and it facilitates a process for factors to emerge from the group of panelists. A concern with this method that must be addressed is the attrition rate of participants.

Perceptions of Assessment Professionals

The intent of this last section is to describe the factors that scholars on assessment perceive to be associated with facilitating and thwarting the meaningful assessment of student learning outcomes. This information could provide points of comparison among the factors identified in section two from the research literature, the perceptions of assessment professionals presented here, and the opinions of those in community colleges who are attempting to implement effective assessment processes. In a review of selected works of assessment professionals, several factors were identified that could influence the effective assessment of student learning outcomes. These are presented in the form of twelve questions.

1. Does the institution have an assessment plan and is it manageable? Palomba and Banta (1999) state that an essential element of successful assessment is having an assessment plan that "captures agreement about what matters, gives direction for actions, and provides a means to determine if progress is being made" (p. 8). An effective plan recognizes that it takes time for an assessment process to development and mature (Angelo, 2002; Banta, 2002a; Maki, 2004). It takes time to shift the college focus to student learning outcomes and assessment and have it become part of the campus culture (Miles & Wilson, 2004; Morante, 2002). Community colleges should expect "a timeframe for full implementation of between 10 and 15 years" (Beno, 2004, p. 72).

Although "assessment planning is essential to successful implementation" (Nichols & Nichols, 2005, p. 34), producing a document that bares the name assessment plan appears to be of secondary importance. According to Nichols and Nicholas (2005) "assessment planning is exceedingly dynamic in nature" (p. 26) and the over emphasis on the creation of a written document often limits the ability of assessment to adapt and respond to the changes that occur as student learning outcomes and assessment practice develop over time . In different words Palomba and Banta (1999) seem to agree. "Assessment has to be viewed as a work in progress…. it is possible to make plans without goals and objectives perfectly articulated it is also possible to engage in assessment activities without a beautifully written plan…. If the choice

is between plans without activities or activities with out plans, the latter is sometimes the better of the two" (p. 52). Bers (2004) adds that assessment can take place in many ways and need not be perfect .

When implementing an assessment plan colleges need to consider faculty perceptions of assessment and the time and energy required of college personnel. Departments and academic units are often initially overwhelmed by the perceived difficulty of assessment and the additional time, and personnel needed for its implementation. Many will want to short cut the process because it is viewed as just another fad, meaningless busy work, too much work, or not being part of their job (Nichols & Nichols, 2005).

In addition to the time and energy required by college personnel, colleges also need to consider the financial cost of assessment (Bresciani et al., 2004) and ways to keep it cost effective (Suskie, 2004). "The fiscal reality of many community colleges… poses serious questions regarding the institutional capacity for conducting meaningful, long-term, and sustained assessment" (Serban, 2004, p. 25). Burke and Minassians (2004) recommended that community colleges "develop a few robust measures of student learning outcomes" (p. 62) that reach to the program or discipline level. Maki (2004) indicated that programs may have established several students learning outcomes but agreed with Burke and Minassians (2004), Nichols and Nicholas (2005), and Walvoord and Anderson (1998) that only a few of these outcomes should be assessed in any one assessment cycle.

2. Is the assessment plan multidimensional? Learning is multidimensional, developmental, and complex. Capturing this complexity "requires identifying or designing multiple methods of assessment" (Maki, 2004, p. 86). These methods included both quantitative and qualitative data from a variety of sources and methods (Banta, 2002a; Banta, Black, Kahn, & Jackson, 2004; Rouseff-Baker & Holm, 2004; Suskie, 2004; Volkwein, 2003), thus adding "depth and breadth of interpretations of student learning" (Maki, 2004, p. 87). Using multiple variables is like viewing something from various perspectives (Morante, 2002). "No single indicator or

measurement strategy can be expected to capture a sufficient range of outcomes associated with student learning" (Volkwein, 2003, p. 9).

3. Does the assessment process involve stakeholders? Maki (2004) believed assessment is more effective when it "expands the range of contributors" (p. 8). Administrators, faculty, staff, and students provide valuable and different perspectives on the design and content of assessment. Banta (2002a) agrees and states that stakeholders are external as well as internal to the college. Individuals from the community who educate students as they participate in such activities as internships or service learning programs bring "different lenses to assessing student learning" (p. 8) and should be included. Stiehl and Lewchuk (2004) suggest also including persons who are knowledgeable about a program and who have a "first-hand view of the role(s) for which the students are preparing" (p. 46) . These may be members of a program advisory committee.

4. Does the assessment program have administrator and faculty support? Many faculty members may view assessment

> As threatening, as diverting energy from teaching, and as gathering data and information that are not fed back into the decision-making processes…. [They] continue to question the validity of assessment and their responsibilities to assess anything other than what they do within their individual classes. (Bers, 2004, p. 49)

According to Volkwein (2003) and Palomba and Banta (1999) the active participation of faculty members was essential. Maki (2004) added that the process needs to engage not just faculty but "all who contribute to the educational process" (p. 8). Palomba and Banta (1999) caution that an "assessment program driven by administrators or professional staff without a strong role for faculty has little chance of success" (p. 10).

Successful assessment programs not only had college-wide support, but there was a shared sense of responsibility for it (Banta et al., 2004; Maki, 2004; Nichols & Nichols, 2005). However, Hjelm and Baker (2001) suggested that there were two obstacles that must be addressed if college personnel were to become engaged in assessment. The first is cultural, "since many educators are grounded in a culture of subjective assessment… they have little

understanding of and place even less value in explicit assessment and documentation of student achievement. The second… is a perceived lack of assessment models to review and consider for implementation" (p. 1).

Bresciani, Zelna, and Anderson (2004) and Diaz-Lefebvre (as cited in Rouseff-Baker & Holm, 2004) suggested that an effective assessment program be faculty owned and driven. However, faculty cannot be expected to "spontaneously administer a campus-wide assessment plan" (Volkwein, 2003, p. 7). According to Morante (2002, p. 9) "rarely do major initiatives succeed without leadership from the president, vice-presidents, academic senate, and other key leaders." Maki (2004) charged the campus president with the primary responsibility for communicating the value of assessment, ensuring that assessment was integrated into the institutional structure, and incorporating assessment results into the institutional planning, budgeting, and decision-making processes. This was reinforced by Nichols and Nichols (2005), who reported that the most effective communication concerning the importance of student learning assessment was "verbal as well as written follow-up communication from the chief executive officer of the institution" (p. 47).

Volkwein (2003) cautioned campus administrators to be mindful of the delicate balance that is required between providing just enough structure to move assessment forward and too much structure that ends up losing faculty involvement. Another factor in facilitating college–wide support was to involve faculty opinion leaders from the start (Angelo, 2002; Volkwein, 2003). According to Nichols and Nichols (2005), because of higher education's unique culture and governance structure, the roles played by administrators in the implementation of assessment was through persuasion, facilitation, and supportive techniques rather than by directive or coercive methods. If faculty were to engage in assessment activities, they needed to feel secure that the results of assessment would not be used "against their interests" (p. 52), that they were in control of assessment, that assessment activities would require only a "modest amount of additional effort" (p. 52), that it has the necessary financial support, and that the results would be useful for improving student learning.

5. Does the college possess the needed expertise and leadership? Nichols and Nichols (2005) asserted that among the most important characteristic associated with successful assessment processes was the selection of a point person who was responsible for implementing student learning outcomes assessment on campus and who reported to the chief executive officer or the chief academic officer. Nichols and Nichols (2005) believed that, without such an appointment, assessment would flounder. On the other hand, Maki (2004) cautioned institutions to guard against the belief that institutional commitment to assessment rested with one person.

Community colleges require knowledgeable leadership in the area of assessment. Lack of knowledge about assessment processes was a key reason for college difficulties. According to Serban (2004), the ideal assessment expert would possess the following:

- A broad and comprehensive grasp of institutional goals and purposes combined with a clear view of how assessment processes and outcomes can be used to advance these goals and purposes…
- A clear understanding of how colleges function and the strengths and limitations of faculty and administrators as they perform their individual and collective roles…
- A thorough knowledge of measurement theory, statistical methods (especially multivariate statistics), and research design…
- A practical knowledge of techniques of data collection; data organization, storage, and retrieval; and data analysis…
- Knowledge of learning theory, instructional methods and theory, curriculum, support services, student development theory, and group dynamics…
- The ability to listen, speak, and write clearly as well as the ability to express complex ideas and findings in accurate, concise, and persuasive terms…
- The training, experience, and accomplishments comparable to those needed for appointment to tenure-track faculty position. (pp. 23-24)

Particularly at the community college level, trying to capture these skills in one individual may not be realistic. Several authors (Serban, 2004; Seybert, 2004; Suskie, 2004; Walvoord, 2004) suggested that a team approach might be more practical. “A permanent core team comprised of selected faculty; deans; director of institutional assessment, research and planning; placement assessment specialists; and staff from student services is needed to provide guidance and support for the institutional assessment at various levels” (Serban, 2004, p. 25).

Nichols and Nichols (2005, pp. 54-55) agreed that an assessment committee, composed predominantly of faculty, was essential to the success of assessment activities . The committee's responsibility was to provide policy guidance and serve as the mechanism for quality assurance.

6. Does the assessment program include education and training for college personnel on assessment principles, teaching methods, and learning theory? "The process of assessing student learning will inevitably cause faculty to explore a variety of forms of pedagogical as well as assessment strategies" (Beno, 2004, p. 67). An effective plan included establishing venues for collaboration and dialogue about teaching and learning (Maki, 2004), as well as opportunities for faculty and staff development to prepare individuals to implement assessment and use the findings (Banta et al., 2004; Palomba & Banta, 1999; Suskie, 2004; Volkwein, 2003). It also tied assessment to student learning and to various pedagogies (Maki, 2004; Serban, 2004). Peterson, Augustine, Einarson, and Vaughan (1999a) suggested that colleges consider increasing the number and variety of professional growth activities for faculty and providing them with adequate time to learn about and develop new assessment techniques.

7. Does the institution provide opportunities for dialogue and collaboration on teaching, learning, and assessment? According to Maki (2004) "building a collective commitment to assessing student learning… involves establishing new or different kinds of relationships (p. 3)." Maki (2004) stressed the importance of having opportunities for dialogue in fostering these new relationships. She stated that assessment of student learning is "inextricably related to how we design pedagogy, curricula, and learning environments" (p. 8). Without opportunities for dialogue that include assessment in the discussion about teaching and learning, institutions ran the risk of marginalizing assessment. Maki (2004) suggested that building a commitment to assessing student learning involved building collaborative relationships among college personnel, both within and across disciplines. This in turn required that institutions establish formal and informal times for self-reflection, dialogue, and collaboration.

8. Is there a recognition and reward structure in place? Methods of recognizing and celebrating the efforts rendered by college personnel in assessment activities are essential

according to Suskie (2004) and Nicholas and Nicholas (2005). Maki (2004) agrees and suggest that recognition for assessment could come in the form of "criteria for promotion, tenure or periodic review" (p. 181). However, Angelo (2002) suggest that participants should not be paid for

> What is to become part of routine practice. All too often faculty stop engaging in these behaviors when the stipends end. Paying faculty to do so is a risky strategy. Instead use the available funds to buy books and materials, provide training, send productive participants to conferences, and the like. (p. 199)

9. Are the results of assessment meaningful? For assessment to be meaningful, it must be developed with the college mission in mind (Beno, 2004; Peterson & Vaughan, 2002; Seybert, 2002; Volkwein, 2003). A "challenge to community colleges is to identify the expected student learning outcomes for their own institution in the context of mission and the institution's own curriculum and to develop means of assessing that learning" (Beno, 2004, p. 66). It must also provide a vehicle for demonstrating accountability to the various stakeholders (Banta et al., 2004).

The requirement for outcomes assessment has changed the role of the college mission statement. Institutions are being challenged to demonstrate effectiveness through the assessment of outcomes that are linked to the college mission (Nichols & Nichols, 2005). Several authors (Angelo, 2002; Nichols & Nichols, 2005; Seybert, 2004; Volkwein, 2003) stated that the primary purpose of assessment was to improve teaching and learning. When improvement of teaching and learning was the focus, rather than accountability, "faculty recognize it as connected to their interests" (Volkwein, 2003, p. 7). According to Palomba and Banta (2001), if an assessment process was to succeed "it must support the point of view of learning that has been adopted in the discipline and within the larger institution" (p. 258). In addition, helping faculty draw connections between prior knowledge and experience and the concepts of assessment facilitates an appreciation for assessment (Angelo, 2002). Angelo (2002) offered the work of Walvoord and Anderson (1998) on effective grading practices as a good example of using the familiar to make a connection to assessment. Walvoord and

Anderson (1998) made the case that by follow effective grading practices grades could provide meaningful assessments of student learning at the course, program, and institutional levels.

Burke and Minassians (2004) concluded that the reporting of performance indicators mandated by state agencies and policymakers had very little effect on community college performance because these reports failed to measure at the level of academic departments. However, producing credible results that fostered improvement at the program or discipline level is difficult for several reasons:

> Agreeing on the definition of a program…, identifying students who have completed enough of a program to be reasonably defined as completers, convincing students to take seriously assessment tests or performances that do not count for grades or graduation, sustaining the energy and resources commitments essential for implementing assessment, and creating assessment approaches that are credible and will be used for program improvement. (Bers, 2004, p. 42)

10. Are the results of assessment used? Volkwein (2003) stated that "it is not sufficient only to *do* assessment. Assessment findings must be *used*" (p. 5). An effective assessment program was a systematic and on-going process that used data to improve programs and services. To achieve these goals, the program must produce credible evidence of learning and organizational effectiveness (Banta et al., 2004; Bresciani et al., 2004). Such a program builds institutional capacity to engage in meaningful discussions of assessment results and to implement methods that improve student learning (Beno, 2004; Bresciani et al., 2004). And Walvoord (2004) believed "if assessment is done properly it can lead to wiser planning, budgeting, and change in curriculum… rather than wasting resources on the latest educational fad." (p. 6). Even though the primary purpose for engaging in assessment should be for improvement, assessment must also provide a vehicle for demonstrating accountability to the various stakeholders (Banta et al., 2004).

Ewell (2001) suggested that an evaluation of the degree to which a college used assessment results included four dimensions: the degree to which results were disseminated, the breadth to which results were known and discussed, the extent to which results were

considered in decision-making processes, and the amount of visible change in curriculum, pedagogy or policy.

11. Is the reporting of results tailored to the population and the program? Timely, systematic, and informative feedback is important to all who participate in assessment (Serban, 2004). “Assessment results are most effectively utilized in practice if they are designed specifically for particular audiences” (Ewell as cited in Serban, 2004, p. 22) and according to Palomba and Banta (1999) the “most important audience for assessment information is faculty” (p. 299). Astin (1991) stated that when communicating the results of assessment it was important to find ways that capture the attention of the audience. To do this assessment reports should present results that were of greatest interest for the particular audience, with an appropriate level of technical detail, and in “terms that are intelligible to the nonspecialist” (p. 146).

12. Does the assessment plan evaluate the assessment process? According to Banta (2002a) an assessment process “would be incomplete without a reflective phase to determine… [its] strengths and weaknesses” (p. 279). An effective assessment process not only evaluated learning outcomes, it also incorporated an “ongoing evaluation and improvement of the assessment process itself” (Banta et al., 2004, p. 11). Palomba and Banta (1999) suggested that these evaluations could examine such things as were important constituencies involved, were clear statements of learning outcomes present, were assessment methods meaningfully aligned with outcomes, and were results used in curriculum and budget decisions.

Summary

The perspectives of assessment professionals presented in this section suggest several factors to consider if an institution is to be successful in implementing a student learning outcomes and assessment process. Their perspectives can also offer points of comparison with the factors identified in the research literature subsection and the opinions of those in community colleges who are attempting to implement effective assessment processes. Plans for implementation of an assessment of student learning process must be meaningful, and the

results of the process must be used for making institutional improvement. For this to occur, the assessment process must be multidimensional and manageable. It should link to the college mission and yet satisfy both internal and external stakeholders—particularly faculty members. It must have leadership that was knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods. This may come from an individual, but was more likely to come from a team approach. The process must have the support of both faculty members and administrators. Finally, gaining college-wide support required that the plan include opportunities for dialogue, collaboration, education, and training for college personnel on learning outcomes, assessment principles, teaching methods, and learning theory.

Implications for Research

From this chapter I learned that the concept of student learning outcomes assessment appears to have it roots in OBE and that there is pressure from governmental agencies and accreditation bodies for community colleges to provide evidence of institutional effectiveness. This demand for accountability has pushed community colleges along two different paths—to produce measures of institutional performance and to establish and assess student learning outcomes. There was evidence that community colleges are establishing outcomes at state, institutional, program, and course levels. However, there was little evidence that institutions have established systematic, ongoing, and effective methods for the assessment of these outcomes. The literature review offered several factors that may influence a meaningful process for the assessment of student learning. These factors have been organized into a taxonomy that served as a foundation for this dissertation research study. This taxonomy may have implications for assessment of student learning beyond this dissertation study. It may very well serve as the "basis for [future] theory, research, and practice in a wide variety of institutions" (Somerville & Russ-Eft, 2006). A draft of this taxonomy is presented in Figure 1 and is represented by independent floating spheres. Support for this taxonomy was found in 72 separate references. Table 1 provides a summary of the number of references that identified each factor.

Future work should attempt to determine which spheres of this taxonomy are critical or core to the process and which are important but less critical for successful implementation. Those spheres determined to be core factors should be placed more toward the center and those less critical placed at a more peripheral location. Completion of this model will depend on the information gathered from those in community colleges who are actively involved in establishing student learning outcomes and assessment on their campuses.

Figure 1. Potential Factors that Influence the Meaningful Assessment of Student Learning Outcomes

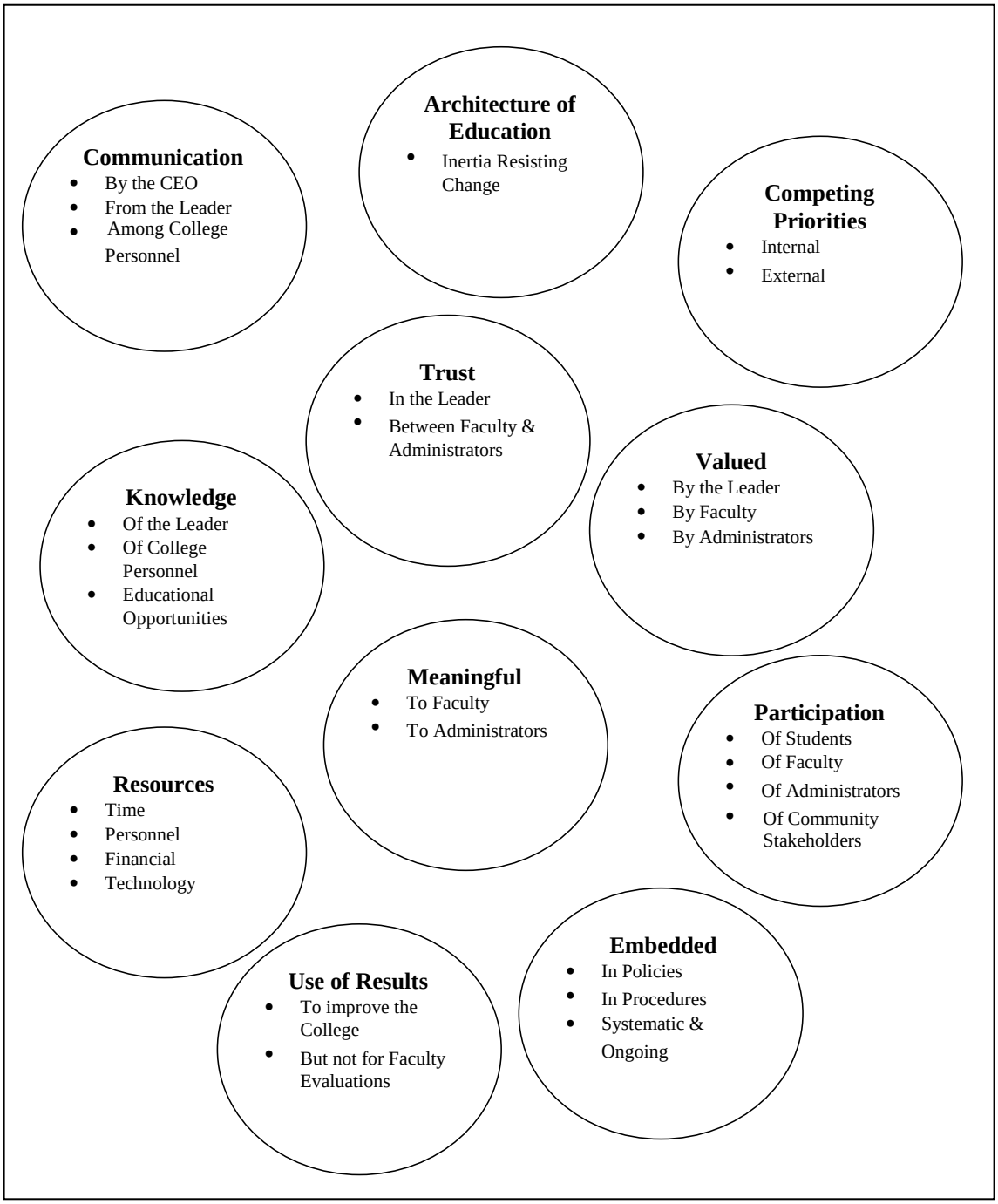


Table 1. *Potential Factors and the Number of References Where They Appeared*

Factors	Number of References
Knowledge	21
Competing Priorities	18
Meaningful	18
Architecture of Education	17
Use of Results	16
Participants	15
Resources	14
Communication	13
Embedded	9
Valued	7
Trust	3

Gaps in the Literature

Many studies from the literature described current assessment practices at community colleges (Peterson, Augustine et al., 1999a; Peterson et al., 2001; Salvador, 1996; Waite, 2004; Wilson et al., 2000). In *Designing Student Assessment to Strengthen Institutional Performance in Associate of Arts Institutions,* Peterson and his associates (1999a), in addition to describing the practices of community colleges, examined the relationships among institutional approaches to student assessment and the likelihood of positive impacts from assessment efforts (Peterson, Augustine et al., 1999a). However, their data came from a survey of only chief instructional officers (Peterson, Augustine et al., 1999a) and case studies of two community colleges (Peterson et al., 2001).

Facilitating and thwarting factors have been identified by several studies (D'Amico, 1996; Davis, 2002; Meier, 2001; Peterson, Augustine et al., 1999a; Sunell, 2003; Waite, 2004; Webster, 2001; Wilson et al., 2000); however, the scope of the factors considered in each of these studies was limited. Also, none of the previous studies had attempted to determine which factors were critical to the success of a process specifically for community colleges and why they were considered critical.

Several studies in the literature solicited the opinions of chief executive officers (CEOs) or chief instructional officers (CIOs) (Peterson, Augustine et al., 1999a; Salvador, 1996; Waite, 2004; Wilson et al., 2000). In some studies, department administrators were interviewed (Salvador, 1996; Sunell, 2003; Waite, 2004). One study included the perceptions of institutional researchers from 136 community colleges (Salvador, 1996), and a few studies solicited the views of faculty members in general (Peterson et al., 2001; Salvador, 1996; Waite, 2004). CEOs and CIOs may be too far removed from the day-to-day coordination of assessment activities. Faculty members who are not actively involved in establishing these processes may not be aware of the scope of assessment practices on their campuses (Salvador, 1996). The people who are the least identified in the research literature but who could be the most informed about the factors that influence a meaningful assessment process are those who are actively involved

in the day-to-day activities of assessment on community colleges campuses. In no case has a study specifically targeted these individuals and aggregated their opinions.

For this research study, I was interested in soliciting the opinions of knowledgeable participants about what they believe were the critical factors that influence community colleges' capacity to conduct meaningful assessment of student learning outcomes, as well as the reasons why the factors were critical. Several of the studies that were cited used some form of survey, and some of these employed rating scales to measure the relative importance of factors in their respective research projects. Larson and Wissman's (2000) use of the Delphi method was particularly informative. The method would permit the thoughtful examination of the factors that influence community colleges' capacity to conduct meaningful assessment of student learning by participants who are geographically separated. With this method, participants could consider the opinions of others who have been actively involved in implementing student learning assessment processes. Further, the method would provide a means for participants to determine the relative importance of the factors and to submit reasons why the factors were critical.

CHAPTER THREE: DESIGN

In this chapter, the design of the study and a rationale for the approach are presented. In the first two sections a personal disclosure statement and the research methodology are presented. Following these, the Delphi process (i.e., Delphi characteristics, Delphi panels, criteria for truth, method for aggregating panelists' opinions, and strategies for ensuring soundness of data) and the data needed are described. In the final section, the methods for the three phases of this study are explained.

Personal Disclosure

The purpose of this sub-section is to describe the experiences, values, beliefs, and worldview that I bring to this research. According to Creswell (1998) "clarifying researcher bias from the outset of the study is important so that the reader understands the researcher's position and biases or assumptions that impact the inquiry" (p. 202).

Throughout my formal education I have gravitated to activities related to assessment. In fact, I have been involved in assessment in one way or another for most of my adult life. The focus of my graduate work in the late 1960s (a master's degree in psychology and a credential in pupil personnel services) was general experimental psychology and tests and measurements. In my training in psychometrics, I learned to evaluate and administer various psychological and cognitive tests. While pursuing my second master's degree, my interest gravitated toward the validity and reliability of assessment methods in physical education. Assessment has also been an integral part of my teaching and counseling practice. I taught community college classes in guidance where interest inventories were used and interpreted to assist students in setting educational goals and making career decisions. In my 22 years as a tennis instructor and as an intercollegiate tennis coach, I developed, used, and validated various assessment methods to monitor the progress of my students. Recently, I assumed a leadership role at the community college where I work to guide faculty, staff, and administrators through the development and assessment of student learning outcomes. I came to this research with a lifelong interest in assessment, a desire to extend my knowledge of student learning outcomes and their

assessment, and the hope to improve my capacity to lead the student learning outcomes and assessment movement United States community colleges.

My past education has influenced my worldview of research. The positivist approach to research was the dominant paradigm when I first began my research activities in the 1960s. At that time quantitative measures were the norm in psychology (my first master's degree). I came to believe that the only legitimate research designs were survey, correlational, experimental, and quasi-experimental. This belief was reinforced during my second master's degree in physical education during the 1980s. As part of my education in the community college leadership program at Oregon State University, I have had the opportunity to become acquainted with various qualitative approaches to research and to revisit my quantitative research roots. As I examined these new (to me) qualitative approaches, I began to reflect on my philosophical beliefs about research and what constitutes valid or credible knowledge. In my opinion, the most valid or credible methods of acquiring knowledge are through direct experience, reasoning, and authority. I am attracted to scientific methods (whether they be quantitative or qualitative approaches) because they provide orderly and systematic processes for the investigation and evaluation of experience and the acquisition of knowledge. Scientists could not have made the advances they have without using systematic methods of investigation and building from the knowledge of those authorities who have come before them. However, authorities are fallible, and the models they build of reality are often incomplete. I believe that if we want to trust the results of our research, we must account for our personal biases, as well as the biases inherent in the methods we use. The ideas of using multiple methods, triangulation, and critical review of research by a community of peers are appropriate methods for determining the value of research. These are postpositivist concepts.

There are different uses of the term postpositivism. I use this term as it is interpreted by Guba and Lincoln (1994) and Bettis and Gregson (2001) not as it is described by Gall, Gall, and Borg (2003). Gall, Gall, and Borg described that their use of the term postpositivism is closely aligned with constructivisim. For me postpositivism is placed within the same set of beliefs as

positivism (Bettis & Gregson, 2001; Guba & Lincoln, 1994; Lincoln & Guba, 2000). However, postpositivism represents efforts that address the most problematic criticisms of positivism: (a) it did not accommodate for human subjectivity; (b) it did not explain the role of meaning in behavior; and (c) it did not account for the biases of the researcher and the methods used in the research (Schulze, 2004). As used here, postpositivism relates to a belief that reality exists but cannot be fully explained or appreciated (Crowley, 2002; Denzin & Lincoln, 2000; F. Fischer, 1998; Guba & Lincoln, 1994; Lincoln & Guba, 2000; Oka & Shaw, 2003; Trochim, 2002; Yolles, 2004). Scientific study is inherently biased and fallible. Knowledge of reality is acquired through a scientific account of reality rather than reality itself. Objectivity is valued and is achieved through triangulation across multiple methods and from a critical community of peers (Bettis & Gregson, 2001; Guba & Lincoln, 1994; Trochim, 2002; Yolles, 2004). Postpositivism incorporates methods that include conducting studies in more natural settings, collecting more situational information, and using discovery as an element of inquiry. Postpositivists value both quantitative and qualitative methodologies. However, results of research must account for the biases of the researchers, the characteristics of what is being researched, and the influence of the methods used in the investigation (Schulze, 2004). These concepts seem to be reasonable approaches to research.

Methodology

Many researchers view quantitative and qualitative methods as complementing each other.

> Some researchers believe that qualitative research is best used to discover themes and relationships at the case level, while quantitative research is best used to validate those themes and relationships in samples and populations. . . . Qualitative research plays a discovery role, while quantitative research plays a confirmation role. (Gall et al., 2003, p. 24)

From a qualitative perspective, the goal of social research is to develop an understanding of social life in natural settings (Neuman, 2003) and to discover the meanings that people give to phenomena (Gall et al., 2003). “Human action acquires meaning among people who share a meaning system that permits them to interpret the action as a socially relevant sign or action”

(Neuman, 2003, p. 77). The intent of this current study is what Russ-Eft and Preskill (2001) refer to as “deriving categories from the current data set” (p. 323). This type of research uses analytical induction, which is a process of discovery. The researcher searches the data, looking for themes or patterns to emerge, as opposed to using a deductive approach where themes are developed before data collection (Gall et al., 2003). I am interested in the perceptions of the participants of my research, the factors they determine to be critical, and the reasons they give for the importance of these factors. However, several possible influential factors were identified through the literature review, and these were used to stimulate thought among the panelist about the factors that influence a meaningful assessment process.

Creswell (1998) offers several reason for conducting qualitative research, three of which are appropriate for my study: (a) The research questions call for a qualitative approach. When research questions are posed in an effort to describe or understand phenomena, they are appropriate for qualitative research; (b) The topic needs to be explored. Often when there is limited research on a topic, research must be that of discovery, to discern what themes or factors are relevant to the topic; (c) Studying individuals in the natural setting is desired. This follows from the second reason; those working in the field within the scope of the research topic may be able to provide an important perspective on the research problem.

My desire is to solicit the perceptions of community college personnel who have been actively involved in implementing student learning outcomes and assessment processes on their campuses. Survey research is often used to determine what people think (Neuman, 2003), and since surveys are used in both qualitative and quantitative research, they constitute an appropriate method for my study. The conceptual model that was presented toward the end of chapter two was used in designing the initial questionnaire for this study. The risk with this approach is that it starts with a conceptual schema that may influence or limit the responses of the participants. On the other hand, it may serve to stimulate thought on the topic and produce panelist responses that may not have been generated with a more open-ended format. Since there is a paucity of research in this area of study, the literature may not, as of yet, have

identified all of the relevant factors influencing community college capacity to meaningfully assess student learning outcomes. This area of research could benefit from a qualitative approach, that of discovery, to identify factors from those who have been actively involved in implementing student learning outcomes and assessment processes on their own campuses. Even though I may start with a schema, in the end I am interested in seeing what conceptual model emerges based on the opinion of knowledgeable participants. One form of the survey method, which I discovered as part of the literature review, is appropriate for this study. It is a Delphi method, described in the next section. This method also fits with my postpositivist worldview.

Delphi Process

The Delphi method was first developed in the 1950s by Olaf Helmer, Nicholas Rescher, Norman Dalkey, and others at the RAND corporation (Gordon, 1994). The intent of the Delphi, as it was originally conceived, was to create a method, using expert opinions, to forecast long-range trends related to the military potential of future science and technology and their effects on political issues (Gordon, 1994; Linstone & Turoff, 1975).

Delphi Characteristics

A Delphi is an iterative process, normally three to four rounds, involving a series of questionnaires, each building on the results of the previous one. The results of each round are compiled and returned to the participants. Over successive iterations, participants are able to reevaluate their responses in light of the complied responses of all participants. Responses to the questionnaires are made anonymously. Participants are known to the researchers but not necessarily to the other participants. The anonymity of panelists enhances the probability that opinions are considered in and of themselves without being influenced by the person who expressed the opinions.

The Delphi is most appropriately used when the “primary source of information sought is informed judgment” (Ziglio, 1996, p. 21). “The value of the Delphi method rests with the ideas it generates, both those that evoke consensus and those that do not. The arguments for the

extreme positions also represent a useful product" (Gordon, 1994, p. 4). The concepts of developing and understanding a subject and the fact that participants possess that knowledge are central to the Delphi method (Gordon, 1994; Linstone & Turoff, 1975) and represent key features in qualitative research (Creswell, 2002).

- Sackman (1974) identified the following as the characteristics of a conventional Delphi:
- A formal and structured questionnaire is used.
- Questionnaire items may be generated by the moderator, the panelists, or both.
- Either quantitative or qualitative scales may be used.
- The process consists of two or more rounds.
- Questionnaires may or may not include open-ended questions.
- Feedback from each round is in the form of statistical feedback, usually involving some measure of central tendency and some measure of dispersion.
- Feedback from each round may include selected textual information.
- Individual responses to items are kept anonymous.
  Outliers (i.e. upper and lower quartile) may be asked to justify their responses in writing.
- Iteration with feedback continues until consensus is reached, as determined by the moderator.
- Participants do not meet face to face and may be geographically dispersed.
- Outliers (i.e. upper and lower quartile) may be asked to justify their responses in writing.

The Delphi is a flexible method built on four basic features: "structured questioning, iteration, controlled feedback, and anonymity of responses" (Lang, 1995, p. 3). Advantages of the method are that information can be gathered from a geographically diverse panel of participants; that panelists have anonymity, which reduces the halo effects associated with the opinions of prominent participants; and that panelists have time to consider carefully their responses before replying (Adams & O'Brien, 2004; Garrod, 2004; Gordon, 1994).

Some disadvantages until recently were the time and expense of designing paper and pencil questionnaires, mailing surveys, compiling responses, and following up with non-respondents for multiple iterations of the process. These disadvantages are resolved with the use of an electronic version of the Delphi method, called the “e-Delphi.” The time and expense of the process are dramatically reduced, data are electronically complied, and more detailed information can be returned to participants (Chou, 2002; Human-Environment Regional Observatory, 2001).

Another disadvantage of Delphi is a potentially high attrition rate. Because the method requires lengthy responses in the early rounds of the process and the active participation of panelists over several weeks, the potential for a high drop-out rate of panelists exists (Borg & Gall, 1983). Several steps can be taken to mitigate attrition: minimizing frustration through ease of access to and navigation of the survey Website, communicating clearly to panelists about the extent of their expected involvement, providing speedy feedback of the results of each round, and encouraging non-responders to respond through systematic follow-up contacts.

Sackman (1974), the most prominent critic of the method, concluded that Delphi studies were poorly administrated, were unscientific, and did not conform to standard psychometric principles. However, others have challenged Sackman’s criticism. Linstone (1975) believed that Sackman simply missed the point of the Delphi, stating it was not a method for determining causality but a technique to facilitate deliberation on a problem and to aggregate the informed opinions of experts. The Delphi was proposed as an alternate paradigm to the “tradition-bound…objective” (Linstone, 1975, p. 559) attitude of the time and should not be judged by conventional experimental and psychometric standards. Ziglio (1996) stated that there is no reason why the Delphi method should be considered any “less methodologically robust than techniques such as interviewing, case analysis, or behavioral simulations” (p. 13). The Delphi method has also been criticized for lacking standards for determining who was an expert (R. G. Fischer, 1978; Mitchell, 1991; Rowe & Wright, 1999; Sackman, 1974; Stewart, 1987), lacking a common starting point that provided panelists with current assumptions and findings (R. G.

Fischer, 1978), facilitating conformity rather than consensus (Sackman, 1974; Stewart, 1987), promoting quick answers to complex problems, and suppressing divergent views (Stewart, 1987). According to Rowe and Wright (1999), panelists with divergent views were more likely to drop out, and thus consensus may be the result of attrition.

Feedback to panelists in the form of reasons for their ratings has been shown to improve the accuracy of group judgments. However, according to Rowe and Wright (1999), feedback of reasons or rationales behind panelists' estimates has been rare in Delphi studies. They added, "Since it is through the medium of feedback that information is conveyed from one panelist to the next, by limiting feedback one also limits the scope of panelists' aggregate accuracy" (p. 369).

Delphi Panels

The size of Delphi panels can vary widely and there is disagreement about what constitutes an appropriate panel size. Clayton (1997) indicated that by rule of thumb 15 to 30 people is the norm for homogeneous groups (e. g., professors from the same discipline), where Ziglio (1996) reported that 10 to15 people produce good results in a homogeneous panel. For heterogeneous groups (people with expertise on a topic but from different social or professional groups), Clayton (1997) reported that only 5 to10 experts are needed. Gordon (1994) indicated that most Delphi studies use panels of 15 to 35 people. However, in two separate studies investigating the size of Delphi panels, no consistent relationship between panel size and effectiveness criteria was found (Rowe & Wright, 1999). In other literature on aggregating group opinions, groups of 6 to 12 members were determined to be optimum (Hogarth, 1978; Mitchell, 1991). Also, it was found that the more the members differed, the larger the group should be. Further, all things being equal, the larger the group, the more reliable their aggregate judgment will tend to be. However, beyond group sizes of 20 to 25, there were only minimal improvements in reliability (Hogarth, 1978).

It appears that panels of experts who also have a diversity of perspectives produce more accurate judgments than experts who are more homogeneous (Lang, 1995; Powell, 2003; Wallsten, Budescu, Erev, & Diederich, 1997). Winkler and Poses (1993) demonstrated that a

group of physicians representing different specialties were better at predicting the survival of patients admitted to intensive care units than were individual physicians or a group of physicians representing the same specialty. Thus, the accuracy of the aggregated group opinions could be improved by selecting panelists who are knowledgeable about student learning outcomes assessment and who represent various campus constituencies (i.e., administrator, campus researcher, instructional faculty member, student services personnel).

Criteria for Truth

Linstone and Turoff (1975) suggested that the Delphi method is appropriate for problems that do not lend themselves "to precise analytical techniques but [could] benefit from subjective judgments on a collective basis" (p. 4). Delphi is a method for structuring a group communication process to systematically explore and gain insight into a problem (Mitroff & Turoff, 1975; Sackman, 1974). It is founded on the belief that collecting data precedes the development of theory (Mitroff & Turoff, 1975). In a report on a study to develop a framework for evaluating qualitative research, Spencer, Richie, Lewis, and Dillon (2003) stated that one form of truth in research is "agreement that it is true (a consensus view of truth)" (p. 62). This is the case for a Delphi. Truth is experiential, derived inductively, and based on "'sufficient widespread agreement … by a group of 'experts'" (Mitroff & Turoff, 1975, p. 21). Scheele (1975) explained that in the Delphi process, reality is negotiated by the group. It is constructed through the perceptions the participants bring to the discussion.

> Because the number of respondents is usually small, Delphis do not, and are not intended to, produce statistically significant results; in other words, the results provided by any panel do not predict the response of a larger population or even a different Delphi panel. They represent the synthesis of the opinions of the particular group, no more, no less. (Gordon, 1994, pp. 3-4)

Aggregating Panelists' Opinions

The Delphi method is based on panelists achieving consensus; however, there is no standard method for determining consensus (Hasson, Keeney, & McKenna, 2000; Mitchell, 1991). According to Mitchell (1991), "a growing body of research questions consensus as a

stopping criterion" (p. 347). It appears that the most change in panelists' responses occurs within the first two rounds and that not much is gained in further iterations (Mitchell, 1991).

One method for aggregating the subjective judgments of panelists to produce a collective opinion is by simply averaging participant responses. This has been shown to be a robust method for aggregating a group's judgment (Clemen, 1989; Clemen & Winkler, 1986; Larrick & Soll, 2003; Wallsten et al., 1997; Winkler & Clemen, 2004). Further, when using a rating scale "the reliability of ratings can be greatly improved by pooling the results from several judges who have made their ratings independently" (Helmstadter, 1964, p. 198). Using the mean of panelists' ratings was the method employed in this study to determine which factors were judged as critically important to community colleges' capacity to assess student learning outcomes meaningfully.

It appears that group judgment is improved when the members received textual as well as statistical feedback. Rowe and Wright (1999) reported on studies that compared "reasons" or "rationale" feedback to statistical feedback (i.e., mean, median). They concluded that there was greater improvement in the accuracy of judgments in successive rounds of a Delphi when panelists' reasons or rationales for their ratings were given to other panelists in the group as opposed to panelists receiving only statistical feedback.

Ensuring Soundness of Data

Delphi is one form of survey procedure and, as such, should follow the guidelines for good survey design and administration. Ensuring accurate results depends on quality control throughout the administration of the process (Scheuren, 2004). This includes maximizing respondent motivation to participate, ensuring the clarity of the questions and respondent instructions (Barribeau et al., 2005), devising a plan to follow up on non-respondents, pre-testing the questionnaire and survey procedures, coding the survey information accurately, and recording the data correctly (Scheuren, 2004).

Since the Delphi method was first introduced in the 1950s, much has been learned that can improve its rigor and in turn ensure the quality of the data. The suggestions center around

three themes: panel selection and motivation, questionnaire construction, and process management:

Panel selection and motivation suggestions indicate:

- Select panel members based on knowledge of the issue and diversity of perspective (Garrod, 2004; Lang, 1995; Linstone & Turoff, 1975; Ziglio, 1996).
- Provide enough incentive to maintain panelists' motivation to persist to the conclusion of the study (Garrod, 2004; Uhl, 1983).
- Ensure that panelists feel that their contributions are valued (Mitchell, 1991; Turoff & Hiltz, 1996).
- Communicate to panelists that they are members of a group with similar expertise to theirs (Krebsbach, 1998).

Questionnaire construction suggestions are:

- Provide clear written instructions to panel members (Hasson et al., 2000; Ziglio, 1996).
- Make questionnaire statements clear, concise, free of ambiguities, and easily understood by panelists from varied backgrounds (Garrod, 2004; Lang, 1995; Uhl, 1983).
- Pre-test the questionnaire (Lang, 1995; Mitchell, 1991).
- Take care to keep the intent of panelist responses intact when reporting responses back to other panel members (Lang, 1995).

Process management suggestions include:

- Guard against imposing the biases of the moderator on panel members (Uhl, 1983).
- Provide panelists with a brief account of the origin and purpose of the study (Lang, 1995).
- Establish the credibility of the research and the researcher (Mitchell, 1991).

- “Allow enough time between rounds to prepare and distribute feedback, but do not allow so much time that panelist lose interest” (Uhl, 1983, p. 88).
- Acknowledge divergent opinions (Gordon, 1994; Lang, 1995; Uhl, 1983).
- Consider Delphi results in light of the results from other methods (Lang, 1995).

Data Needed

The purpose of this research was to determine the critically important factors affecting a meaningful assessment of student learning outcomes in a community college setting and to identify why these factors were important. The people who are the least identified in the research literature but who could be the most informed about the factors that influence a meaningful assessment process are those who are actively involved in the day-to-day activities of assessment on community colleges campuses. Because of their active participation in student learning outcomes and assessment activities, they possessed the knowledge to answer the questions posed in this study and are thus considered the experts in this research. Thus, this study was designed to collect data in the form of the opinions of these experts about the conditions that facilitate and thwart the meaningful assessment of student learning outcomes. For the purposes of this research, experts recruited were campus personnel who had lead responsibility for student learning outcomes and assessment and others whom the lead person identifies as having been actively involved in student learning outcomes and assessment on their campus.

One way to reveal the knowledge of these experts is through a structured group participation activity. With the Delphi method, participants were able to present and rationalize their opinions about the factors that influence institutional capacity to assess outcomes. Also they had the opportunity to consider the opinions of others, reconsider their own opinions, and assess the relative importance of each factor presented.

Methods

This study was conducted in three phases. Phase I consisted of a thorough literature review, development of a tentative taxonomy of the influential factors, and construction of first

round questionnaire for the pilot project. Phases II and III involved the administration of the pilot project and the full study respectively. Each of these three phases is described in the following sections.

Phase I: Questionnaire

Based on the literature review, a tentative conceptual model of 11 themes was developed and served as a starting point for the further refinement of the conceptual model and the construction of the first-round questionnaire for the pilot project. The process used to organize the statements into themes was very similar to the technique used in critical incident research (Flanagan, 1954; Russ-Eft, 1979). A step-by-step description of this process is presented by Russ-Eft in a study on neighborhood quality of life (Russ-Eft, 1979).

A detailed analysis of the literature presented in chapter two produced 129 statements. These statements were initially sorted according to the 11 themes, which had been previously described in the last few pages of chapter two. As the statements were reviewed, some were moved from one theme to another, some were shortened, others were combined with similar statements, and still others were split into two or more statements. Under each theme, statements were separated into facilitating and thwarting factors. Facilitating statements and thwarting statements were then separated into two lists, each with it own set of themes. The names of the themes were drafted and redrafted several times to reflect the content of the statements grouped under that theme. This process resulted in first-round lists of 33 facilitating statements and 29 thwarting statements, which served as a starting point for panelists of this study. Starting a Delphi study with a structured questionnaire, like the one used in this study, has some advantages. According to Uhl (1983) the process is less frustrating for panelists, ensures that a wide range of factors are considered by panelists, and has been associated with a lower panelist dropout rate.

Phase II: Pilot Project

Conducting a pilot project was the second phase this study. The purpose of the pilot was to become familiar with the research procedures, evaluate the appropriateness of the

method for answering the research questions, use the results to design and refine procedures for the full study, and obtain preliminary answers to the research questions. What follows is a description of the panelists, materials, and procedures of the pilot project.

Panelists

Seven individuals associated with the Research and Planning Group of California were recruited from a list of eleven individuals who have been actively involved in student learning and assessment activities for California community colleges. They represent seven different community colleges or community college districts and offered diverse perspectives about student learning outcomes and assessment. Two were faculty members, two were campus researchers, and three were administrators. The years of experience of panelists with student learning outcomes and assessment ranged from 1.5 years to 10 years, with a median of 7.5 years. Five of the seven panelists who began the pilot project completed all three rounds of the Delphi process. A sixth panelist participated in rounds one and two and a seventh panelist participated in rounds one and three. Of the six panelists who participated in round two, five provided rationales for the statements they rated as critically important. All seven panelists completed project evaluation forms.

Materials

The site for posting the questionnaires and collecting panelists' responses was the Human-Environment Regional Observatory (HERO) e-Delphi system Web site at Pennsylvania State University, http://hero.geog.psu.edu/eDelphi/. At this site, the first round panelists participated in a threaded discussion. Panelists were instructed to review the lists of statements describing facilitating and thwarting conditions and add any statements that they judged to be missing. They were also told that they could write any comments they wished in response to any of the statements and that they could view and respond to other panelists' comments. Unlike the first round, the second and third rounds were conducted in a survey format, and panelists were not able to see the responses of other panelists until after each round had concluded.

Procedures

Seven pilot project panelists completed a demographic questionnaire, participated in an orientation, responded to questionnaires in a three-round Delphi process, and completed an evaluation form at the conclusion of the project. After agreeing to participate, pilot project panelists were asked to provide demographic information, which included name, position at the college, and the extent of their involvement with learning outcomes and assessment. Three panelists participated in an online orientation using a web site and a toll free phone number. At the meeting, I explained the research study, demonstrated the survey web site, and answered panelists' questions. The remaining four panelists were given a one-on-one orientation by phone using the same documents that were used for the online orientation.

In the first round, panelists reviewed two lists of statements – facilitating statements and thwarting statements, and added statements that in their opinion were missing from the lists. This first round remained open for a two-week period. In the six-day interval between the end of the first round and the beginning of the second round, the contributions of the panelists from the first round were complied, and revised lists of statements were prepared for the panelists to review and evaluate. Panelists offered unsolicited critiques of several of the first round statements. These comments were very useful, and as a result several statements were revised to provide more clarity, more consistent use of terms, and less subjectivity. Critiques that suggested reorganizing the statements around new themes, moving some statements from one theme to another, or dropping statements because they were duplications of other statements were not addressed for the second round list but were kept for consideration during the final evaluation of the pilot project.

In preparation for the second round, the revised lists of statements were produced and posted to the e-Delphi site. These lists included the original statements plus twelve additional statements suggested by panelists. The additional statements were included unedited. Based on first-round feedback, the wording of several of the original statements was modified. The original

statements were numbered, and the new statements were given letter (A, B, C) designations to distinguish the original list of statements from those added by panelists.

In the second round, panelists were sent two documents as attachments to an email. The first was a compiled list of the comments submitted for each of the factors from the first round. The second document contained the revised lists of statements. Panelists were asked to: (a) review the two revised lists of statements, (b) rate the importance, based on a five-point scale that each statement plays in facilitating or thwarting a meaningful assessment process, and (c) provide a rationale for what makes the factors given a five rating (critically important) significant in influencing a meaningful assessment process. The second round opened on a Tuesday morning and closed eight days later on a Tuesday evening.

During the six-day interval between the second and third rounds, the responses of the panelists were compiled, and a report was prepared for panelists review and evaluation. In this third round, panelists were asked to review the filter lists, which included only those statements that received a “critically important” rating by one or more panelists. The mean rating and the range of ratings were reported for each statement. The rationales submitted by panelists as to why they rated the statement critically important were also returned unedited to all panelists. Based on this feedback, panelists were asked to re-rate the items on the filtered lists on a five-point importance scale (the same scale used in round two).

Following the third round the responses of the panelists were compiled and organized into a report that was sent to each participant as an attachment to an email. This report included all of the statements used in rounds two and three. Accompanying each statement was the mean rating by the group and the range (high and low ratings) for rounds two and three, as well as the rationales contributed during round two. Panelists were also given a table that presented the top facilitating and thwarting statements in rank order lists. A mean of 4.50 or higher was used to determine which statements were considered critical by the panel, and only those statements that had a mean rating of 4.50 or higher in either the second or third round were

included. In addition, panelists were asked to complete a pilot project evaluation form. An account of their evaluation is included in the following section.

Evaluation of the Procedures

This section reviews the administration of the pilot project and draws implications for the administration of the full study. This review came from the researcher's observations, from panelists' comments and suggestions during the discussion session in the first round of the Delphi process, and from the pilot project evaluation forms completed by panelists at the conclusion of the pilot study. An aggregation of panelists' responses from the evaluation forms is presented in Appendix A. An analysis of the data from pilot project panelists' responses is presented in chapter four.

Three of the four goals of this pilot project were to become familiar with the research procedures, to evaluate the appropriateness of the Delphi method for answering the research questions, and to use the results in refining the procedures for a larger study, the third phase of this research. These goals were achieved. The pilot project provided the opportunity to conduct a "dress rehearsal" of the full study. As a result, I was able to learn what aspects of the study worked well and what aspects needed to be improved. The next few paragraphs will describe what went well, what needed improvement, and what changes were made for the full study.

There were several positive aspects of the communication strategy employed for this research. First, using email that included the informed consent document worked well as a first contact with potential panelists. Second, without exception, panelists thought the recruitment material and orientation sessions were clear, informative, and useful. It was originally planned that all panelists would participate in an online orientation to the study; however, trying to arrange one time for all panelists to meet online was difficult. As it worked out, three panelists participated in the online orientation, and the other four received one-on-one orientations.

Third, over the length of the Delphi process, the timing of communication--along with other procedural elements--developed into a predictable routine. Each round of the study opened on Tuesday morning and closed on a Tuesday evening. The first round was open for

fifteen days, but each of the other three rounds was open for eight days. There was a six-day interval between the closing of one round and the opining of the next round. To begin the Delphi process, an email was sent to all panelists providing them with a log-on name and password. At this point, for each round communication followed a similar schedule. An email alert was sent on a Monday, the day before the opening of each round, notifying the panelists about the opening of the round. While the round was open, two separate reminders to log-on and respond to the questionnaire were sent, one on Friday and one on Monday. At the conclusion of each round, on Wednesday, an email was sent advising panelists that the round was closed, that the results were being compiled, and that a report would be sent to them on the following Monday, along with instructions for the next round. This communication strategy appeared to keep panelists informed and involved throughout the project. The same communication strategy and schedule was used for the full study, with one modification. The first round was not open for fifteen days. All rounds, including the first, were open for eight days.

Pilot project panelists expressed that throughout the length of the project the e-Delphi technical support and the researcher were available and helpful. With few exceptions, panelists felt that the e-Delphi site was easy to access and navigate. The exceptions were associated with technical issues of the e-Delphi Web site. Two pilot project panelists had log-on problems, but these were resolved quickly by technical support at the e-Delphi site. There was an issue of losing data and having to re-enter one panelist's responses. This issue appears to be related to the requirement that panelists must click on a submit button at the very bottom of the web page for their responses to be saved. This action may not have occurred each time a panelist exited the e-Delphi site. A problem also arose with a lighting bolt icon that indicates those questions to which a panelist has not yet responded. This seems to be an issue related to the technology of the Web site. The lighting bolt icon is only removed once a panelist answers a question, clicks on the submit responses button, exits the site, and then re-enters the site. These technical issues are part of the structure of the e-Delphi site and could not be modified by the time of the full study. These issues pointed to the need for clearer instructions on the features of the e-

Delphi site in the full study. The issues of the submit button and the lightning bolt icon were addressed during the full study in the orientation and again in periodic communications throughout the process.

Three issues associated with the pilot project surfaced for the researcher. The first was the inability of the e-Delphi site to accommodate the demographic portion of the first-round questionnaire. That information had to be requested via email prior to the start of the first round. Panelists were sent a form constructed in MS Word® and asked to provide the demographic information and return it via email to the researcher. The second issue was that the e-Delphi site had two independent formats for conducting an e-Delphi: discussion format and survey format. Each format had different functionality. The design of the pilot project required the use of both formats, which created the possibility for some confusion among the panelists. The potential for confusion was mitigated through communication strategies to alert panelist to the differences. The third issue was that, while a session was in progress, the functionality of the survey format did not permit the moderator (me) to see which panelists had contributed responses and which panelists had not. This information was available only after the round closed by requesting a data file from e-Delphi technical support. This issue made follow-up communication to non-responders somewhat problematic. These issues were associated with relatively permanent structural elements of the e-Delphi site, and alternate procedures were developed in this pilot project. These work-a-rounds were also used in the administration of the full study.

Starting the first round of the pilot project with the 62-statement questionnaire seemed effective. It promoted discussion among the panelists and generated additional statements. During the first round in the threaded discussion format, panelists offered three different types of comments. First, they offered several suggestions for improving individual questions, and as a result 18 statements were revised and used in the second round. Second, panelists offered 12 new statements, which were added unedited to the original list, bringing the total to 74 statements to be considered in the second round. Third, panelists submitted unsolicited opinions about the importance or lack of importance of each statement. These opinions overlapped with

an activity of the second round, which asked panelists to provide a rationale for why they rated statements as critically important. For the full study it seemed important to eliminate or at least to reduce this duplication of input.

The majority of the pilot project panelists (four of the six who responded) thought that the statements were clear and unambiguous. One panelist thought that the first-round threaded discussion helped to clarify most of the statements. However, one panelist indicated that two statements (16 and J) needed particular attention. Two other panelists commented on the thwarting statements as being somewhat “confusing” and “difficult to interpret” with “double negative connotations.” Another panelist commented that “having the conditions which negatively impact the process more clearly defined” would be helpful. After reviewing the questionnaires, talking with one of the panelists, and consulting with two members of my doctoral committee, it was decided that panelists’ confusion could be reduced by modifying the instructions for the list of thwarting statements in the second and third rounds of the full study.

One panelist indicated that some of thwarting statements were “duplicative” and “mirror[s]” to the facilitating statements and asked, “do they really stand on their own?” However, it was believed that it was important to keep these “duplicative” statements for the full study for several reasons. These statements came directly from the literature. The presence of a condition may be critical, but the absence of that condition may not, or vice versa. An element of the pilot project and the full study was a thematic analysis of those statements rated as critically important, and once these analyses had been conducted, it was possible to determine if the duplicative statements do stand on their own. Finally, keeping the statements for the full study offered the opportunity to compare the results of the pilot with the results of the full study.

Six of the seven pilot project panelists responded to the question about the appropriateness of the five-point rating scale. Only one of the six who responded indicated that the scale was not appropriate. The observation was that “respondents didn’t provide appropriate justification for… their ratings.” Another panelist, even though she judged the scale as appropriate, offered some suggestions to make the format less confusing and the labels of each

point on the scale more consistent. After considering these comments and looking at three dissertations that used an importance scale in a Delphi process (Krebsbach, 1998; Lee, 2002; Oertel, 2001), it seemed appropriate to modify the instructions to panelists, encouraging them to provide more detailed rationales, but to keep the five-point scale, just changing the labels for each point on the scale.

The Delphi process was appropriate for answering the research question: What are the critical factors affecting the capacity of community colleges to conduct meaningful assessment, and what makes them critical? The Delphi process identified statements for which there was high agreement (a range of 1 point or less) among the panelists about the conditions that are critical to a meaningful assessment process. Also, through the panelists' rationales possible reasons why these factors are critically important were identified. The method provided a means to determine panelists' agreement on the critical conditions, but the procedures did not provide a method for gaining consensus among the panelists about the reasons why conditions were critical to the process. Six of the seven panelists indicated that the process had identified the critical factors. One panelist, who indicated that the panel had identified the critical factors, expressed that the Delphi process did not identify that assessment is "really a college-wide process, even though there is a special role for faculty." The one dissenting panelist indicated that the questionnaire statements had a "very California community college" focus and that the questionnaire "should include a more broadly based perspective from the literature, from non-California community college experts, and from noted national assessment experts, including those involved in accreditation and higher level leadership." It is difficult to understand this criticism because the statements for the questionnaire were drawn from a very broad perspective, including all of those identified by this panelist. However, shifting the focus of this panelist's concern from the questionnaire statements to panelists' responses, the results of the pilot could be compared with the results of the full study to determine similarities and/or differences of the two sample populations. Did the results of the pilot project reflect a different (California) or similar perspective to the results of the full study?

On the evaluation form panelists were asked to comment on what aspects of the study they thought were done well. Panelists offered a variety of comments with no consistent theme among the comments. One expressed that the study was “well organized,” two panelists said that the researcher was responsive to “suggestions of participants,” and two others expressed that the process was “informative” and “enjoyable.” One panelist stated the process was a simple one that yielded “a lot of information in a low impact way,” and yet another panelist commented that the results could be “extremely valuable.”

Based on the evaluation of the pilot project procedures, several modifications were implemented for the full study. First, rather than trying to schedule an online meeting for the group of panelists one-on-one orientations were used. The disadvantages to this approach are the following: panelists did not get the benefit of the information produced as a result of the interactions with and questions of other panelists, one-on-one sessions may require more of the researcher time, and this approach may increase telephone expense. The advantages were that it saved time and effort in trying to arrange an online meeting to which only a few would attend and that the one-on-one orientation was more convenient for individual panelists.

Second, the first-round discussion format for the full study started with the 74-statement questionnaire that was used in the second round of the pilot. All of the 74 statements of the second round were retained without modification; with the exception of statement J, which was shortened. The disadvantage was that it increased the amount of material panelist needed to review. The advantage was that panelists of the full study considered a broader range of facilitating and thwarting conditions and had the opportunity, just as did panelists in the pilot project, to add additional statements that they judged were missing.

Third, modifications were made to various communications with panelists. The term factor was not used when referring to the statements of each list. In realty these statements were not factors but were descriptors of conditions that facilitate or thwart a meaningful assessment process. Factors were identified through a thematic analysis of those statements judged to be critically important. The analysis of panelists’ responses and a description of the factors that

emerged are presented in chapter four, Results. Also, instructions to panelists were modified to emphasize the importance of giving thoughtful justifications for why a statement is critically important. This change was made to discourage very brief rationales and encourage panelists to provide more thoughtful, detailed rationales. To reduce the chances of losing data, the orientation script and other communications were modified to provide more clarity about two important functional aspects of the e-Delphi site: the submit button and the lightening bolt icon.

Fourth, modifications were made to the importance scale. The undecided point was eliminated, and the labels of each point on the scale were changed to Critically Important, Very Important, Moderately Important, Minimally Important, and Not Important. This new format was similar to other Delphi studies (Krebsbach, 1998; Lee, 2002; Oertel, 2001) that used an importance scale, and it was anticipated that this format would reduce confusion for panelists.

Finally, at the conclusion of the full study panelists were asked to review the results and evaluate the degree to which the study successfully identified the critical factors that influence a meaningful assessment process. This explictly added a method to verify the validity of the research findings.

Phase III: Full Study

Conducting the full study was the third and final phase of this research. The procedures for the full study were very similar to those of the pilot project. The differences between the pilot project and the full study have already been explained in the previous paragraphs.

Panelists

This study targeted the 16 colleges that participated in the Learning Outcomes Project (*21st century learning outcomes project*, 2002) and the 12 Vanguard Colleges of the Learning Project (*21st century learning project*, 2002). These were two complementary projects sponsored by the League for Innovation in the Community College. Using participants from these project colleges was important for two reasons. a) These colleges have been actively involved in establishing learning outcomes and assessment processes and thus provide a fertile ground of information regarding critical factors associated with the meaningful assessment of

student learning outcomes. b) Those individuals on each campus who have been actively involved in establishing their process could provide credible data based on their first-hand experience. Recruiting 24 or more panelists who were motivated to participate helped achieve a panelist sample size of between 15 and 35 (typical Delphi sample size).

The individual with lead responsibility for student learning outcome assessment was contacted at all 16 colleges of the learning outcomes project and 10 of the 12 Vanguard Colleges of the learning project. Of these 26 colleges, four campuses declined to participate; another nine never responded; and 13 colleges (50% of those contacted) agreed to participate. The lead individuals from these participating colleges were contacted, oriented to the study, and asked to identify others on their campuses who had been actively involved in student learning outcomes assessment. Through this process, a total of 26 individuals were recruited, and 22 of them participated in one or more rounds of the three-round Delphi process. These 22 panelists represented 12 different community colleges or community college districts and offered diverse perspectives about student learning outcomes and assessment. Seven were faculty members (including one adjunct faculty member), three were campus researchers, eight were administrators, one was a consultant, two were administrative support personnel, and one was a coordinator. Several panelists indicated they held more than one position on campus (e.g., faculty member and campus researcher, administrator and campus researcher, administrator and adjunct faculty member). The panelists' years of experience with student learning outcomes and assessment ranged from 1 year to 25 years, with a mean of 18.6 years and a median of 8.2 years. Sixteen of the 22 panelists who began the study completed all three rounds of the Delphi process. A seventeenth panelist participated in rounds one and three, and 21 panelists participated through round two.

Materials

The first round questionnaire for the full study contained the same statements that were considered and evaluated in the second round of the pilot project. This included the 62 statements of the original questionnaire plus 12 statements submitted by pilot project panelist.

This resulted in a list of 74 statements: 37 facilitating statements and 37 thwarting statements, which panelists of the full study considered in their first round.

As it was for the pilot project, the site for posting the questionnaires and collecting panelists' responses was the Human-Environment Regional Observatory (HERO) e-Delphi system Web site at Pennsylvania State University, http://hero.geog.psu.edu/eDelphi/. At this site, for the first round, panelists participated in a threaded discussion. Panelists were instructed to review the lists and add any factors that they judged to be missing. They were also told that they could write any comments they wished for any of the statements and that they could view and respond to other panelists' comments. Unlike the first round, the second and third rounds were conducted in a survey format, and panelists were not able to see the responses of other panelists until after each round had concluded.

Procedures

Panelists participated in an orientation to the study followed by a three-round Delphi process. Panelists were given one-on-one orientations by phone. During this meeting the researcher explained the research study, demonstrated the survey web site, and answered panelists' questions. At the conclusion of the orientation, panelists were asked to provide demographic information, which included name, position at the college, and the extent of their involvement with learning outcomes and assessment.

In the first round of the Delphi, panelists reviewed two lists of statements: one describing facilitating conditions and another describing thwarting conditions. They also added statements that in their opinion were missing from the lists. This first round remained open for an eight-day period. In the six-day interval between the end of the first round and the beginning of the second round, the contributions of the panelists from the first round were compiled, and revised lists of statements were prepared for the panelists to review and evaluate.

In preparation for the second round, the revised lists of statements were posted to the e-Delphi site. They included the original 74 statements plus 36 additional statements submitted by panelists. The additional statements were included unedited. The original statements were

numbered, and the new statements were given letter (A, B, C) designations to distinguish the original list of statements from those added by panelists. The day before the second round opened, panelists were sent two documents as attachments to an email. The first was a compiled list of the comments submitted for each of the statements from the first round. The second document contained the revised lists of statements. Panelists were asked to review the two revised lists of statements, rate the importance, on a five-point scale, that each statement plays in facilitating or thwarting a meaningful assessment process, and provide a rationale for judging any statement given a five rating (critically important) in influencing a meaningful assessment process. The second round opened on a Tuesday morning and closed eight days later on a Tuesday evening.

During the six-day interval between the second and third rounds, the responses of the panelists were compiled, and a report was prepared for them to review and evaluate. In the third round, panelists were asked to review the filter lists, which included only those statements that received a “critically important” rating by one or more panelists. The mean rating and the high and low ratings were reported for each statement. The rationales submitted by panelists as to why they rated the statements critically important were also presented unedited to all panelists. Based on this feedback, panelists were asked to re-rate on a five-point importance scale (the same scale used in round two) the items on the filtered lists.

Following the third round, the responses of the panelists were compiled and organized into two reports that were sent to each participant as attachments to an email. The first report included all of the statements used in rounds two and three. Accompanying each statement was the mean rating by the group and the high and low ratings by panelists for rounds two and three. The rationales contributed during round two were included in this report. Panelists were also given a second report that presented the top facilitating and thwarting statements in rank order lists. Only those statements that had a mean rating of 4.00 or higher in the third round were included in this second report. A mean of 4.50 or higher was used to determine which statements were considered critically important by the panel, and mean scores of 4.00 or more

but less than 4.5 were used to identify those statements that were classified as extremely important.

After the conclusion of the Delphi process, over a nine-week period, the results were compiled and a report prepared that was sent to panelists for verification. Panelists were asked to read and assess three aspects of the report: the grouping of the statements, the titles given to each group, and the accuracy of the narrative in describing the results. Panelists were also asked to identify those aspects of the study that they thought were well done and those areas that needed improvement.

Summary

This chapter described my approached to the research questions and the methods used in the study. The chapter began by explaining my postpostivist worldview and the use of a Delphi method to answer the research questions. The chapter continued with a section on the strengths and limitations of the Delphi process and a rationale for using it. The latter part of the chapter described the procedures for the three phases of this study: (a) construction of the first round questionnaire, (b) methods of the pilot project, and (c) the panelists, materials, and procedures of the full study. The chapter also included a detailed evaluation of the administration of the pilot project and a description of the modifications made to the full study as a result of what was learned. The next chapter describes the results of both the pilot project and the full study.

CHAPTER FOUR: RESULTS

The results are presented in three major sections. In the first section the method of analysis, the themes that emerged from the data, and the evaluations of panelists' are presented for the pilot project. In the second section the method of analysis, the themes that emerged from the data, and the evaluations of panelists' are presented for the full study. The third section describes the similarities and differences of the procedures and of panelists' participation. In addition, the nine themes that emerged from the pilot project and the 10 themes that emerged from the full study are compared.

Results of the Pilot Project

One of several goals of the pilot project was to answer the research questions. The results of the analysis of panelists' responses related to the research questions could later serve as comparison data to the results obtained in the full study. A complete presentation of the results of the pilot project appears in two tables located in the appendices. Appendix B contains the complete results of both rounds two and three of the pilot project. It includes all the statements used in the pilot, the mean rating, and the high and low ratings for each statement in rounds two and three. Also included are the rationales submitted in round two for those statements that were rated as critically important by one or more panelists. Appendix C presents lists of those facilitating and thwarting statements that were identified as being critically important, based on the mean rating of the group. Only statements with a mean rating of 4.50 or higher were included on these lists.

The first round of the Delphi process began with 62 statements: 33 facilitating statements and 29 thwarting statements. As a result of the first round, 12 statements were added based on panelists' suggestions. In round two, panelists rated the importance of 74 statements: 37 facilitating statements and 37 thwarting statements. Of the 37 facilitating statements used in round two, 27 were rated by at least one panelist as critically important and were reconsidered and re-rated by panelists in the third round. Of these 27 statements, 18 were rated as critically important in the third round as determined by the mean of the ratings given by

panelists. Similarly, of the 37 thwarting statements used in round two, 30 were rated by at least one panelist as critically important and were reconsidered and re-rated by panelists in the third round. Of these 30 statements, 10 were rated as critically important in the third round, again, as determined by the mean of the ratings given by panelists.

Analysis of Panelists' Responses

This analysis focused on those statements that were rated as critically important to a meaningful assessment process. However, an occasional comparison was made between statements that were rated as moderately important to statements that were rated as critically important. Those statements that were rated as critically important (mean ratings of 4.50 or greater), with one exception, consequently also had a high degree of agreement (a range of one point or less) among the panelists. The one exception was statement 3, *communication from respected faculty members informing the campus community about the assessment process* (range of 2 points).

There was also high agreement (a range of 1) among panelists for several statements that did not fall into the critically important range. These statements are informative in that they demonstrate agreement among panelists of statements judged to be moderately important but not critical to a meaningful assessment process, and they offer points of comparison to statements that were rated as critically important. All of these statements fell into the moderately important range and are listed here.

Facilitating Statements

- Statement A, v*ice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation* (mean of 4.33)
- Statement 11, *administration, faculty and staff form partnerships and work in concert with each other* (mean rating of 4.33)
- Statement 30, *a formal written assessment plan* (mean rating of 4.33)

Thwarting Statements

- Statement 40, f*aculty view assessment as encroaching on their academic freedom* (mean rating of 3.50)
- Statement 42, *concern about the ability to balance institutional priorities with limited resources* (second round mean rating of 3.60)
- Statement 49, *a perception that some important learning outcomes are not measurable* (mean rating of 3.50)
- Statement 50, *lack of appreciation of outcomes based education* (second round mean rating of 3.80)
- Statement 51, f*aculty question their responsibility to assess anything outside their individual classes* (second round mean rating of 3.60).
- Statement 54, *trying to sustain outcome and assessment efforts and to balance other institutional priorities with limited financial resources* (mean rating of 3.50)
- Statement 55, lack of knowledgeable administrative leadership (second round mean of 4.00)

Also, in this phase of the analysis, the rationales that were submitted by panelists were used in two ways: first, to provide additional information for grouping statements into categories; and second, to identify reasons why these statements were rated critically important.

Through the design of the study, I was able to determine the consensus among panelists as to what factors were critically important and to identify possible reasons as to why these factors were critical. However, the design did not permit me to determine consensus among the panelists as to the reasons why the critical factors were important.

The method used for the analysis of panelist responses closely followed that used in the Critical Incident Technique, which has been described by Flanagan (1954) and Russ-Eft (1979). This analysis began with the structure of the first round questionnaire. The statements under each category in the questionnaire were re-organized by rank order from highest to lowest,

based on the mean ratings of the statements from the third round of the Delphi. Following this, over several days, the statements and the rationales were read several times. This was done to get a sense of the relative importance of each statement within each category of the questionnaire and to develop an understanding of panelists' rationales.

Since there was considerable overlap among the categories of the facilitating and thwarting statements and since panelists' comments on facilitating statements identified thwarting conditions and vice versa, the statements rated as critically important from both lists were aggregated and an analysis was conducted on these statements as a group. Statements were then sorted by similarity based on the content of the statements and the content of the panelists' rationales. Again, the statements and rationales were read several times. As statements were read, some were moved from one group to another, some were duplicated and placed in multiple groups; and some were deleted from groups. After all of the critically important statements were classified into one or more of the groups, headings for each classification were drafted to reflect the content of the statements and rationales. Finally a reporting structure was constructed and definitions were written for each classification. What emerged was a slightly different set of themes than were produced during the literature review and when organizing the first round questionnaire.

Themes That Emerged from the Pilot Project

The statements that were judged by the panelists as being critically important to the implementation of a meaningful assessment process (mean rating of 4.50 or higher) were grouped by similarity. Nine themes emerged from the analysis of these statements: Knowledge, Value, Trust, Participation, Leadership, Faculty, Assessment Plan, Communication Strategy, and Assessment Results. Several statements support more than one theme and thus are listed under multiple themes. In the following paragraphs each theme is described, based on the statements and panelists rationales as to why the condition was rated critically important.

Accompanying the narrative of each theme is a table containing the supporting statements. Each table is organized by facilitating and thwarting statements. Within these two

groups, statements are presented in rank order from highest to lowest, based on mean ratings among the statements considered in the final round (27 facilitating statements and 30 thwarting statements). Included with each statement is its identification number, high and low ratings, mean rating, and rank within the group of facilitating statements and within the group thwarting statements. The numbered statements identify those that panelists considered at the start of round one. The statements with letter (A, B, C) designations identify additional items submitted by panelists during the first round.

At this point it is important to explain how rank for each statement was noted in each of the tables. Since the rank given to each statement was not used for computational purposes, rank was indicated as it is more commonly understood by the public. For example if two statements had a mean score of 5.00 (the highest possible mean score in this study) they were both given the rank of 1. If rank had been used for computational purposes, it would have been necessary to average the rank of 1 and 2 and give each statement a rank of 1.5, but that was not the case for this study.

Knowledge/Experience

Statements associated with the knowledge and experience theme are presented in Table 2. Building the knowledge and experience of campus personnel about assessment was judged to be critically important to a meaningful assessment process (statements 5, 13, 16, 56, 46 and L). Building this knowledge and experience is accomplished by having consistent offerings of high quality and motivating education and training opportunities for all college personnel (statement 16), and having venues for dialogue and collaboration (statement L). These opportunities to learn, dialogue, and collaborate need to cover the topics of not only student learning outcomes and assessment but also teaching methods and learning theory. If these are not provided they represent critical barriers to a meaningful assessment process. One panelist said “training is absolutely necessary—and it needs to be ongoing if we are to continue the cycle of assessment and develop new methods or new approached to teaching and learning” (panelist Q, statement 46), a second panelist expressed that this is how “buy-in is created and

also how it is possible to develop a faculty owned assessment process" (panelist N, statement 5), and a third panelist stated if these opportunities are not provided "it is difficult to see how SLOs will 'take'" (panelist K, statement 46). This panelist also indicated that while building knowledge and experience is critical, offering opportunities to gain that knowledge and experience will be effective only if "faculty are ready to receive and embrace the training opportunities" (panelist K, statement 16).

Knowledge and experience were also judged as critical for leaders in general (statement 13 and 44) and for faculty leaders in particular (statement 56). One panelist indicated that she could not see "how anyone could lead a campus through the process without… a clear understanding of what we are supposed to be doing and why" (panelist Q, statement 13). The panelist went on to say that without this knowledge "it feels like leaders are just repeating catch phrases without understanding the work, commitment, and purpose behind them" (panelist Q, statement 44). Another panelist commented that individuals willing to take on a leadership role in assessment "must be given opportunity to grow, learn and become confident about doing assessment" (panelist M, statement 46). A third panelist expressed that "False starts due to lack of knowledge will also be thwarting" (panelist O, statement 13).

Table 2. *Pilot Project Statements Associated with Knowledge and Experience*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
5	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g., convocations, orientations, presentations, retreats, and workshops)	6	5, 5	5.00	1
13	Those with lead responsibility are knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods	6	5, 5	5.00	1
16	Having a consistent offering of high quality and motivating education and training opportunities for faculty, administrators and staff on learning outcomes, assessment principles, teaching methods, and learning theory	6	5, 4	4.83	9
	Thwarting Statements				
46	Limited opportunities for professional development in learning outcomes, assessment principles, teaching methods, and learning theory	6	5, 4	4.83	3
56	Lack of knowledgeable faculty leadership	6	5, 4	4.83	3

Table 2. *Pilot Project Statement Associated with Knowledge and Experience (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
44	Campus leaders lack knowledge about learning outcomes, teaching methods, learning theory, and assessment methods	6	5, 4	4.83	3
L	Lack of venues available for dialogue	6	5, 4	4.83	3

*Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important

Value

Table 3 lists the statements associated with the value theme. Statement B, *Administrators viewing assessment as worthwhile* (mean rating of 4.17) was rated as very important but not critical to a meaningful assessment process, whereas statement 17, faculty view assessment as worthwhile (mean rating of 5.00) was rated as critically important. The reasons for this difference offered by two panelists were that administrators support is necessary for allocating resources (time and money) and establishing institutional priorities (panelist O and panelist M, Statement B). However, if faculty members do not value assessment “the whole effort will fall apart” (panelist N, statement 17). Also rated critical to the process was statement 18, *a shared sense of responsibility for assessment across the college*. Value in assessment is also reflected in having venues for dialogue and collaboration (statement 5), and having opportunities for all personnel to learn about learning outcomes, assessment principle, teaching methods, and learning theory (statement 16). Lack of value is reflected in just the reverse: few venues for dialogue (statement L), lack of appreciation that assessment is integral to the improvement of the college and its programs (statement 47), limited professional development opportunities focused on learning outcomes, assessment, teaching, and learning (statement 46), and a general lack of college commitment to the process (statement E)

Table 3. *Pilot Project Statements Associated with Value*

ID	Statements	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
5	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	6	5, 5	5.00	1
17	Faculty view assessment as worthwhile	6	5, 5	5.00	1
16	Having a consistent offering of high quality and motivating education and training opportunities for faculty, administrators and staff on learning outcomes, assessment principles, teaching methods, and learning theory	6	5, 4	4.83	9
18	A shared sense of responsibility for assessment across the college	6	5, 4	4.67	13
	Thwarting Statements				
46	Limited opportunities for professional development in learning outcomes, assessment principles, teaching methods, and learning theory	6	5,4	4.83	3
L	Lack of venues available for dialogue	6	5, 4	4.83	3
47	Lack of appreciation that assessment is integral to the improvement of programs, services, teaching, and learning.	6	5, 4	4.67	8

**Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important*

Trust

Four statements were associated with the trust theme (Table 4). One of the most significant barriers to implementing a meaningful assessment process was a negative college climate (panelist L, statement E). It was characterized as a “general lack of motivation, trust, and commitment” to assessment. When a negative attitude and a lack of trust exist, meaningful “assessment won’t be conducted… results won’t be used in the way they were intended, and the purpose of SLOs and assessment will be defeated” (panelist Q, statement E).

“No effort can be successful… let alone assessment” (panelist O, statement 10) without leaders who are well respected and are accepted by faculty, administrators, and staff. “Meaningful learning improvement only occurs if the conversations are honest and deep” (Panelist M, statement 10). If assessment is not led by someone who is well respected and accepted by the campus community, “people will feel it is being imposed from someone(s) who are not part of the institution” (panelist N, statement 10). “Having someone who isn’t respected might threaten the process… [and] marginalizing it” (panelist Q, statement 20). Faculty must believe that the results will be used in positive ways for institutional improvement otherwise “no one will be truthful or provide meaningful data” (panelist M, statement 12).

However, a supportive institutional climate has just the reverse effect. As one panelist phrased it: “a supportive climate is invaluable for evaluating ones own work, risk free. Further, motivation to improve is a feature of a positive organizational climate” (panelist O, statement E). Another panelist (panelist Q, statement E) felt that a negative institutional attitude can be overcome through education and that trust can emerge once people are educated about assessment and its purpose (panelist Q, statement 12).

Table 4. *Pilot Project Statements Associated with Trust*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
10	Leaders for the process are well respected, and are accepted by faculty, administrators, and staff	6	5, 5	5.00	1
12	Trusting that the results will be used in positive ways for institution and program improvement and not in punitive ways	6	5, 4	4.83	9
20	Having champions of the process who are well respected and accepted by faculty, administrators, and staff	6	5,4	4.67	13
	Thwarting Statement				
E	Negative college climate (i.e. a general lack of motivation, trust, and commitment)	6	5, 5	5.00	1

**Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important*

Participation

Statements 23 and 24 were associated with the participation theme (Table 5). It is critical that both faculty members (statement 23) and administrators (statement 24) be actively involved in the process, particularly faculty, who must assume leadership roles (statement 21) in the process. “They are the ones in the classroom” (panelist Q, statement 23). By contrast, participation in assessment by staff, students, or stakeholders external to the college was not as important as the involvement of faculty members and administrators.

Table 5. *Pilot Project Statements Associated with Participation*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
23	Participation by faculty	6	5, 5	5.00	1
24	Participation by administrators	6	5, 4	4.67	13

**Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important*

Leadership

Table 6 presents the statements associated with the leadership theme. A critical element that facilitates the success of a meaningful assessment process is the presence of leaders (statement 10) and champions (statement 20) of assessment. Not only must they have knowledge and experience, they must also be well respected and accepted by all personnel groups on campus. In addition, it is critical that the assessment effort be guided by a core team, committee, or task force, representative of the college (statement 14). The effectiveness of this group depends “on the people serving in this ‘core.’ The correct people must be in this group” (panelist K, statement 45). If these conditions do not exist, this void serves as a critical thwarting influence.

The primary leaders of assessment must be faculty. As one panelist said having an assessment process that is led by faculty “is the interface of learning. Administrators have too many other concerns which do not translate directly into real learning” (panelist N, statement 21). Another said that “faculty are the most informed and knowledgeable about the instructional programs as well as their students. They will be the ones assessing those students, collecting the results, and participating in the dialogue centered around the result to improve programs” (panelist Q, statement 21).

In referring to the data collected from the assessment of student learning, one panelist stated “This is sensitive data. Meaningful learning improvement occurs if the conversations are

honest and deep. Faculty that are respected, with integrity are the essence of the process and the sustenance of the process" (panelist M, statement 10). Another panelist expressed that if the process is not led by respected leaders "people will feel that this is being imposed from someone(s) who are not part of the institution" (panelist N, statement 10). The flip side of this is that "Having someone who isn't respected might threaten the process—by marginalizing it or demonstrating that the campus doesn't value the process" (panelist Q, statement 20).

Table 6. *Pilot Project Statements Associated with Leadership*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
10	Leaders for the process are well respected, and are accepted by faculty, administrators, and staff	6	5, 5	5.00	1
21	Having an assessment process that is led by faculty	6	5, 4	4.83	9
14	Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	6	5, 4	4.67	13
20	Having champions of the process who are well respected and accepted by faculty, administrators, and staff	6	5,4	4.67	13
	Thwarting Statements				
56	Lack of knowledgeable faculty leadership	6	5, 4	4.83	3
44	Campus leaders lack knowledge about learning outcomes, teaching methods, learning theory, and assessment methods	6	5, 4	4.83	3
45	Absence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	6	5,4	4.67	8

**Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important*

Faculty

One panelist commented that assessment “really is a college-wide process… [with] a special role for faculty” (panelist L, evaluation form, item 5a). Thirteen statements from the questionnaire were associated with the faculty theme (Table 7). Faculty must see that assessment is worthwhile (statement 17), must be actively involved in the process (statement 23), and must be knowledgeable about learning outcomes, assessment, teaching methods, and student learning (statements 44 and 56). It was the perception of two panelists that many faculty members have not had formal training in assessment, teaching methods, and student learning (panelist K, statement 5; panelist O, statement 16) and that building an understanding in these areas was critical to a meaningful assessment process. Colleges must offer on-going, high quality educational opportunities (statement 16), and provide venues for dialogue and collaboration (statement 5) for all campus personnel, but particularly for faculty, so that they can gain the request knowledge and experience. Faculty must assume leadership roles (statements 21, and 56), and those that choose to do so should be faculty who understand assessment and its purpose and who are respected and accepted by the campus community (statement 10). Faculty leaders also need to be the ones communicating to the rest of the campus the value of assessment and the progress being made (statement 3). The assessment effort falls apart without faculty being actively engaged in the process (statement 17, panelist N).

Table 7. *Pilot Project Statements Associated with Faculty*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
5	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	6	5, 5	5.00	1
17	Faculty view assessment as worthwhile	6	5, 5	5.00	1
23	Participation by faculty	6	5, 5	5.00	1
10	Leaders for the process are well respected, and are accepted by faculty, administrators, and staff	6	5,5	5.00	1
12	Trusting that the results will be used in positive ways for institution and program improvement and not in punitive ways	6	5, 4	4.83	9
16	Having a consistent offering of high quality and motivating education and training opportunities for faculty, administrators and staff on learning outcomes, assessment principles, teaching methods, and learning theory	6	5, 4	4.83	9
21	Having an assessment process that is led by faculty	6	5, 4	4.83	9
2	Communication strategies in place that are timely and that keep faculty, administrators, and staff informed about assessment practices and the results of assessment activities	6	5, 4	4.83	9

Table 7. *Pilot Project Statements Associated with Faculty (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
32	A manageable plan (e.g., a few robust measures of learning)	6	5,4	4.67	13
20	Having champions of the process who are well respected and accepted by faculty, administrators, and staff	6	5,4	4.67	13
3	Communication from respected faculty members informing the campus community about the assessment process	6	5, 3	4.50	18
	Thwarting Statements				
56	Lack of knowledgeable faculty leadership	6	5, 4	4.83	3
44	Campus leaders lack knowledge about learning outcomes, teaching methods, learning theory, and assessment methods	6	5, 4	4.83	3

*Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important

The Assessment Plan

The statements associated with an assessment plan are listed in Table 8. The plan must be linked to the college mission integrated into the policies and practices of the college (statement 31), it must be periodically evaluated for its effectiveness (statement 33), and it must be manageable in the sense that it does not try to do too much in any one cycle of assessment (statement 32). Panelists expressed that assessment would not be successful if it were a “separate, parallel or shadow project” (panelist O, statement 31). Integration into the college operation “is needed for SLOs to ‘take’ and continue on as an institutional practice” (panelist K, statement 31). Other processes “like program review must reinforce the assessment process—

by having SLOs and assessment and evidence of student learning built into program review" (Panelist Q, statement 31). Evaluating the assessment process itself was rated by all panelists as critically important. One of them put it this way "closing the loop on assessment is evaluating the assessment process" (Panelist M, statement 33).

One Panelist felt assessment was useful to faculty only if it was approached in manageable pieces (panelist N, statement 32). There was a concern by another panelist that if colleges tried to take on too much in the way of assessment they would have "trouble sustaining their efforts" (panelist K, statement 32).

Table 8. *Pilot Project Statements Associated with Assessment Plan*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
31	An assessment plan that is linked to college mission and integrated into the policies and practices of the institution (e.g. program review, strategic planning, and budgeting)	6	5, 5	5.00	1
33	A plan that is periodically evaluated for its effectiveness	6	5, 5	5.00	1
32	A manageable plan (e.g., a few robust measures of learning)	6	5, 4	4.67	13

*Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important

Communication Strategies

There were four statements on the questionnaire associated with communication strategies (Table 9). This theme includes having communication strategies that keep the campus community informed about assessment and having these communications come from respected faculty members, who are accepted by all constituent groups of the campus community. Providing regular opportunities for dialogue and collaboration on assessment are critical, because such opportunities keep the assessment process alive and help it “grow to maturity” (panelist M, statement L). Furthermore, communication from respected faculty and opportunities for dialogue and collaboration develop trust in the process and in those leading it. Also, it promotes buy-in and fosters ownership for assessment (panelist N, statement 5). It is interesting to note that support from college presidents (statement 4) and vice presidents of instruction (statement A) were judged only moderately important. Statement A, *vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation* received a mean rating of 4.33 and statement 4, college presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation had a mean rating of 4.17 (see Appendix B).

Table 9. *Pilot Project Statements Associated with Communication Strategies*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
5	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	6	5, 5	5.00	1
2	Communication strategies in place that are timely and that keep faculty, administrators, and staff informed about assessment practices and the results of assessment activities	6	5, 4	4.83	9
3	Communication from respected faculty members informing the campus community about the assessment process	6	5, 3	4.50	18
	Thwarting Statement				
L	Lack of venues available for dialogue	6	5, 4	4.83	3

*Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important

Assessment Results

There were two facilitating and two thwarting statements on the questionnaire associated with the using results theme (Table 10). Using the results is a critical element in the assessment cycle. All who responded to statements in this category echoed a similar response. If the results are not used for improvement, then “what is the point?” (panelist K, statement 27); panelist N, statement 61) and ”why do it?” (panelist M, statement 60). As one panelist put it “if results aren’t used to guide discussions and improve programs, then it might lead to the belief that the processes isn’t important or it doesn’t work” (panelist Q, statement, 27). Also, the

“assessment cycle needs to be completed, and it should be tied into other campus process and campus decision making to demonstrate its importance, to make it meaningful, to make sure it isn’t lost, to guarantee that it guides dialogue, etc.” (panelist Q, statement 60).

Table 10. *Pilot Project Statements Associated with Assessment Results*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Facilitating Statements				
27	Results of assessment are used to improve programs, services, and the classroom's teaching and learning experience	6	5, 5	5.00	1
12	Trusting that the results will be used in positive ways for institution and program improvement and not in punitive ways	6	5, 4	4.83	9
	Thwarting Statements				
61	Assessment results are not used to improve the college, its programs, or the classroom's teaching and learning experience	6	5, 4	4.83	3
60	Assessment results are not fed back into the campus decision making process	6	5, 4	4.50	10

*Scale: 5-Critcally Important, 4-Moderate Importance, 3-Minor Importance, 2-Undecided, 1-Not Important

Summary of the Results of the Pilot Project

The critical factors affecting a meaningful assessment process are summarized in two ways. First, Table 11 presents the themes that emerged from three successive stages of this research and shows the evolution of these themes over the course of this study. Each row in the table can be considered roughly the same theme, even though the name may have changed

over time. In addition to name changes, there have been additions and deletions of themes as well as changes in the number of themes.

Second, the themes are described by: (a) the characteristics of the people engaged in assessment, and (b) the characteristics of the assessment process itself. Each theme was placed under one of these two headings with the exception of the knowledge and experience theme. The knowledge and experience theme had two prongs, one that emphasized the need for leaders who have knowledge and the other was the need for colleges to provide opportunities for personnel to learn and gain experience. Thus knowledge and experience appears under the heading of characteristics of the people and opportunities for building knowledge and experience appears under the heading of characteristics of the process.

Table 11. *Themes Emerging from Three Successive Stages of this Research*

Themes Identified from the Literature Review	Themes of the First Round Questionnaire	Themes Emerging from the Pilot Project
Knowledge	Knowledge/ Lack of Knowledge	Knowledge/ Experience
Valued	Valued Process/Lack of Value	Value
Trust	Trust	Trust
Participants	Participation	Participation
		Leadership
		Faculty
Embedded	Assessment Plan	Assessment Plan
Communication	Communication	Communication Strategies
Use of Results	Using Results/ Limited Use of Results	Assessment Results
	External Influence	
Architecture of Education	Resistance to Change	
Competing Priorities	Competition Among Priorities	
Resources	Limitation of Resources	
Meaningful		

Themes Related to Characteristics of the People

This section summarizes the six themes that are related to characteristics of the people involved in assessment of student learning activities on community college campuses. These themes are knowledge and experience of campus leaders, value, trust, participation, leadership, and faculty.

Knowledge/experience of campus leaders. A critical barrier is a lack of understanding and consensus about what needs to be done. It is critical that the campus community understand assessment and its purpose. It is most important for faculty leaders to understand and have experience with assessment. This can provide direction for the college and reduce the chances of false starts.

Value. Faculty members are the primary people that must see value in assessment, otherwise the whole effort will fall apart. It is also critical that there is a shared sense of responsibility for assessment across the college. It is important that administrators see assessment as worthwhile but not as critical as that of faculty. Administrator support is necessary, because they are responsible for setting institutional priorities and allocating resources.

Trust. A significant barrier is a negative college climate, which is characterized as a lack of motivation, trust, and commitment. If assessment is to be successful, those leading the effort must be respected and accepted by all personnel groups on campus. Faculty must trust that the results will be used for institutional improvement and not in punitive ways; otherwise they will not engage in assessment in a meaningful way.

Participation. It is critical that both faculty members and administrators be actively involved in assessment. Faculty participation is most important, since they are the ones in the classroom. The involvement of staff, students, and other stakeholder are not seen as critical as the involvement of faculty and administrators.

Leadership. It is critically important for faculty to be the primary leaders of the effort, because they are the closest to the students and their learning. Administrators are more removed from student learning. Leaders should have knowledge and experience with assessment, and they need to be respected by all campus personnel groups. It is critical that assessment is guided by a core team with members who are knowledgeable, respected, and representative of the college.

Faculty. It is critically important for faculty to see assessment of student learning as worthwhile, be actively involved in the process, and be knowledgeable about assessment, teaching methods, and student learning. It is critically important for colleges to offer on-going, high quality educational opportunities and provide venues for dialogue and collaboration so that faculty can gain the request knowledge and experience. Faculty need to assume leadership roles and, as leaders, need to be the ones communicating to the campus community the value of assessment and the progress that is being made.

Themes Related to Characteristics of the Process

This section summarizes four themes related to the characteristics of the assessment of student learning process on community college campuses. They are the assessment plan, communication strategies, building knowledge and experience, and using the results of assessment.

The assessment plan. It is crucially important that the assessment plan be tied to the college mission, that assessment is integrated into the institutional policies and practices, that the methods are periodically evaluated for their usefulness, and that the assessment process is conducted in manageable and meaningful chunks.

Communication strategies. Timely communication from respected faculty is critical for creating buy-in and for keeping the campus community informed about assessment practices, activities, and progress.

Building knowledge and experience. Critical to a meaningful assessment process is having consistent offerings of high quality educational opportunities about assessment teaching

methods and how students learn, venues for dialogue and collaboration among campus groups, and opportunities for leaders to learn and become confident about dong assessment. If the opportunities do not exist they represent significant barriers to meaningful process.

Using assessment results. College personnel and particularly faculty must see evidence that the results of assessment are used to improve the college, its programs, instruction, and student learning. They must also see that results guide campus dialogue and are used in its various decision making processes.

Pilot Project Panelists' Evaluation of the Results

A write up of the results of the pilot project was sent to the seven panelists who participated in this phase of the study. In a verification process, panelists were asked to evaluate three aspects of the results. They were asked to rate on a five-point Likert scale the degree to which they agreed or disagreed that (a) the statements under each theme were appropriately grouped; (b) the titles given to each theme were appropriately descriptive; and (c) the narrative accurately described the aggregated opinions of the panelists. The labels for each point on the scale were: strongly agree, agree, unsure, disagree, and strongly disagree.

Six of the seven panelists returned evaluation forms and Appendix D contains their complied responses. Four panelists marked either agree or strongly agree on each of the three aspects of the results that were being evaluated and two panelists marked unsure for all three aspects that were being evaluated.

Each panelist expressed varied opinions about the results with only a few points of agreement among them. Two panelists felt that the titles of the themes could have been more descriptive. One panelist suggested using "faculty engagement" in place of "faculty," and another panelist felt that "Using assessment results" was a better title than simply "assessment results." The narrative seemed to describe the data for panelist P, however panelist M found the narrative hard to follow and lamented that the results were not presented in an engaging way. Panelist M suggested using Venn diagrams, or something similar, to provide a visual image. Panelist K stated that the study "was an excellent thinking exercise… [and] found the findings to be

validating and informative." Also, Panelist P found it informative to "see consensus on so many of the items [where] 'experts' in the field of SLOs rarely agree so well."

The two panelists that were unsure about the results expressed different reservations. Panelist O commented that the research provided documented consensus about what we have all probably experienced, discussed among ourselves and professed, however the themes identified "were general and relevant to almost any organizational development activity." Panelist O was looking for insight beyond these themes. Panelist O went on to ask "is there anything more that you can find with these responses that is unique/critical to SLO assessment?" Panelist O also echoed an observation expressed by Panelist P earlier in the study: the need to identify how to implement student learning outcomes assessment processes beyond the classroom level to an organizational, college level activity. The reservations expressed by Panelist L were in the panelist's words "nuances and emphases vs. real disagreement." Panelist P as well as panelist O took issue with the faculty theme as "preeminent." Panelist L expressed that the faculty theme might be an artifact of the number responding and asks the question "are faculty participation and leadership particular emphases to be strongly noted but not necessarily a separate factor?"

Modification to the Full Study

Before moving to a discussion of the results of the full study, this section serves to summarize the modification made to the full study based on what was learn from the pilot project. A detailed presentation of these modifications was presented in chapter three. Based on the evaluation of the pilot project several modifications were made to the full study. First, one-on-one orientations were used rather then attempting to schedule an online meeting for the group of panelists. Second, the first round of the full study started with the 74-statement questionnaire that was used in the second round of the pilot project. Third, modifications were made to various communications to panelists. The term factor was not used when referring to the statements. In reality these statements were not factors but were descriptors of conditions. Factors were identified through the thematic analysis of the statements. Instructions to panelist were modified to encourage thoughtful rationales for why a statement was critically important. In addition, the

instructions for navigating the e-Delphi Website were re-written to provide more clarity about the site's functionality. Fourth, changes were made to the importance scale. The undecided point was eliminated, and the labels of each point on the scale were changed to Critically Important, Very Important, Moderately Important, Minimally Important, and Not Important. Finally, a process for verifying the results was added to the pilot project procedures. Participants were asked to review and evaluate the degree to which the study successfully identified the critically important factors that affect a process for the meaningful assessment of student learning.

Results of the Full Study

The people who are the least identified in the research literature but who could be the most informed about the factors that influence a meaningful assessment process are those who are actively involved in the day-to-day activities of assessment on community colleges campuses. Thus, the intent of the full study was to solicit the opinions of these individuals about what they believe were the critical factors that influence community colleges' capacity to conduct meaningful assessment of student learning outcomes, as well as the reasons why the factors were critical.

This section describes the method of analysis and the themes that emerged from the full study. It also contains the statements that were rated as critically important and extremely important, organized by theme and presented in several tables. A complete presentation of the results of the full study appears in two tables located in the appendices. Appendix E contains the results of both rounds two and three of the full study. It includes all the statements used in the study, as well as the mean rating and the high and low ratings for each statement in rounds two and three. Also included are the rationales submitted by panelists in round two for those statements that were rated as critically important by one or more panelists. Appendix F presents lists of those facilitating and thwarting statements that were identified as being critically important or extremely important based on the mean rating of the group.

Statements with mean ratings of 4.50 and higher were considered to be critically important, while statements with mean ratings between 4.00 and 4.49 were classified as

extremely important. This classification provided a structure for managing the analysis of the results, forming reference points for grouping statements into themes, discriminating between themes that were considered critically important from themes that were extremely important, and providing an opportunity to compare the results of the full study with those of the pilot project. This structure was necessary since 77 of the 100 statements considered in round three had mean rating of 3.50 or higher; 45 statements had mean ratings of 4.00 or higher; and 11 statements had mean ratings of 4.50 or higher. In some cases the statements that were classified as extremely important supported a theme that began with statements rated as critically important. In other cases, the extremely important statements provided points of discrimination between a theme that was rated as critically important and a theme that fell into the extremely important range. Since the focus of this research was to identifying the critically important factors, those statement rated below 4.00 were not analyzed.

The first round of the Delphi process began with 74 statements: 37 facilitating statements and 37 thwarting statements. These were the original 62 statements plus 12 additional statements offered by panelists of the pilot project. As a result of the first round, 36 statements were added based on panelists' contributions. In round two, panelists rated the importance of 110 statements: 56 facilitating statements and 54 thwarting statements. Of the 56 facilitating statements used in round two, 50 were rated by at least one panelist as critically important and were reconsidered and re-rated by panelists in the third round. Of these 50 statements, nine were rated as critically important (mean of 4.50 and higher) in the third round as determined by the mean of the ratings given by panelists. Another 27 of these statements were classified as extremely important (mean rating between 4.00 and 4.49).

Similarly, of the 54 thwarting statements used in round two, 50 were rated by at least one panelist as critically important and were reconsidered and re-rated by panelists in the third round. Of these 50 statements, two were classified as critically important (mean of 4.50 and higher) in the third round, again, as determined by the mean of the ratings given by panelists. An additional seven statements were classified as extremely important (mean rating of 4.00 to 4.49).

Analysis of Panelists' Responses

The analysis of panelists' responses focused on those statements that were rated as critically important (mean rating of 4.50 or higher). However, comparisons were made between statements that were classified as extremely important (mean rating between 4.00 and 4.49) to those that were rated as critically important. The analysis of these statements began by reviewing the statements according to the themes used in the questionnaire. These themes included both the ones created by the researcher and two created by panelists (i.e., culture of assessment and leadership) during the first round of the Delphi. This strategy produced a set of themes that were critically important with supporting threads in statements with mean ratings in the extremely important range. The intent of identifying these extremely important themes in addition to those rated as critically important was to provide a clearer picture of how the critical themes were situated in comparison with other important themes within a meaningful assessment process.

As used in previous phases of this research, the method employed for the analysis of panelists' responses closely followed that used in the Critical Incident Technique, which has been described by Flanagan (1954) and Russ-Eft (1979). This analysis began with the structure of the first-round questionnaire. The statements under each theme in the questionnaire were re-organized by rank order from highest to lowest, based on the mean ratings of the statements from the third round of the Delphi. Following this, over several days the statements and the rationales were read many times. This was done to get a sense of the relative importance of each statement within each theme of the questionnaire and to develop an understanding of panelists' rationales. Also, in this phase of the analysis, the rationales that were submitted by panelists were used in two ways: first, as additional information for grouping statements into themes, and second, to identify reasons why these statements were rated critically important. Since there was considerable overlap among the themes of the facilitating and thwarting statements and since panelists' comments on facilitating statements identified thwarting

conditions and vice versa, the statements rated as critically important from both lists were aggregated, and an analysis was conducted of these statements as a group.

Statements were sorted by similarity based on the content of the statements and the content of the panelists' rationales. Again, the statements and rationales were read numerous times over several weeks. As statements were examined, some were moved from one theme to another, some were duplicated and placed in multiple themes; and some were deleted from themes. After all of the critically important and extremely important statements were classified into one or more of the themes, headings for each classification were drafted to reflect the content of the statements and rationales. Finally, a reporting structure was constructed, and definitions were written for each classification. This structure serves as a summary of the results and is presented at the end of this description of the full study results.

Through the design of the study, I was able to determine the consensus among panelists as to what themes were critically important and to identify possible reasons as to why these themes were critical. This was accomplished by using statements with mean scores of 4.0 or higher and organizing them into themes using a method from Critical Incident Technique. The design did not permit me to determine consensus among the panelists as to the reasons why the critical themes were important. What emerged was a slightly different set of themes than were produced from the literature review, during organization of the first-round questionnaire, and from the results of the pilot project. Table 1, at the beginning of this chapter, presents the themes that emerged from the four successive stages of this research and shows the evolution of the themes over the course of this study.

Themes that Emerged from the Full Study

The statements that had a mean rating of 4.00 or higher were grouped by similarity, and 10 themes emerged from the full study: Knowledge/Experience of Campus Leaders, Building Campus Knowledge, Trust, Leadership, Dialogue/Collaboration, Faculty Engagement, Administrator Engagement, Communication Strategies, Assessment Plan, and Using Assessment Results. Of these 10 themes six were identified as critically important, and four

were judged to be extremely important. The critically important themes were Knowledge/Experience of Campus Leaders, Trust, Leadership, Dialogue/Collaboration, Faculty Engagement, and Using Assessment Results. The four extremely important themes were Building campus Knowledge /Experience, Communication Strategies, Administrator Engagement, and Assessment Plan.

One panelist proposed the theme “culture of assessment” in the first round of the Delphi, and several statements offered by panelists were grouped under this theme in the first round. As the analysis of the results proceeded, it became clear to me that developing a culture of assessment was nearly synonymous with the concept “meaningful assessment,” which was the umbrella under which all the other themes fit.

In the following paragraphs each theme is described, based on the statements and panelists rationales as to why the condition was rated critically important. Accompanying the narrative of each theme is a table containing the supporting statements. Because there were so few highly rated thwarting statements and because panelists comments on facilitating statements identified thwarting conditions and vice versa, facilitating and thwarting statements were not separated as they were for the pilot project. Instead, statements are presented in rank order from highest to lowest, based on mean ratings among the 100 statements considered in the final round. Included with each statement are its identification number, high and low ratings, mean rating, and rank. The numbered statements identify those that panelists considered at the start of round one. The statements with letter (A, B, C) designations identify additional items submitted by panelists during the first round.

At this point, it is important to reiterate how rank for each statement was noted in each of the tables. Since the rank given to each statement was not used for computational purposes, rank was indicated as it is more commonly understood by the public. For example, if two statements had a mean score of 5.00 (the highest possible mean score in this study) they were both given the rank of 1.

Knowledge/Experience of Campus Leaders

Knowledge and experience of campus leaders emerged as a critically important theme. Table 12 contains those statements associated with this theme and that had mean ratings of 4.0 or higher. Having knowledgeable campus leadership was rated as critically important to facilitating a meaningful student learning outcomes assessment process (statements 14 and B), and a lack of such leadership was rated as a critical barrier (statement 68). Five other statements that were classified in the extremely important range provided additional support to this theme: “having campus leaders with experience in a variety of alternative assessment methods” (statement D), “lack of knowledge of campus leaders about assessment” (statement 54), “lack of understanding and consensus about what needs to be done” (Statement 56), and having knowledgeable college presidents (statement 4) and vice presidents of instruction (statement 5) actively supportive of assessment.

Commenting about knowledgeable leadership, one panelist stated, “This process doesn’t run itself” (statement D, panelist T); another stated that “faculty [members] are the foundations for a stellar assessment, so faculty leadership must be knowledgeable” (statement 68, panelist B). The involvement of faculty champions of assessment helps build “enthusiasm [and a] willingness to try something new and a venue for learning about assessment techniques” (statement B, panelist R). “The teachable moment comes when a faculty member learns about the ways another faculty member approaches the analysis of why students learn and why they don’t” (statement B, panelist S). Another panelist said that assessment will not be worthwhile if leadership does not know what they are doing (statement 14, panelist A), and still another commented that “faculty are looking… for someone who’s walked the walk” (statement 14, panelist U). One panelist cautioned that it was a “lot to ask of one person” to be knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods (statement 14, panelist L).

Table 12. *Full Study Statements Associated with Knowledge/Experience of Campus Leaders*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Critically Important				
68	Lack of knowledgeable faculty leadership	17	5,4	4.59	5
14	People with lead responsibility who are knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods	17	5,3	4.59	5
B	Faculty champions willing to share what they have learned about learning, reporting on assessment and resulting curricular changes	17	5,3	4.53	11
	Extremely Important				
5	Vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.35	21
D	Campus leaders with experience in a variety of alternative assessment methods willing to mentor and encourage faculty to try new approaches to teaching and learning	17	5,3	4.12	37

Table 12. *Full Study Statements Associated with Knowledge/Experience of Campus Leaders (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
54	Campus leaders who lack knowledge about learning, outcomes, teaching methods, learning theory, and assessment methods	17	5,3	4.12	37
56	Lack of understanding and consensus about what needs to be done	17	5,2	4.06	42
4	College presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.00	45

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Building Campus Knowledge

Classified as extremely important was building campus knowledge about assessment of student learning (Table 13). Developing this knowledge is accomplished by faculty teaching other faculty (statement B, panelist S) and through consistent offerings of high-quality, motivating educational opportunities for campus personnel on learning outcomes, assessment, teaching, and learning (statement 17). These activities are needed to build knowledge in new hires and educate others about new developments in assessment (statement 17, panelist R). Also, as judged by panelists, it was very important to help the campus community understand the need for assessment of learning outcomes at different levels to serve different purposes (classroom assessments to improve individual student learning, program assessments to improve curriculum and instruction, program review to use for planning and recourse allocation, and institutional effectiveness for monitoring the institution's work). The campus must also understand that one assessment activity may serve several different levels (statement C). Developing a campus-wide understanding of the need for assessment at different levels, serving different purposes "provides relevance to the time-consuming process" (statement C, panelist B) of assessment.

The presence of an assessment committee was classified in the extremely important range (statements 15 and 55), and from panelists' comments, educating campus personnel about assessment was one of the committee's functions. Members of an assessment committee would be responsible for getting the "background knowledge" (statement 15, panelist J) and communicating it to the rest of the campus, as well as implementing staff development opportunities (statement 15, panelist R).

Table 13. *Full Study Statements Associated with Building Campus Knowledge*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Critically Important				
B	Faculty champions willing to share what they have learned about learning, reporting on assessment and resulting curricular changes	17	5,3	4.53	11
	Extremely Important				
15	Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	17	5,3	4.47	12
55	Absence of a core team, committee, or task force comprised of selected college personnel representative of the college to guide institutional assessment	17	5,3	4.29	25
17	Consistent offering of high-quality, motivating education and training opportunities for faculty, administrators, and staff regarding learning outcomes, assessment principles, teaching methods, and learning theory	17	5,3	4.12	37
58	Lack of appreciation for assessment as integral to the improvement of programs, services, teaching and learning	17	5,2	4.18	31

Table 13. *Full Study Statements Associated with Building Campus Knowledge (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
56	Lack of understanding and consensus about what needs to be done	17	5,2	4.06	42
C	Understanding the need for assessment of learning outcomes at different levels, to serve different purposes: 1) classroom assessments (graded and ungraded) to improve individual student learning, 2) program assessments (aggregated data) to improve curriculum and instructional methods, 3) program review (comparative data and productivity data) to use for planning and resource allocation, and 4) institutional effectiveness (benchmarks) for monitoring of the institution's work	17	5,2	4.06	42

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Trust

As seen in Table 14, four statements are associated with the trust theme. Two statement were rated as critically important and illustrate the two facets of this theme, one related to leaders and the other related to the use of the results: “Leaders for the process are well respected and are accepted by faculty, administrators, and staff” (statement 11) and “Trust that the results will be used in positive ways for institutional and program improvement and not in punitive ways” (statement 13). The third and fourth statements supporting the trust theme were classified as extremely important. These were “administrators, faculty, and staff who form partnerships and work in concert with each other” (statement 12) and “communication from

respected faculty members" (statement 3). The link these later two statements have to trust does not come from the statements themselves, but from the rationales submitted by panelists (see Appendix E).

From a collage of panelists' rationales, a picture is formed as to why trust emerged as a critical theme to a meaningful student learning outcomes assessment process. "For a process that requires this much effort, leaders must be well respected to provide authentic charisma for a successful product" (statement 11, panelist B) otherwise employees will not support the process nor participate (statement 11, panelist R). Having leaders of the process who are respected "promotes comfort with change" (statement 11, panelist A), and helps build a "collaborative climate" (statement 11, panelist V). "Faculty trust is hard to earn and easy to lose, so having communication from trusted colleagues is essential" (statement 3, panelist S). "One of [the] greatest fears" (statement 13, panelist A) about assessment is that it will be used in punitive ways, "that assessment 'evidence' will be used to terminate faculty" (statement 13, panelist B). It is important that the message be communicated that the "results will be used to facilitate institutional and program improvement" (statement 13, panelist M) and "student success" (statement 13, panelist V). This "must be put in writing on all assessment documents" (statement 13, panelist U) and "must be extremely obvious and transparent" (statement 13, panelist V). Trust is built when campus personnel work together toward a common goal, "one message--same standards and criteria" (statement 12, panelist N). One panelist put it very succinctly: "Without trust you have no assessment program" (statement 13, panelist N).

Table 14. *Full Study Statements Associated with Trust*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Critically Important				
11	Leaders for the process who are well respected, and are accepted by faculty, administrators, and staff	17	5,4	4.76	2
13	Trust that the results will be used in positive ways for institutional and program improvement and not in punitive ways	17	5,3	4.65	4
	Extremely Important				
12	Administrators, faculty, and staff who form partnerships and work in concert with each other	17	5,4	4.41	15
3	Communication from respected faculty members informing the campus community about the assessment process	17	5,4	4.41	15

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Dialogue/Collaboration

A meaningful assessment of student learning outcomes is facilitated when there are opportunities for dialogue, collaboration, and sharing among campus groups. This theme reflects statements 6, 11, and B, which were judged to be critically important by the study panelists (see table 15). Additional support for this theme is found in several statements that are classified as extremely important (15, 12, I, 55, 21, O, D, and, A). These may counter what was judged to be a very important barrier: the lack of understanding and consensus about what needs to be done (statement 56). Panelists suggested that opportunities for dialogue and sharing establish

“common ground” (statement 6, panelist A) and “consistent messages to students” (statement 6, panelist F), promote “a collaborative climate” (statement 11 panelist V), and serve as the “glue that helps build a strong and lasting process” (statements 6 and B, panelist R). One panelist commented that, although dialogue and collaboration are critical, they are “hard to balance with all the other topics that must be addressed” (statement 6, panelist J), and another panelist cautioned that too much dialogue could “kill the project” (statement 6, panelist L).

Assessment of student learning outcomes is a “big endeavor for one leader to carry alone” (statement 15, panelist R). A team approach (statements 15 and 55) was classified as extremely important. Such a team can “assist with decision making … be champions of this very involved process” (statement 15, panelist M), “highlight the importance of assessment…, and provide guidance and support’’ (statement 55, panelist R) to those leading the process. Panelists commented that “student success is everyone’s responsibility “ (statement 12, panelist M), that “broad-based engagement” (statement 12, panelist A) is necessary and that by working together a shared message is created, trust is developed, and momentum for assessment occurs (statement 12, panelist N). Without campus-wide consensus on what needs to be done, assessment will lack a common understanding, will be uncoordinated, and thus will fail to be “meaningful or useful” (statement 56, panelist A). As a result “faculty will continue to operate in silos” (statement 56, panelist V).

Table 15. *Full Study Statements Associated with Dialogue/Collaboration*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Critically Important				
6	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g., convocations, orientations, presentations, retreats, and workshops)	17	5,4	4.76	2
11	Leaders for the process who are well respected, and are accepted by faculty, administrators, and staff	17	5,4	4.76	2
B	Faculty champions willing to share what they have learned about learning, reporting on assessment and resulting curricular changes	17	5,3	4.53	11
	Extremely Important				
15	Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	17	5,3	4.47	12
12	Administrators, faculty, and staff who form partnerships and work in concert with each other	17	5,4	4.41	15
I	Department managers committed to working with faculty to use assessment results to improve programs	17	5,3	4.29	25

Table 15. *Statements Associated with Dialogue/Collaboration (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
55	Absence of a core team, committee, or task force comprised of selected college personnel representative of the college to guide institutional assessment	17	5,3	4.29	25
21	A shared sense of responsibility for assessment across the college	17	5,3	4.24	29
O	Rich, collegial conversations about learning, assessment, and the roles of teacher and learner that stimulate change in the way we approach learning	17	5,3	4.24	29
D	Campus leaders with experience in a variety of alternative assessment methods willing to mentor and encourage faculty to try new approaches to teaching and learning	17	5,3	4.12	37
A	Assessment process can lead to inter- and intra-disciplinary conversations, yielding new and fresh outcomes.	17	5,3	4.06	42
56	Lack of understanding and consensus about what needs to be done	17	5,2	4.06	42

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Leadership

From the statements in Table 16, it is reasonable to conclude that meaningful assessment is facilitated when there is knowledgeable and respected leadership. Three of the four statements that were rated as critically important for this theme identified faculty members as having to be among the primary leaders of assessment. As expressed by two panelists, since much of assessment is done by faculty (statement 25, panelist J and panelist A) and since the product of assessment reflects heavily on them (statement 25, panelist B), it is critically important that faculty members assume lead roles for student learning outcomes assessment. Additionally, other faculty members are “more likely to join [the assessment effort] than be spectators” (statement B, panelist V). Faculty need to hear from enthusiastic colleagues. “If faculty are involved, it can be seen as a process that helps and is part of teaching and learning” (statement B, panelist S) and not viewed as something imposed from outside.

Panelists’ comments regarding statements 68 and 25 reflected the view that administrators have a supporting role in assessment. Their role was classified in the extremely important range where the faculty role was rated as critically important. As described by panelists, “Administrators who ‘lead from behind’ may be more important to getting a movement started and sustaining it until critical mass is reached” (statement 25, panelist O). Administrators are a key to this process particularly the support and leadership from college presidents (statement 4) and vice presidents of instruction (statement 5). They give assessment credibility. As a consequence deans and faculty are more likely to view assessment as worthwhile. With active administrative leadership support for assessment, financial and personnel resources are also more likely. Without administrative leadership an “assessment program will be weak” (statement 68, panelist N), and without presidents’ and vice presidents’ support and leadership, assessment efforts could die from lack of resources (statement 4, panelist R).

For an assessment culture to take hold, it is critically important that campus leaders of assessment have the respect of administrators, faculty, and staff (statement 11 and 23). This helps in “building a collaborative climate” (statement 11, panelist V) and “promotes comfort with

change” (statement 11, panelist A). Without this respect, faculty members will not support the process (statement 11 panelist U). It is critically important that these leaders also have knowledge about learning outcomes, teaching methods, and learning theory (statement 14) and have both knowledge and experience with a variety of assessment methods (statements 14 and D). A critical barrier to a meaningful assessment process, as judged by panelists, was a lack of knowledgeable faculty leadership (statement 68). Thus, it was critically important that knowledgeable (statement 68) and respected (Statement 11) faculty were among the leaders (statement 25) and that they were committed to sharing what they have learned (statement B). One panelist commented “Leaders will earn their respect through their knowledge” (statement 14, panelist R).

This study identified two other aspects of leadership that are extremely important: (a) the guidance of a core team with representatives of all segments and personnel groups of the college, and (b) continuity of dedicated staff with lead responsibility for campus-wide assessment. “Assessment needs a home and people identified to provide support for the process” (statement G, panelist U). “Continuity is important, given the fact [that] it takes four to five years” (statement G, panelist V) to complete an assessment cycle. Such teams lead by highlighting the importance of an assessment program (statement 55, panelists R, and V), spreading the word about its purposes, implementing staff development, assisting in research related to assessment of outcomes, and providing guidance for the process (statement 55, panelist R). Without these teams, it may be difficult to implement assessment at the institutional and program levels (statement 55, Panelist N).

Table 16. *Full Study Statements Associated with Leadership*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Critically Important				
11	Leaders for the process who are well respected and are accepted by faculty, administrators, and staff	17	5,4	4.76	2
14	People with lead responsibility who are knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods	17	5,3	4.59	5
68	Lack of knowledgeable faculty leadership	17	5,4	4.59	5
B	Faculty champions willing to share what they have learned about learning, reporting on assessment, and resulting curricular changes	17	5,3	4.53	11
	Extremely Important				
15	Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	17	5,3	4.47	12
23	Champions of the process who are well respected and accepted by faculty and administrators	17	5,3	4.41	15
5	Vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.35	21

Table 16. *Statements Associated with Leadership (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
55	Absence of a core team, committee, or task force comprised of selected college personnel representative of the college to guide institutional assessment	17	5,3	4.29	25
25	An assessment process that is led by faculty	17	5,2	4.18	31
G	Continuity of dedicated staff having lead responsibilities for campus-wide assessment activities	17	5,3	4.12	37
D	Campus leaders with experience in a variety of alternative assessment methods willing to mentor and encourage faculty to try new approaches to teaching and learning	17	5,3	4.12	37
56	Lack of understanding and consensus about what needs to be done	17	5,2	4.06	42
4	College presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.00	45

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Faculty Engagement

Two personnel groups emerged as particularly important to a meaningful assessment process: faculty and administrators. There appeared to be a clear discrimination between the critically important engagement of faculty and extremely important engagement of administrative

personnel. Most of the statements related to faculty engagement received mean rating in the critically important range, while those statements in which administrative personnel were specifically identified received mean ratings in the extremely important range.

It is critically important that faculty be engaged in the assessment of student learning (see Table 17). This was evidenced by the fact that statement 27, participation of faculty, received the highest mean rating of the 100 statements rated by panelists in the final round, and that at least five of the top 11 ranked statements were related to the critical importance of faculty being actively engaged in the assessment of student learning outcomes. From the mean ratings of the statements and panelists' comments, it is critically important that faculty view assessment as worthwhile (statement 18) and assume prominent leadership roles (statements H, 27, 68, and 25). Meaningful assessment depends on active participation and communication from faculty who are respected (statement 3), knowledgeable about assessment (statement 68), willing to analyze data (statement N), use the results (statement H), and share what they have learned (statement B). Faculty champions sharing what they have learned is key to facilitating a culture of assessment on a campus. Faculty members are the "driving force behind meaningful assessment and data-driven decisions with regard to student learning outcomes" (statement 27, panelist V). Meaningful assessment needs "faculty buy-in to move the process forward" (statement 27, panelist M). "They are the ones who can facilitate improvement" (statement 27, panelist A). If respected and knowledge faculty champions are involved, other faculty members "are more likely to join than be spectators" (statement B, panelist V). One panelist reminded the other panelists that assessment should not be limited to full-time faculty. Based on the mean rating of statement P, panelists agreed that including adjunct faculty in the process was extremely important. The reasons given for this importance were that at many campuses "most faculty members are [part-time]" (statement P, panelist N) and "part-time faculty put together deal with more students and classes than full-time faculty" (statement P, panelist V).

Significant barriers to faculty engagement in learning outcomes assessment are reflected in two statements rated in the critically important range. Statement 50 relates to issues

of increased workload that diverts energy away from teaching. And statement 42 relates to a major shift that is required in the way faculty members think about teaching and learning. In response to statement 50, panelist V expressed that the concern about increased workload could be reduced once assessment is clearly defined with individual roles and responsibilities delineated. Panelists' comments in response to statement 42 speak to the fact that many faculty members are aware of the shift from a focus on teaching to a focus on learning but have not yet internalized it or changed their behavior as a result (statement 42, panelist V). Panelist H stated "the overwhelming tendency is for teachers to focus on what they are going to do in a class, not what students will be able to do after the class."

Table 17. *Full Study Statements Associated with Faculty Engagement*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Critically Important				
27	Participation by faculty	17	5,3	4.88	1
6	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	17	5,4	4.76	2
H	Faculty committed to using assessment results to improve programs	17	5,4	4.59	5
N	Willingness of faculty and staff to analyze data--to derive meaning from assessment results	17	5,3	4.59	5
68	Lack of knowledgeable faculty leadership	17	5,4	4.59	5

Table 17. *Full Study Statements Associated with Faculty Engagement (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
B	Faculty champions willing to share what they have learned about learning, reporting on assessment and resulting curricular changes	17	5,3	4.53	11
	Extremely Important				
18	Faculty who view assessment as worthwhile	17	5,4	4.47	12
3	Communication from respected faculty members informing the campus community about the assessment process	17	5,4	4.41	15
25	An assessment process that is led by faculty	17	5,2	4.18	31
P	The assessment culture must be strong within the permanent faculty and somehow extended to the part-time faculty who may not have direct contact with other faculty members. Some of our students are only taught by part-time faculty in evening courses. Unless the part-time faculty have physical or virtual conversations about assessment with the full-time faculty, we risk having two castes of students.	17	5,3	4.18	31

Table 17. *Full Study Statements Associated with Faculty Engagement (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
50	Concern that outcomes assessment leads to increased workload, competes with other workload priorities, and diverts energy from teaching	17	5,2	4.18	31
42	A need to shift focus to learning, rather than instruction, which requires a major cultural shift	17	5,2	4.12	37

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Administrator Engagement

Five statements related to administrator engagement had ratings that ranged from 4.35 to 4.00 (see Table18). Administrator engagement was judged as extremely important, because administrators provide the necessary resources to support the process (statements 19 and 28, panelists A and N) and facilitate “buy-in” (statement 19, panelist N). Vice presidents of instruction have a substantial influence on how staff development dollars are allocated (statement 5, panelist N), and they “link the work of assessment to the work of the college—keeping it in front of managers and faculty” (statement 5, panelist S). “Faculty and deans will support assessment if they know it is valued” (statement 5, panelist N) by the vice president of instruction. Department managers’ engagement provides support for motivating others (statement I, panelist V) and for using the results (statement I, panelist A). Finally, the college president’s support was judged as extremely important because it “gives credibility to the process and, more importantly, lends resources (human and financial) to manage the work” (statement 4, panelist S). Such support positions assessment as an “institutional priority” (statement 4, panelist A) and “guides budgeting [and] promotes non-duplication of college effort” (statement 4, panelist B). One

panelist advises, though, that the importance of the president's support depends on the president and the campus (statement 4, panelist L).

Table 18. *Full Study Statements Associated with Administrator Engagement*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Extremely Important				
5	Vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.35	21
19	Administrators who view assessment as worthwhile	17	5,3	4.35	21
28	Participation by administrators	17	5,3	4.35	21
I	Department managers committed to working with faculty to use assessment results to improve programs	17	5,3	4.29	25
4	College presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.00	45

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

An Assessment Plan

Having an institutional plan that is linked to the college mission, is integrated into the policies and practices of the institution, is manageable, and is periodically evaluated for its effectiveness was classified in the extremely important range. This is evidenced by four statements related to an institutional assessment plan being classified as extremely important (see Table 19). The ratings of panelists reflect that an assessment plan was very important but may be secondary to other aspects, or at least that other conditions may need to be in place before a formal written assessment plan is considered.

Having an assessment plan provides a “framework for the process--whose responsibility it is, what outcomes should be, the time frame and resources needed” (statement 34, panelist R). “The act of writing a plan that involves the collaboration of administration, faculty, and staff creates commitment; it will help ensure administrative support” (statement 34, panelist R). “It gives a resource to look at for anyone seeking understanding and provides a rationale for budgeting (statement 35, panelist B). A manageable plan incorporates small gradual “steps with success that can be celebrated” (statement 36, panelist R), which reduces the feeling of being overwhelmed (statement 36, panelist V). “Complicated plans never work” (statement 36, panelist R); “Too much will result in ineffective… processes” (statement 36, panelist U). Finally, from the rationales of two panelists (statement 37, panelists J and V) periodically evaluating the plan and making appropriate changes to it may be just as important as the plan itself.

Table 19. *Full Study Statements Associated with Assessment Plan*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Extremely Important				
35	An assessment plan that is linked to college mission and integrated into the policies and practices of the institution (e.g. program review, strategic planning, and budgeting)	17	5,3	4.47	12
36	A manageable plan (e.g., a few robust measures of learning)	17	5,3	4.41	15
37	A plan that is periodically evaluated for its effectiveness	17	5,3	4.29	25
34	A formal written assessment plan	17	5,2	4.18	31

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Communication Strategies

This theme relates to the methods of keeping campus personnel informed about assessment activities. It is considered an extremely important theme since the statements that support it received mean ratings between 4.41 and 4.00 (Table 20). Concepts that define this theme are communications from campus leaders (statement 11) that are timely and keep college personnel informed about assessment practices and the results of assessment (statement 2), as well as communications from respected faculty (statement 3, mean 4.41), vice presidents of instruction (statement 5, mean 4.35), and college presidents (statement 4, mean of 4.00) who are knowledgeable about assessment and visibly supportive of it. A written institutional philosophy of assessment that defines the purpose of assessment and the uses of the results (statement 1, mean of 4.18) and a formal written assessment plan (statement 34) were seen by panelists as forms of communication. One panelist expressed that these documents could serve as a venue for collaboration (statements 1 and 34, panelist R). Also, they provide the needed framework (statement 34, panelist R) and “direction” (statement 1, panelist B) for the process, as well as serving as resources for anyone seeking understanding (statement 34, panelist B) about assessment.

Table 20. *Full Study Statements Associated with Communication Strategies*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Extremely Important				
2	Communication strategies in place that are timely and that keep faculty, administrators, and staff informed about assessment practices and the results of assessment activities	17	5,3	4.41	15
3	Communication from respected faculty members informing the campus community about the assessment process	17	5,4	4.41	15
5	Vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.35	21
1	A written institutional philosophy of assessment that defines the purpose of assessment and the uses of the results	17	5,3	4.18	31
34	A formal written assessment plan	17	5,2	4.18	31
4	College presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	17	5,3	4.00	45

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Using Assessment Results

Among the critically important themes of a meaningful assessment of student learning was the use of assessment results. Of 10 statements grouped under this theme, five received mean rating in the critically important range (see Table 21) and were among the top 10 ranked statements. Five other statements under this theme received mean ratings in the extremely important range. Comments from panelists emphasized that the purpose of assessment was to use the results to make more informed decisions to improve education (statements 31, 13, 73, H, N and 72) and not to use them in punitive ways (statement 13). “It’s not the assessment in itself that makes the process meaningful, it’s how the results are used that makes it so” (statement 31 and N, panelist R), “The whole reason we’re all engaged in student learning outcomes assessment is to promote improvement. If we don’t use the results… [it] is a waste of energy and time” (statement 31, panelist M), so “why bother” (statement 31, panelist A). It will end up being “pretty much a paper exercise” (statement 31, panelist O) and “assessment will fade away” (statement 31, panelist K). According to one panelist, the “ultimate proof that [student learning outcomes assessment] is working” (statement H, panelist V) is when faculty use the results of assessment to make improvements. If results are not incorporated into campus decision-making “faculty will believe that…student learning outcomes assessment work has no value” (statement 72, panelist M). These sentiments were reiterated in responses to several of the statements grouped under this theme.

Three statements that were classified in the extremely important range highlight the importance of institutional support for evidence based decisions: Statement K, commonly held belief that decisions are better made on evidence; statement 1, a written institutional philosophy that defines the purpose of assessment and the uses of results; and statement I, department managers committed to working with faculty to use assessment results. Also, rationales offered by panelists to statement F--ongoing research support for analyzing student outcomes assessment data--reinforce the importance of a campus valuing the processes that support

evidenced-based decisions: “Data is useless unless properly analyzed” (statement F, panelist J) and “faculty don’t have the time to do the statistical analysis” (statement F, panelist B).

Table 21. *Full Study Statements Associated with Using Assessment Results*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Critically Important				
31	Use of assessment results to improve programs, services, and the classroom teaching and learning experience	17	5,4	4.76	2
13	Trust that the results will be used in positive ways for institutional and program improvement and not in punitive ways	17	5,3	4.65	4
73	Assessment results that are not used to improve the college, its programs, or the classroom teaching and learning experience	17	5,3	4.59	5
H	Faculty committed to using assessment results to improve programs	17	5,4	4.59	5
N	Willingness of faculty and staff to analyze data--to derive meaning from assessment results	17	5,3	4.59	5

Table 21. *Statements Associated with Using Assessment Results (continued)*

ID	Statement	No. of ratings	High-low rating*	Mean rating	Rank
	Extremely Important				
F	Ongoing research support for analyzing SOA [student outcomes assessment] data and providing findings in ways that guide improvements in teaching, learning and assessment.	17	5,3	4.41	15
K	Commonly held belief that decisions are better made on evidence	17	5,3	5.35	21
I	Department managers committed to working with faculty to use assessment results to improve programs	17	5,3	4.29	25
72	Assessment results that are not fed back into the campus decision making process	17	5,3	4.29	25
1	A written institutional philosophy of assessment that defines the purpose of assessment and the uses of the results	17	5,3	4.18	31

**Scale: 5-Critically Important, 4-Very Important, 3-Moderatly Important, 2-Minimally Important, 1-Not Important*

Summary of the Results of the Full Study

The critical themes affecting a meaningful assessment process are summarized in this section in three ways. First, a description of the themes related to the people engaged in assessment and the themes related to the assessment process itself were presented. Second, Table 22 lists the critically important and extremely important themes. Third, Table 23 presents the themes that emerged from four successive stages of this research and shows the evolution of these themes over the course of this study.

Themes Related to Characteristics of the People

This section summarizes the five themes that are related to characteristics of the people involved in assessment of learning activities on community college campuses: knowledge and experience of campus leaders, trust, leadership, faculty engagement, and administrator engagement.

Knowledge/experience of campus leaders. It is critically important that there are knowledgeable campus leaders who have experience in a variety of assessment methods, particularly knowledgeable faculty leaders. A lack of such leadership represents a critical barrier to a meaningful assessment process. It is important to have leaders who have walked the walk. Their knowledge and experience may foster trust in the process.

Trust. There are two facets to trust. First, it is critically important that leaders of campus assessment of learning processes are respected and accepted by all campus constituent groups. Trust in the leaders fosters comfort with the change process, helps build a collaborative campus climate, and promotes buy-in for the process. Second, one of the greatest fears is that assessment evidence will be used in punitive ways against faculty. It must be obvious and transparent to faculty that the results will be used in positive ways for institutional and program improvement and not in punitive ways. Trust is facilitated when this intent is put in writing on all assessment documents.

Leadership. A culture of assessment is facilitated when there is knowledgeable and respected leadership. It is critically important that faculty members are among the campus

leaders in the assessment process. Other faculty members are more likely to participate when led by knowledgeable, respected, and enthusiastic colleagues. Leadership from administrators was classified in the extremely important range and characterized as having a support role in assessment. Administrators give assessment credibility and make allocation of financial and personnel recourses more likely. Without their leadership, assessment programs may be weak and wither away from lack of resources. The presence of a core team broadly representative of the college and the continuity of dedicated staff having lead responsibilities for assessment were judged extremely important aspects of leadership. Without these conditions, it may be difficult to implement assessment at the institutional and program levels.

Faculty engagement. Two personnel groups were identified by panelists as particularly important to a meaningful assessment process: faculty and administrators. Faculty engagement emerged as critically important while administrator engagement was judged to be extremely important. Engagement of faculty, including adjunct faculty, was a driving force behind meaningful assessment. This engagement was characterized by a willingness to learn about assessment, analyze data, use results, and share what is learned.

Administrator engagement. Administrator engagement was judged to be extremely important because administrators position assessment as an institutional priority and provide the necessary personnel and financial resources to manage the work of assessment.

Themes Related to Characteristics of the Process

This section summarizes the five themes related to the characteristics of the process. They are building campus knowledge, dialogue and collaboration, an assessment plan, communication strategies, and using the results of assessment.

Building campus knowledge. Developing knowledge among college personnel was judged to be extremely important. It is accomplished through faculty teaching other faculty and through ongoing and consistent offerings of high-quality, motivating educational opportunities for campus personnel. An assessment committee could serve as a vehicle for acquiring

background knowledge, communicating it to the rest of the campus, and overseeing the implementation of staff development activities.

Dialogue/collaboration. The presence of venues for dialogue, collaboration, and sharing among campus groups was judged to be critically important. Such venues help to overcome a substantial barrier: a lack of understanding and consensus among campus personnel of what needs to be done. Dialogue and sharing can promote a collaborative climate and serve as the glue that builds a strong and lasting process. One aspect of collaboration is the presence of an assessment team, comprised of selected college personnel representative of the college. By working together, team members develop a shared message, trust, and momentum.

Assessment plan. Having an institutional plan that is linked to the college mission, is integrated into institutional policies and practices, is manageable, and is periodically evaluated for its effectiveness was classified as extremely important. A plan provides a framework for the process, a document for those seeking understanding about assessment, and a rationale for budgeting. Also, writing an assessment plan can serve as a collaborative activity.

Communication strategies. Keeping campus personnel informed about assessment activities was judged as extremely important. It is very important that communications are timely and that they come from respected faculty, vice presidents of instruction, and college presidents. Having both a written assessment plan and an institutional philosophy were important forms of communication, because they can give structure and direction to the assessment process.

Using assessment results. Among the critically important themes of a meaningful assessment process is the use of results. The whole purpose of assessment is to use the results to make more informed decisions to improve education. If results are not incorporated into campus decision-making, then student learning assessment work will be viewed as having no value and being just a waste of time. One facet of using results is institutional support for assessment research and data analysis. Assessment needs to be properly researched and data correctly analyzed. Most faculty members do not have the time or expertise to do this.

These results are further summarized in Table 22 and Table 23. In Table 22 themes are organized into critically important and extremely important categories. This may be helpful in understanding which themes were considered critically important and which ones were extremely important. Table 23 presents the themes that emerged from four successive stages of this research and shows the evolution of these themes over the course of this study. Each row in the table can be considered roughly the same theme, even though the name may have changed over time. In addition to name changes, there have been additions and deletions of themes as well as changes in the number of themes.

Table 22. *Critically Important and Extremely Important Themes of the Full Study*

Critically Important	Extremely Important
Knowledge/Experience of Campus Leaders	Building Campus Knowledge
Trust	Communication Strategies
Dialogue/Collaboration	Administrator Engagement
Leadership	Assessment Plan
Faculty Engagement	
Using Assessment Results	

Table 23. *Influential Themes at Four Stages of the Research*

Themes Identified from the Literature Review	Themes of the First Round Questionnaire	Themes Emerging from the Pilot Project	Themes Emerging from the Full Study
Knowledge	Knowledge/ Lack of Knowledge	Knowledge/ Experience	Knowledge/Experience of Campus Leaders
			Building Campus Knowledge
Valued	Valued Process/Lack of Value	Value	
Trust	Trust	Trust	Trust
Participants	Participation	Participation	Dialogue/Collaboration
		Leadership	Leadership
		Faculty	Faculty Engagement
			Administrator Engagement
Embedded	Assessment Plan	Assessment Plan	Assessment Plan
Communication	Communication	Communication Strategies	Communication Strategies
Use of Results	Using Results/ Limited Use of Results	Assessment Results	Using Assessment Results
	External Influence		
Architecture of Education	Resistance to Change		
Competing Priorities	Competition Among Priorities		
Resources	Limitation of Resources		
Meaningful			

Full Study Panelists' Evaluation of the Results

Similar to the pilot project a write-up of the full study results was sent to the 22 panelists who participated in the full study. In a verification process, panelists were asked to evaluate three aspects of the results. They were asked to rate on a five-point Likert scale the degree to which they agreed or disagreed that: (a) the statements under each theme were appropriately grouped, (b) the titles given to each theme were appropriately descriptive, and (c) the narrative accurately described the aggregated opinions of the panelists. The labels for each point on the scale were: strongly agree, agree, unsure, disagree, and strongly disagree. After the initial request for panelists' evaluations, over a six week period two follow up requests were made of

panelists who had not returned evaluation forms. The result was that 11 of the 22 panelists (these included nine of the 17 panelists who completed round three) returned evaluation forms, and Appendix G contains their compiled responses. Ten of the 11 panelists marked either agree or strongly agree on each of the three aspects of the results that were being evaluated. The eleventh panelist marked disagree for all three aspects that were being evaluated. However, this panelist also indicated that the “process was thorough” and that the “presentation of the findings was very readable and usable.”

Comparing the Results of the Pilot Project and the Full Study

To set a context for comparing the results of the pilot project and the full study, the similarities and differences of the procedures between these two phases of the research are described. Both studies used identical methods for collecting panelists’ responses, aggregating their opinions, and categorizing statements into themes. Also, both studies showed similar patterns of participation, which are presented in Table 24.

There were differences between the two sample groups. The pilot project panelists numbered seven, represented three different campus groups, and came from seven different institutions in California. Full study panelists numbered 22, represented six different campus groups, and came from 12 different institutions throughout the United States. The major procedural difference between the two studies was the format of the importance scale. The labels on the rating scale used in the pilot project were critically important, moderate importance, minor importance undecided, and not important. These labels were modified for the full study based on the evaluation of the pilot project. The undecided point was eliminated, and the labels of each point on the scale were changed to critically important, very important, moderately important, minimally important, and not important.

Table 24. *Comparing Patterns of Participation between Pilot Project and Full Study*

	Pilot Project	Full Study
The number and percentage of panelists contacted who agreed to participated	Of 11 individuals contacted, 7 agreed to participate (64%)	Of 40 individuals contacted, 26 agreed to participate (65%)
Number and percentage of panelists who agreed to participate and who did participate in at least one round	7 of 7 (100%)	22 of 26 (85%)
Number and percentage of panelists who completed all three rounds	5 of 7 (71%)	16 of 22 (73%)
Number and percentage of panelists who completed rounds one and two	6 of 7 (86%)	21 of 22 (95%)
Number of panelists completing rounds one and three but not round two	1 panelist	1 panelist
Number and percentage of panelists who returned verification forms	6 of 7 (86%)	11 of 22 (50%)
Minimum, maximum, and median years of panelists experience with student learning outcomes and assessment	Min: 1. 5 years Max: 10 years Median: 7.5 years	Min: 1 year Max: 25 years Median: 8.25 years

There were substantial similarities and only minor differences in the results of the two panels. The critical important themes identified in the pilot project and the full study were similar (see Table 25). Both studies identified the following six themes as critically important: (a) knowledge/experience of campus leaders particularly faculty leaders, (b) trust that the results will be used for improvement and not to punish faculty, (c) opportunities for dialogue/collaboration (participation theme in the pilot project), (d) leadership, (e) faculty engagement (faculty theme in the pilot project), and (f) using assessment results. The differences were that the pilot project identified the following themes as critically important: (a) building campus knowledge, (b) seeing value in assessment activities, (c) having an assessment plan, and (d) having communication strategies in place. In comparison the full study classified three of these themes (a) building campus knowledge, (b) an assessment plan, and (c) communication strategies as extremely important but not among the most critically important themes. The value theme identified in the pilot project was not used as a theme in the full study. However, value was reflected in several of the other themes, particularly in the Using Assessment Results and Faculty Engagement themes. These minor differences in the results may be a consequence of the variation in the number and the characteristics of panelists in the two samples, the different formats of the rating scale, or some interaction between the sample and the format of the rating scale. Now that the results have been presented, in the next chapter, conclusions will be drawn about the meaning of these results and recommendations will be made for future research and for professional practice.

Table 25. *Themes Identified in the Pilot Project and the Full Study*

Pilot Project	Full Study	
Critically Important	Critically Important	Extremely Important
Knowledge/Experience of Campus leaders	Knowledge/Experience of Campus Leaders	
Building Campus Knowledge/Experience		Building Campus Knowledge/Experience
Value		
Trust	Trust	
Participation	Dialogue/Collaboration among Campus Groups	
Leadership	Leadership	
Faculty	Faculty Engagement	
		Administrator Engagement
An Assessment Plan		An Assessment Plan
Communication Strategies		Communication Strategies
Assessment Results	Using Assessment Results	

CHAPTER FIVE: DISCUSSION AND CONCLUSIONS

This concluding chapter begins with a summary of chapters one through four. This is followed by sections on the conclusions drawn from the results, the limitations of the study, the validity of the findings, and recommendations for future research and for professional practice.

Summary of Chapters One through Four

This section begins with a comprehensive, yet concise, summary of chapters one through four followed by a description of how the results of this study relate to the research questions in chapter one and the research literature of chapter two.

In response to growing public concern about the ability of higher education to meet the needs of American society, regional accrediting bodies have established standards for developing and assessing student learning outcomes (Beno, 2004). For at least the past 15 years, community colleges across the nation have been implementing student learning outcomes but seemed to have stalled at the assessment phase. Miles and Wilson (2004, p. 98) reported that community colleges "universally identified assessment as the most difficult aspect" of implementing student learning outcomes.

This research was a three-phase study investigating the critical factors that affect the meaningful assessment of student learning outcomes. Phase one of this study consisted of a thorough literature review, the development of a tentative taxonomy of influential factors, and the construction of the first-round questionnaire for a pilot project. During the pilot project, which was the second phase of this research, I became familiar with the research procedures, evaluated the appropriateness of the method for answering the research questions, used the results to refine the research procedures, and obtained preliminary answers to the research questions. The first two phases of this research provided the foundation for the full study, which addressed the following two research questions:

- What are the critical factors affecting the meaningful assessment of student learning outcomes in the community college setting?

- Why are these factors critical to the meaningful assessment of student learning outcomes in the community college setting?

The significance of this study was based on several points. First, establishing student learning outcomes and effectively assessing them were viewed as essential elements for improving the quality of education and demonstrating institutional effectiveness (Copa & Ammentorp, 1998; Lopez, 1999; O'Banion, 1999c). Second, many community colleges were implementing student learning outcomes; however, it appeared that few of them were effectively assessing these outcomes (Friedlander & Serban, 2004; Wilson et al., 2000). Third, there appeared to be a lack of knowledge among faculty about assessment, a lack of expertise on community college campuses to guide institutions in their assessment activities (Serban, 2004), and an absence of models for developing and sustaining assessment efforts (Friedlander & Serban, 2004). Knowing the factors that affect the assessment of student learning, community colleges would be better able to evaluate and improve their capacity to assess learning outcomes, document student learning, and meet the challenges established by accreditation standards. Without this knowledge, community colleges may be ineffective in establishing processes for the meaningful assessment of student learning outcomes.

From the literature review in chapter two, it was determined that the people who were the least identified in the research literature but who potentially were the most informed about the factors that influence a meaningful assessment process were those who were actively involved in the day-to-day activities of assessment on community colleges campuses. In no case had a study specifically targeted these individuals and aggregated their opinions. As a result, this study used an electronic version of the Delphi method to solicit the opinions of individuals identified as being actively involved in student learning outcomes. The Delphi is a flexible method built on four basic features: “structured questioning, iteration, controlled feedback, and anonymity of responses” (Lang, 1995, p. 3) and is most appropriately used when the “primary source of information sought is informed judgment” (Ziglio, 1996, p. 21). The size of Delphi

panels varies widely; however, typical Delphi studies use panels of 15 to 35 people (Gordon, 1994).

For the pilot study, seven individuals associated with the Research and Planning Group of California were recruited from a list of 11 individuals who had been actively involved in student learning and assessment activities for California community colleges. They represented seven different community colleges or community college districts and offered diverse perspectives about student learning outcomes and assessment. Two were faculty members, two were campus researchers, and three were administrators.

The full study targeted the 16 colleges that participated in the *21st Century Learning Outcomes Project* (2002) and the 12 Vanguard Colleges of the *21st Century Learning College Project* (2002). These were two complimentary projects sponsored by the League for Innovation in the Community College. A total of 26 individuals were recruited, and 22 of them participated in one or more rounds of the three-round Delphi process. These 22 panelists represented 12 different community colleges or community college districts and offered different perspectives about student learning outcomes and assessment. Seven were faculty members (including one adjunct faculty member), three were campus researchers, eight were administrators, one was a consultant, two were administrative support personnel, and one was a coordinator.

Based on the literature presented in chapter two, a tentative taxonomy of factors affecting student learning assessment was developed and served as a starting point for this study. Sixty-two statements were identified and refined for the first round questionnaire of the pilot project. The process used to organize these statements into themes was the method used in Critical Incident Technique (Flanagan, 1954; Russ-Eft, 1979). These 62 statements were initially sorted according to the 11 categories of the tentative taxonomy and then separated into a list of 33 statements describing facilitating conditions and a list of 29 statements describing thwarting conditions. This served as a starting point for panelists of the pilot project. As a result of contributions by panelists in the first round of pilot project, 12 additional statements were added to the second-round questionnaire of the pilot study. This resulted in a list of 74

statements, 37 facilitating statements and 37 thwarting statements, which panelists of the pilot considered and rated during the remaining two rounds of the pilot. These 74 statements, with revisions, also served as the first round questionnaire for the full study.

The procedures for conducting the pilot project and full study were similar. Panelists participated in an orientation to the study followed by a three-round Delphi process. At the conclusion of both the pilot project and the full study, panelists were given the results of the project and were asked to complete evaluation forms. The site for posting the questionnaires and collecting panelists' responses for both the pilot project and the full study was the Human-Environment Regional Observatory (HERO) e-Delphi system Website at Pennsylvania State University, http://hero.geog.psu.edu/eDelphi/.

In the three-round Delphi process panelists reviewed statements and rated them on the degree of importance they played in facilitating or thwarting a meaningful assessment process. During session one, in an online threaded-discussion format, panelists reviewed statements describing facilitating and thwarting conditions and added statements that in their opinion were missing from the list. In session two, panelists reviewed a revised list of statements, which included those added from session one; rated the importance, based on a five-point scale, that each statement played in facilitating or thwarting meaningful assessment; and gave reasons for why certain statements were rated critically important. In session three, panelists reviewed the results of round two. This included the average rating, the high and low ratings for each statement, and the rationales given by panelists. Panelist then re-rated each statement.

At the conclusion of both the pilot project and the full study, in a verification process, panelists were asked to evaluate three aspects of the results. They were asked to rate on a five-point Likert scale the degree to which they agreed or disagreed that (a) the statements under each theme were appropriately grouped, (b) the titles given to each theme were appropriately descriptive, and (c) the narrative accurately described the aggregated opinions of the panelists. The labels for each point on the scale were: strongly agree, agree, unsure, disagree, and strongly disagree. For the pilot project, four of the six panelists who returned evaluations agreed

or strongly agreed with my analysis on these three aspects of the pilot project results. Two panelists were unsure. Appendix D contains the complied responses of pilot project panelists. For the full study 10 of the 11 panelists who returned evaluations agreed or strongly agreed with my analysis of these three aspects of the full study results. One panelist marked disagree for all three aspects that were being evaluated, however, this panelist also indicated that the results were usable.

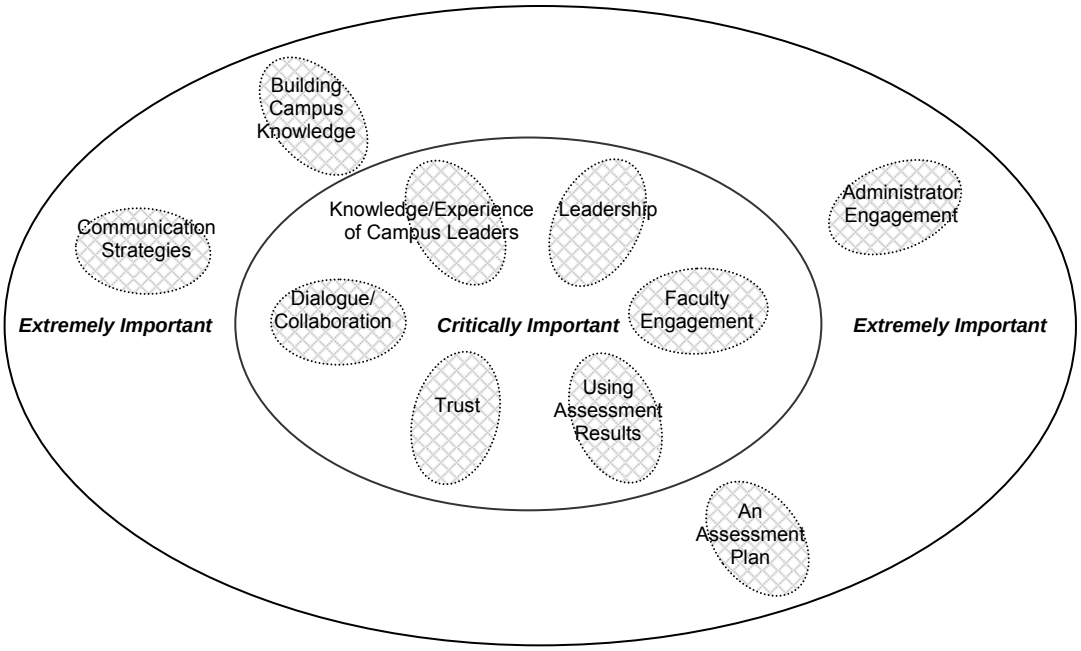
The method used in this study for aggregating the subjective judgments of panelists was to average participants' responses. This has been shown to be a robust method for aggregating group judgments (Clemen, 1989; Clemen & Winkler, 1986; Larrick & Soll, 2003; Wallsten et al., 1997; Winkler & Clemen, 2004). Group judgment was improved when the panel members received "reasons" or "rationale" feedback as well as statistical feedback (Rowe & Wright, 1999). A panel of experts who represent diverse perspectives also produced more accurate judgments than experts who were more homogeneous (Lang, 1995; Wallsten et al., 1997; Winkler & Poses, 1993). In other literature on aggregating group opinions, groups of 6 to 12 members were determined to be optimum (Hogarth, 1978; Mitchell, 1991).

The critically important themes identified in the pilot project and the full study were similar (see Table 24). Both studies identified the following six themes as critically important: (a) knowledge/experience of campus leaders, particularly faculty leaders, (b) trust that the results will be used for improvement and not to punish faculty, (c) opportunities for dialogue/collaboration (participation theme in the pilot project), (d) leadership, (e) faculty engagement (identified as a "faculty" theme in the pilot project), and (f) use of assessment results. Additionally, faculty engagement achieved a higher mean rating than administrator engagement in both pilot project and full study. The differences were that the pilot project identified the following themes as critically important: (a) building campus knowledge, (b) seeing value in assessment activities, (c) having an assessment plan, and (d) having communication strategies in place. In comparison, for the full study three of these themes (i.e., building campus knowledge, an assessment plan, and communication strategies) were classified as extremely

important but not among the most critically important themes. The value theme identified in the pilot project was not used as a theme in the full study; however, value was reflected in several of the other themes, particularly in the Using Assessment Results and Faculty Engagement themes. These minor differences in the results may be a consequence of the variation in the number and the characteristics of panelists in the two samples, the different formats of the rating scale, or some interaction between the sample and the format of the rating scale.

The critically important and extremely important themes from the full study serve as the factors associated with a process for meaningful assessment of student learning. Figure 2 presents these factors as a conceptual model and shows how the critically important and extremely important factors are situated in relation to one another.

Figure 2. *Factors Affecting the Meaningful Assessment of Student Learning Outcomes*



Conclusions Drawn from the Results

This dissertation builds from previous research and represents an aggregation of the conditions and characteristics identified in a wide variety of literature associated with the assessment of student learning. These conditions and characteristics were the bases of the taxonomy presented in chapter two. They also served as the material for the statements used in the first round questionnaire of the pilot project. My research was an investigation into the most important of these conditions or characteristics to a meaningful assessment of student learning process, which had not been investigated before. Additionally this research fills gaps in the literature. It sampled those who were actively involved in the day-to-day activities of student learning outcomes and assessment processes in community colleges. Further this research contributed to the scholarship of assessment related to community college practices, of which there is a paucity of research.

The analysis of the data focused on conditions that were judged as being critically important. It should not imply that other factors were not important. In fact, from panelists' ratings only a few of the statements used in this study were rated minimally important or not important. This study investigated the most essential factors to be addressed in a meaningful assessment of student learning process. Thus, an analysis of statements rated below 4.50 in the pilot project and 4.00 in the full study was not conducted. No doubt, there are other factors beyond those identified in the research that contribute to a meaningful process, and that should be included and addressed as a meaningful assessment process develops and matures over time. The critical factors identified in this research represent a place to start and the minimum to be included if a process is to be successful.

A second point is that this research did not investigate how to implement a meaningful assessment of student learning process. However, the results identified a set of factors that form potentially important pillars on which to build a meaningful process and provided clues about why these factors were important.

A third point to keep in mind is that it is difficult to consider one factor without taking into consideration other factors. There was considerable overlap or interaction among the factors. For example, I could not consider leadership as an isolated factor without also considering that faculty be among the leaders, that leaders require knowledge and experience, and that they have the respect of a wide range of college personnel. Although the following sections addressed each factor separately, it is important to keep in mind that these factors may work in concert with one another, rather than as discrete factors. The thematic analysis of the data from the full study produced ten themes. For each theme, related literature is presented followed by the results of this study. The purpose is to situate the findings of the current study in relation to the results of previous research and to the opinions of assessment professionals.

Knowledge and Experience of Campus Leaders

McClenney (*Defining and teaching learning outcomes*, 2001) made the observation that one of the major barriers to assessing student learning outcomes was a lack of knowledge about assessment. Salvador (1996) concluded that executive administrators and research/assessment coordinators knew the most about assessment and faculty the least. Serban (2004) emphasized that community colleges require knowledgeable leadership in the assessment of student learning. Several authors (Serban, 2004; Seybert, 2004; Suskie, 2004; Walvoord, 2004) suggested that capturing the necessary knowledge and experience is best achieved through a team or committee approach. Data from this study indicates that it is critically importance to have knowledgeable and trusted leadership, particularly knowledgeable and respected faculty leadership.

Building Campus Knowledge

Several authors (Banta et al., 2004; Beno, 2004; Brown et al., 1998; Maki, 2004; Palomba & Banta, 1999; Suskie, 2004; Volkwein, 2003) stressed the importance of having professional development opportunities to build knowledge and experience about assessment. Further, Waite (2004) and Koslowski (2005) suggested that resistance to the implementation of assessment of the student learning process would be reduced through such opportunities.

However, Peterson and associates reported that associate of arts institutions provided faculty and administrators with limited opportunities to learn about assessing student learning (Peterson, Augustine et al., 1999b) and suggested that institutions consider increasing the number and variety of professional growth activities for faculty to learn about and develop new assessment techniques (Peterson, Einarson et al., 1999). The results of the current study indicate that building campus knowledge about assessment was extremely important and was classified just below knowledge and experience of campus leaders in importance.

Trust

From several sources trust was cited as an important condition associated with a meaningful process. Having trust in and respect for those guiding the process was important to both faculty and administrators (*Creating an organizational culture for learning*, 2001; Waite, 2004). In addition, faculty must feel secure that the results of assessment would not be used in punitive ways (Bers, 2004; McClenney, 2003; Volkwein, 2003; Waite, 2004), and that the purpose of assessment was to improve the organization and student learning (Brown et al., 1998). The data from this study suggests that trust is critically important and that it is fostered by having leaders with knowledge and experience, venues for dialogue and collaboration, and an explicit understanding that the results of assessment will be used in positive ways for improvement and not in punitive ways.

Dialogue and Collaboration

This research indicated that dialogue and collaboration are closely tied to establishing trust in the process, implementing effective communication strategies, and building knowledge about the assessment of student learning. Waite (2004) and others (Davis, 2002; Maki, 2004; Meier, 2001; Webster, 2001) identified dialogue and collaboration as important elements when implementing learning outcomes and assessment processes. However, Peterson, Augustine, Einarson and Vaughan (1999b) reported that associated of arts institutions offered limited opportunities for professional development in the assessment of student learning.

Leadership

Assessment professionals cite the importance of the chief executive officer (Maki, 2004; Morante, 2002; Nichols & Nichols, 2005) and the chief instructional officer (Morante, 2002) to a successful assessment of student learning process. Further, Bresciani, Zelna, and Anderson (2004) and Diaz-Lefebvre (as cited in Rouseff-Baker & Holm, 2004) stated that effective assessment programs were faculty owned and driven. In a review of the assessment literature, Peterson, Augustine, Einarson and Vaughan (1999a) concluded that there was little research about the effect of campus leadership on institutional practice. Later in the results of their nation-wide survey, they reported that chief instructional officers were the most supportive of assessment and that chief executive officers were only somewhat supportive (Peterson, Augustine et al., 1999b). Also, based on their survey and case studies of two community college (Peterson et al., 2001), Peterson and associates indicated that leadership for assessment was most often provided by administrators.

Literature on organizational change indicated that the support and leadership of top-level management is crucial to institutional change initiatives (Buchanan et al., 2005; Collins, 2001; Elenkov & Manev, 2005; Fernandez & Rainey, 2006; Longenecker, Papp, & Stansfield, 2006). This study confirms those finding in that the support and leadership from the college president and the chief instructional officer were classified as extremely important by panelists of this study. The results also indicated that, in the case of assessment of student learning, the leadership and buy-in from faculty may be more important than top-level administrators and program managers. In both the pilot project and the full study, the engagement and leadership of faculty were rated as critically important. These results may be related to the organizational structure of higher education. Koslowski (2005) observed that in higher education,

> faculty and administrators typically function independently of one another. The faculty feels that all activities that have to do with the transmission of knowledge—teaching, learning, assessment, etc. –are their domain…[and] defer the responsibility of running the organization to the administration. Outcomes assessment is largely an instructional matter. (p. 13)

The assessment of learning may be a special case requiring faculty leadership because assessment of learning has a direct impact on faculty instructional roles. Faculty members serve as a direct link to student learning. From panelists' comments in this study, it was learned that faculty could implement assessment of student learning within their own courses without administrative support or leadership. Further, the data from the current study suggested that, if the assessment of student learning was to be successful, faculty must be among the campus leaders. However, panelists also indicated that assessment of student learning at the program and institutional level would be problematic without management support and leadership. From the current study it was learned that leadership from both faculty and administrators was important, because each group fulfilled different functions in a meaningful assessment process.

Alternately, the results may be an artifact of the characteristics of the panel of participants. Of the 17 participants, who completed round three of the Delphi, seven were faculty and another seven were administrators. One of the faculty members also identified themselves as a researcher, as did one of the administrators. An analysis of the differences between the faulty group and the administrator group was not conducted, since this was not the focus of this study.

Another aspect of leadership was the presence of an assessment team representative of the college. Several authors (Nichols & Nichols, 2005; Serban, 2004; Seybert, 2004; Suskie, 2004; Walvoord, 2004) suggested that such a team was necessary to support and sustain assessment. Peterson, Augustine et al. (1999b) reported that only half of the institutions surveyed indicated that they had a governance committee that regularly addressed assessment issues. The current research suggested that an assessment committee is an important aspect of the critically important factor of leadership. Such a committee can provide leadership, educational, and collaboration functions.

Faculty Engagement

Assessment professionals suggested that an assessment process benefits from the input of a wide variety of stakeholders, internal and external to the college (Banta, 2002a; Maki,

2004; Stiehl & Lewchuk, 2004). Volkeim (2003) and Palomba and Banta (1999) stated that the active participation of faculty was essential to a successful assessment process. Brown, Keeton and McMorrow (1998) concluded that successful organizations took a decentralized approach to assessment by including it as a “responsibility for each member of the organization” (p. 10). The data from the current research indicate that among five groups (i.e., students, faculty members, administrators, staff, and stakeholders from the community) studied; faculty member participation in the assessment of student learning is critically important and may be more important than participation from other campus constituent groups.

Administrator Engagement

Several assessment professionals wrote about the importance of administrator involvement in assessment of student learning activities (Maki, 2004; Morante, 2002; Nichols & Nichols, 2005; Volkwein, 2003). Also, studies confirmed the prominent role that academic affairs administrators play in successful student learning outcomes and assessment initiatives (Meier, 2001; Peterson, Augustine et al., 1999b; Peterson et al., 2001; Salvador, 1996; Webster, 2001). Waite (2004) concluded that college presidents who were visible early in the development of the assessment process helped overcome resistance. However, Peterson, Augustine et al. (1999b) found that chief executive officers were only somewhat supportive of student assessment. Of five groups studied in this research, two emerged as most important to a meaningful process: faculty and administrators. The findings of this study indicate that participation by administrators was extremely important. The results also indicate that administrator engagement may not be as critical as participation by faculty.

An Assessment Plan

Several authors (Angelo, 2002; Banta, 2002a; Maki, 2004; Nichols & Nichols, 2005; Palomba & Banta, 1999; Suskie, 2004) indicated that an essential element to a meaningful assessment process is the presence of an assessment plan. In case studies of two community colleges, Peterson, Vaughan, and Perorazio (2001) found that assessment was not integrated into campus policies and procedures.

In this study, a classification of extremely important was given to having an institutional plan that is linked to the college mission, is integrated into institutional policies and practices, is manageable, and is periodically evaluated for its effectiveness. Such a plan may serve as a form of communication. It can provide a framework for the assessment process, a document for those seeking understanding about assessment, and a rationale for budgeting. Also, writing an assessment plan can serve as a collaborative activity.

Using Assessment Results

Several authors (Bailey & Mariana, 2005; D'Amico, 1996; McClenney, 2003; Peterson, Augustine et al., 1999a) reported that assessment of student learning is limited, and when it is done, the results are not often used. This limited use of results is not just an issue with the assessment of student learning. According to Patton (1997), it is a persistent and “critical concern across the different knowledge sectors of society” (p. 6). The data from this research suggest that a critical factor associated with the sustainability of a meaningful assessment of student learning process is the use of assessment results. From panelists rationales, I learned that the perceived purpose of assessment is to use the results to make more informed decisions to improve education. If results are not incorporated into campus decision-making, then student learning assessment work will be viewed as having no value and being just a waste of time.

Communication Strategies

Koslowski (2005), Salvador (1996), Waite (2004), and Brown, Keeton, and McMorrow (1998) reported on the importance of effective communication strategies in sustaining assessment and overcoming resistance to it. Support and communication from the college president was essential for success according to Waite (2004), Maki (2004), and Nichols and Nichols (2005). From this research, having an assessment plan and philosophy were extremely important forms of communication. As well, communications from respected faculty, vice presidents of instruction, and college presidents who kept the campus informed about assessment activities were classified as extremely important to a communication strategy.

Summary of Study Conclusions

The finding from this study confirm much of what assessment professionals and research studies have identified as important conditions to a meaningful assessment process. These included

- Knowledgeable campus administrative leadership
- An assessment team to guide college efforts that is representative of the college
- Professional development opportunities to build knowledge and experience about assessment of student learning
- Trust in the leaders and confidence that the results of assessment will be used to improve the college and student leaning
- Opportunities for dialogue and collaboration
- A written assessment philosophy and plan
- Use of the results of assessment to improve the college and student learning
- Communications from respected faculty and chief administrators to keep the campus informed about assessment activities.

Drawing on past research that identified conditions related to meaningful assessment of student learning, this study was designed to extend those results by identifying the most important of these conditions. Past literature suggested the importance of faculty and administrator involvement in assessment activities and administrative leadership in this process. This study confirmed those findings. What became clear from the current research is the critical importance of knowledgeable faculty leadership. This condition was mentioned by a few assessment professionals but was not identified in the research literature. Further, the findings of this study suggested that the lack of knowledgeable and respected faculty leadership represented a critical barrier to successful assessment.

The literature on student learning assessment suggested that successful assessment initiatives had wide participation from campus constituent groups. The current study identified only two groups as among the most important to a meaningful assessment process: faculty and

administrators. Also. factors identified from the literature (i.e., architecture of education, competing priorities, and limited resources) did not emerge among the most important factors in this study. However, they may come into play as a result of one of the critically important or extremely important factors. Clues about this relationship came from the rationales of panelists. For example, the extremely important theme of administrator engagement is related to the factors of competing priorities and limited resources. If administrative personnel, particularly the chief executive and the chief instructional officers, are engaged in the assessment process, then appropriate restructuring of institutional priorities occurs along with the redistribution of resources.

When considering the findings of this study in light of the research results of Peterson and associate's (Peterson, Augustine et al., 1999a, 1999b; Peterson, Einarson et al., 1999; Peterson et al., 2001) and others (Bailey & Mariana, 2005; D'Amico, 1996; McClenney, 2003) on community college assessment practices, there may be a disconnect between the factors that are most important to a meaningful process and the absence of these conditions in current community college practices. Specifically, the current study indicated that the following were either critically important or extremely important to a meaningful assessment of student learning process: (a) professional development opportunities to learn about assessment, (b) venues for dialogue and collaboration, (c) faculty being among the leaders of student learning assessment initiatives, (d) engagement of chief administrative officers, (e) integration of the assessment plan into college policies and practices, and (f) use of assessment results in campus decision-making processes. However it appears that

- Community colleges offer only limited opportunities to learn, dialogue, and collaborate about assessment (Peterson, Augustine et al., 1999b),
- Chief executive officers were only somewhat supportive of assessment (Peterson, Augustine et al., 1999b),
- Most assessment efforts were led by administrators, assessment plans were not integrated into the policies and practices of the college (Peterson et al., 2001),

- Assessment of student learning was limited, and when it was done the results were not often used (Bailey & Mariana, 2005; D'Amico, 1996; McClenney, 2003; Peterson, Augustine et al., 1999a).

Finally, one panelist from the pilot project offered the opinion that the results of the pilot project reflected a “very California community college” focus. However, the results of the pilot project and the full study were very similar. It appears that the opinions of a small group (seven panelists) representing seven institutions from California are not that different from a larger group (22 panelists) representing 12 colleges from across the continental United States.

Limitations of the Study

Although measures were taken to assure a rigorous investigation of the research questions, to conduct a systematic analysis of the data, and to present a plausible interpretation of the results, limitations remained. These limitations are discussed in terms of the influence of the research methods, the scope of the analysis, and the deficit of the two samples used in this research.

The data from a Delphi process reflect the views of the group being studied. The results of this study may not predict the responses of a larger population or even different Delphi panels. They represent a synthesis of the opinions of the panelists in this study. The statements that were rated as most important were organized into a set of factors. However, this conceptualization may not be the only interpretation that can be made. Review of the results by a community of peers is an element of research to which postpositvists subscribe. In keeping with this worldview, the results of this study were reviewed by study panelists, many of whom held research positions. A verification process was conducted whereby panelists were asked to evaluate three aspects of the results: the grouping of the statements, the titles given to each group, and the accuracy of the narrative in describing the results. For the most part panelists agreed with my organization and interpretation of the results.

The scope of this investigation was limited to identifying the critically important factors that affect a meaningful assessment of student learning outcomes and determining why these

factors were critically important. Thus the analysis of the data focused on those statements that were rated as critically important or bordering on being critically important (rated 4.00 and above in the full study and 4.5 and above in the pilot project). Statements that did not fall into these categories were not analyzed; and thus, the analysis may have missed certain factors considered important to assessing of student learning outcomes.

Although the results yielded a set of thought-provoking factors, the process may not have identified an exhaustive set of factors. One missing factor might be time. It was not included in the original list of statements to be considered by panelists, and it was not added as a statement by panelists during the Delphi process; however, it was mentioned by two panelists (one in the pilot and one in the full study) in their rationales. They commented that it takes time for an assessment of student learning process to develop and mature. There may be other factors as well.

Through the design of the study, I was able to determine consensus about which conditions were critically important to a meaningful assessment of student learning outcomes, and I was able to identify possible reasons why these conditions were judged to be important. However, I was not able to solicit consensus from panelists on these reasons. Also, the method of having panelists submit rationales for the statements they rated as critically important benefited those panelists who liked to write, as opposed to those who might have been more comfortable expressing themselves in interviews. As used in this study, the Delphi process held an intermediate position between the breadth of a survey and the depth of an interview. The study methods used here did not facilitate an in-depth investigation of the reasons why factors were important, whereas interviews with panelists may have produced a more in-depth examination.

The participation of panelists was good, but not complete. Of seven panelists who participated in the first round of the pilot project, five completed round three (71%), and of the 22 panelist who participated in the first round of the full study, 17 completed round three (77%). Even with this participation rate and even though fatigue was not mentioned by any of the

panelists, I suspect that panelist fatigue may have been an element that limited full participation throughout the length of the study. Fatigue could have occurred as a result of the length of the study (six weeks) and of the amount of material panelists were asked to review (rating 110 statements and reading the rationales offered by other panelists). This could have limited the range and depth of explanation as to why certain factors were critically important.

In the full study, an interesting pattern was observed for the ratings of certain facilitating statements and a set of corresponded thwarting statements. Five statements in the facilitating list described the presence of certain conditions while five corresponding thwarting statements described the absence of these conditions. The mean ratings for all five thwarting statements were lower than for the corresponding statements in the facilitating list. This pattern was similar but not identical in the pilot project. This may be a characteristic related to the administration of the questionnaire and may also be another indication of panelist fatigue. For both the pilot project and the full study the facilitating statements appeared at the beginning of the questionnaire followed by the thwarting statements.

There were also limitations associated with the purposive sample. Since it was not a random sample, it may limit the ability to generalize beyond the sample. The factors emerging from this study may only reflect the opinions of the panelists. Also, since this was a sample taken at one point in time, it does not examine critical factors associated with the development of an assessment process over time.

Finally, the method for recruiting panelists was to identify those who were actively involved in student learning outcomes on each of the participating campuses, regardless of campus constituent group membership. As anticipated, this strategy resulted in a sample that included people from a variety of campus constituent groups. However, conspicuously missing were student affairs (services) personnel. Thus, their views are not represented in this study.

Factors Affecting the Validity of the Findings

According to Creswell (2002) “validity means that researchers can draw meaningful and justifiable inferences from scores about a sample population” (p. 184). In this section the validity

of the findings is discussed in terms of the support for and the threats to internal and external validity. For this research internal validity is the extent to which the data collection methods of the research accurately captured the critical factors associated with the meaningful assessment of student learning and accurately represent panelists' opinions. External validity refers to the extent to which the sample of panelists used in this study represents a larger population and the extent to which their opinions can be generalized to a lager population.

There were several aspects of the study that contributed to internal validity. First, there was congruence between the research literature, the pilot project questionnaire, and the full study questionnaire. The statements used to develop the initial questionnaire were gathered directly from the literature and reflected the results of previous studies and the opinions of assessment professionals. The pilot project and full study used similar procedures with different sample populations and produced similar findings. Second, from the evaluation of the pilot project, it was determined that the Delphi process was a good method for capturing the type of data desired. Further, the questionnaire and communication strategy for the full study were refined and clarified as a result of the pilot. Third, the study followed standardized procedures: panelists' orientations were scripted, all panelists received the same material, and each of the three rounds of the Delphi were similar in format with communications occurring at four specific times each round. Fourth, the study employed additional Delphi and survey procedures to maximize panelists' participation and to ensure accurate data collection. Specifically, panel members were selected on the basis of their active involvement in student learning outcomes assessment. Panelists came from different campus constituent groups, thus contributing diverse perspectives. In addition, during the Delphi process, the panelists' open-ended responses were not interpreted or summarized by the researcher. Instead, the full text of panelists' responses was returned unedited to all panelists in the study. Further, my account (as the researcher) of the results and my organization of the statements into themes were verified by asking panelists to evaluate the accuracy of the thematic analysis.

Three aspects of the study could serve as threats to internal validity. They were described in the previous section on limitations of the study and are mentioned here again.

- Panelist fatigue: The length of the questionnaire may have affected how panelists rated each statement and the depth of the rationales panelists provided for statements that they rated as critically important.
- Panelist attrition: The participation rate was good except at the evaluation stage. The 14-week delay from the conclusion of the data collection phase to the request for an evaluation of the results may have contributed to a loss of momentum and panelist interest, which in turn may have affected the return rate for evaluations.
- Missing factors: Although the results yielded a set of thought-provoking factors, the process may not have identified an exhaustive set of factors.

Elements that contributed to the external validity of this research relate to the characteristics of the samples in two successive phases of this research. This study was limited to community colleges within the continental United States. Colleges in the pilot project were from California, and colleges for the full study were targeted based on the college's participation in either the *21st Century Learning Outcomes Project* (2002) or the *21st Century Learning Project* (2002). These were two companion projects sponsored by the League for Innovation in the Community College and had as one of their purposes the creation of assessment of student learning processes. The sample of panelists in both the pilot project and the full study were community college personnel who had a practical knowledge of student learning assessment practices through their active involvement with such activities on their campus and who represented diverse campus constituent groups. The procedures for the pilot project and full study were similar, and as such the full study could be considered a replication of the pilot project, using a different sample population and producing similar results. This replication contributes to the ability to generalize the results to the larger population of community colleges.

Aspects of the study that could serve as threats to external validity relate to the characteristics of the samples used in the study and the fact that the study was conducted at one

point in time and different institutions could have been at different stages of the process. With regard to the samples, student services personnel were not among the panelists, and thus their opinions are not represented. Panelists were volunteers; random selection of colleges and panelists was not used, which could have lead to distortion of the findings. Finally, since the samples were taken at one point in time, critical factors associated with the development of an assessment process were not examined in a longitudinal fashion. These aspects could limit the ability to generalize the findings to community colleges throughout the continental United States.

When considering the support for versus the threats to internal and external validity, on balance it appears that the validity is sufficiently strong to have confidence in the results of this study and to draw “meaningful and justifiable inferences” (Creswell, 2002, p. 184) for community colleges in the continental United States. With some confidence, recommendations can be made for college personnel, accreditors and researchers about the critical factors that affect the meaningful assessment of student learning.

Recommendations for Future Research and Professional Practice

This section is divided into two subsections. The first provides recommendations for future research. The second provides recommendations for professional practice. It includes recommendations for community college personnel who are working to establish assessment of student learning processes on their campus and for accreditors and accreditation teams who have the responsibility to evaluate community college progress in the assessment of student learning.

Recommendations for Future Research

This study represents the discovery phase of what is hoped to be further research in this area. Through the methods of this research, factors have been identified, and tentative reasons why these factors are critically important have been proposed. However, in the words of one of the panelist in the pilot project, the study did “not address the ‘how to’ problem.” This prompts the question: Could the process of implementing the assessment of student learning be just one of many instances of leading and managing organizational change? Do concepts from such

authors as Kotter (1996), Collins (2001), and Robinson and Stern (1998) in the business sector apply to this situation? Are the concepts formulated by evaluators, such as Utilization-Focused Evaluation (Patton, 1997) or Evaluative Inquiry (Preskill & Torres, 1999) appropriate? Several authors have described principles for transforming American higher education. Eckel, Green, and Hill (2001) identified four factors associated with transforming institutions. Kuh, KInzie, Schuh, Whitt, and associates (2005), based on their investigation to document effective educational practice from 20 colleges and universities, offered recommendations to higher education about “organizing for student success.” Johnson (2006) described 10 bellwether principles for transforming American higher education and Kezar (2001) described six different models for facilitating institutional change. Are one or more of these principles or models appropriate for addressing the “how to implement” question? This may be a worthy area for further research.

This study provided a foundation to move to the next phase of this research, which could be a larger quantitative study similar to the study conducted by Peterson and his associates (Peterson, Augustine et al., 1999b; Peterson, Einarson et al., 1999). Such a study could begin with the statements and the rating scale used in this research to design a survey to solicit the opinions of those who are actively involved in the assessment of student learning at a large number of community colleges. An analysis of the responses from a large sample of college personnel could determine if participants rate the statements in a pattern similar to or different from the panelists in this study. With a larger sample, participant responses could be disaggregated by personnel group to determine if campus groups rate the factors differently. Research by Koslowski (2005) suggests that faculty and administrators may have different perceptions about campus efforts to assess student learning.

Other validation studies could also be conducted. The factors of this study could be validated against institutions that have exemplary learning assessment practices and those that are making very little progress in establishing meaningful processes. The thought being that exemplary colleges will exhibit these critically important factors and those colleges that are not

making progress will not exhibit the factors. In other investigations, researchers could replicate the procedures of this study with a different sample of community colleges or with samples from colleges and universities representing other sectors of higher education (e.g. baccalaureate, doctoral/research, public or private). The latter type of research could determine if college personnel from different sectors identify similar or different critically important factors.

A previously mentioned limitation of the current study was that it did not examine critical factors associated with the development of an assessment process over time. Certain factors may be critically important at specific points in the development and maturation of a meaningful assessment process and less important at other times. This may be worthy of further research.

Another limitation of the current research was that the samples did not include student services personnel. They were not intentionally excluded; instead they were not identified by any of the lead individuals on each campus as being actively involved in student learning assessment. This phenomenon may be worth researching. Were student services personnel involved in student learning assessment but not represented in this study, or are they not actively involved in student learning and assessment activities? If they are not involved, do they exclude themselves, are they excluded as a function of the expectations established by the various accrediting bodies, or is there some other mechanism operating that limits their participation?

Recommendations for Professional Practice

The results of this study provide guidance as to which factors to address first and suggest that these factors are potential pillars on which to build meaningful processes for the assessment of student learning. The following are recommendations for campus leaders who are attempting to implement student learning assessment processes.

- Learn about assessment. Campus leaders would be well served by learning as much as possible about assessment of student learning since the findings of this study suggest knowledgeable leadership is a critical factor for success and the lack of such knowledge represents a critical barrier.

- Engage campus personnel in assessment activities. These are likely to build trust in the assessment process and could serve leadership, collaboration, communication, and education functions.
    - Engage faculty and administrators in assessment activities. Each group serves different and extremely important roles in the success of assessment initiatives.
    - Form an assessment team that is representative of the college constituent groups.
    - Provide professional development opportunities for campus constituent groups to learn about assessment.
    - Offer venues for dialogue and collaboration about assessment.
    - Have faculty and administrators collaborate in creating an assessment plan.
- Keep the campus informed with timely information about assessment activities. Communications may be most effective when they come from college presidents, chief administrative officers, and respected and knowledgeable faculty leaders.
- Use the results of assessment in campus decision-making processes. If this is not done, assessment activities may be viewed as a waste of time and of no value.

This study also provides leaders of the assessment initiatives a place to start in evaluating progress on their campus. Using the results of this study, an inventory or rubric could be constructed and used by personnel at community colleges to evaluate the degree to which their college possesses these critically important factors. The results could represent a picture of institutional strengths and limitations with regard to the implementation of a meaningful learning assessment process. These could in turn be opportunities for dialogue about what is occurring and not occurring in campus efforts to establish meaningful learning assessment processes.

The results of this study further provide accreditors and accreditation site visit teams a better understanding of the critically important factors associated with a meaningful assessment of student learning. With this knowledge, accreditors and accreditation site visit teams may be

better prepared to give a formative evaluation of community college progress. In addition to looking at the number of courses or programs in which student learning has been assessed, accreditors could conduct a deeper evaluation. The critical factors identified in this research could serve as a basis for evaluating the strengths and limitation of the infrastructure of a community college's student learning assessment processes.

Finally, the Delphi process was useful in this research to determine agreement among panelists about the critically important factors associated with the meaningful assessment of student learning. The Delphi process may be a useful tool for professional practice as well. It can be used as a method to determine what a group believes is important. The points of highest agreement have the potential for widespread collaboration.

Summary

The purpose of the study was to identify the critical factors affecting a meaningful assessment of student learning and to determine why the factors were important. The research was carried out as a three-phase study by (a) conducting a through review of the literature, developing tentative taxonomy of important factors, and constructing an initial questionnaire; (b) conducting a pilot project using a three-round Delphi method with seven panelists representing seven different California community college districts; and (c) conducting the full study using a similar three-round Delphi process with 22 panelist representing 12 community colleges from across the continental United States. This study sample included college personnel who were actively involved in assessment of student learning activities on community college campuses. These people were the least identified in the research literature but were potentially the most informed about the factors that influence the meaningful assessment of student learning on community college campuses.

The study compiled a more comprehensive list of factors to consider than had been aggregated to date and identified from among many conditions which were the most important. The research identified six critically important factors followed by four extremely important factors. The six critically important factors were (a) knowledge/experience of campus leaders, (b)

trust, (c) opportunities for dialogue/collaboration, (d) leadership, (e) faculty engagement, and (f) use of assessment results. The four factors that were classified as extremely important were (a) building campus knowledge, (b) having an assessment plan, (c) having communication strategies in place, and (d) having administrators engaged in assessment. These factors may not be new to those who are actively involved in the assessment of student learning. However, this research tapped the knowledge of those with practical experience about the assessment of student learning so that their ideas could be shared with others who have an interest in the meaningful assessment of student learning. It is important to identify the critical factors associated with a meaningful process for the assessment of student learning before addressing how to implement such a process.

The results of this study can provide guidance into which factors to address first and suggest that these factors are potential pillars on which to build meaningful processes for the assessment of student learning. This study provides campus leaders with an increased understanding of the critical factors related to meaningful assessment of student learning so that they are better prepared to guide their campus in the development of effective assessment. Also, the results offer accreditors and accreditation site visit teams a foundation to understand the meaningful assessment of student learning. With this knowledge, they can provide a more focused evaluation of community college progress in developing meaningful assessment of student learning processes. Further, this study adds to the scholarship of assessment related to community colleges and offers researchers recommendations for future study that could confirm these critical factors and extend the ability to generalize the results. Finally, this dissertation has deepened my understanding of the meaningful assessment of student learning and has expanded my professional expertise in this area. As a result, I am better prepared to guide others in student learning outcome assessment initiatives.

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APPENDICES

Appendix A
Summary of Panelists' Evaluations of Pilot Project Procedures

The purpose of this form is to provide a method for you to give a candid evaluation of the study in which you just completed. Your evaluation will be used in the design of a larger study on the same topic. Also, your evaluation will be shared with the other pilot project panelists. However. your name will not be associated with your evaluation.

1. Orientation to the Study

   It was originally planned that all panelists would participate in an online orientation to the study. As it worked out, three panelists participated in this online orientation and four participated in one-on-one orientations.

   In your opinion was the orientation (either online or one-on-one) necessary? Did you have enough information to participate in the study with only the written documents?

   Comments:
   Panelist K -- Yes, I think the orientation was helpful in clarifying your study and the expectations of those who were invited to participate.
   Panelist M -- The orientation was helpful.
   Panelist N -- I liked having my one-on-one orientation because there was a log-in problem and Jerry worked to fix it. I would have gotten frustrated with that part of things if he hadn't been on the phone with me.
   Panelist Q -- I had never participated in an online survey using e-Delphi, so I found it helpful. The material describing the design of the study, your dissertation research, etc. could probably be read by the participants. However, covering that information during the session makes it more personal and guarantees that the participants actually read/see the material.
   Panelist P -- The orientation was useful. It clarified purpose and defined terms. It increased buy-in. And the discussion among participants was stimulating, further increasing buy-in and enthusiasm to complete the project.
   Panelist O -- The one-on-one was very helpful.

2. Navigation of the e-Delphi Site

   a. Did you encounter any problems accessing the e-Delphi web site?
      Yes 3 No 3

      If yes, what problems did you encounter?
      Panelist N -- See #1 above. Log in was my only problem?
      Panelist P -- One round of submission was rejected by the system, and Scott was not able to discover the source of the problem.
      Panelist O -- Initial log-on didn't work.

   b. Did you encounter any problems in the first round with adding themes, submitting contributions, associating contributions to themes, or making comments?
      Yes 3 No 3

      If yes, what problems did you encounter?
      Panelist K -- I had to figure out how the software worked. Once I did, it was easy to use.
      Panelist M -- The deterents were written in a positive voice, thereby not sounding like deterents - so the choices were difficult to interpret - if I agree it is a negative do I say yes or no?
      Panelist O -- It took a little experimenting and roaming around to figure out how it worked.

c. Did you encounter any problems in the second round with rating items or submitting rationales for those items you rated as critically important?
   Yes 0 No 6

   If yes, what problems did you have?
   Panelist Q -- One thing about the second and third rounds: I noticed that the lightning bolt icon appeared on the items that I hadn't commented on. Is there a way to activate the lightning bolts only for those items that a participant rates a 5?

d. Did you encounter any problems in the third round with re-rating the factors?
   Yes 1 No 5

   If yes, what problems did you have?
   Panelist Q -- One thing about the second and third rounds: I noticed that the lightning bolt icon appeared on the items that I hadn't commented on. Is there a way to activate the lightning bolts only for those items that a participant rates a 5?
   Panelist P -- Marking answers did not cause the "lightning bolt" to go away, so I could not determine if I had answered the question or not.

3. Use of the Importance Rating Scale
   a. Were the instructions for using the importance rating scale clear?
      Yes 6 No 0

      If no, what was unclear?
      Panelist Q -- You might want to switch the location of the "don't know" and "not important" ratings -- so it reads critical - moderate - minimal - none - don't know. I think I marked "not important" on several factors in the second round because the "minimal" option got lost. Also, I noticed that the rating scale is somewhat inconsistent -- in that it says "importANT" for some and "importANCE" for other ratings.

   b. Was the five-point format appropriate for the task?
      Yes 5 No 1

      If no, what format would have been more appropriate?
      Panelist Q -- You might want to review the responses to help make this determination.
      Panelist O -- It appeared to me that most respondents used a yes/no type of response, and didn't provide appropriate justifications in the first round for their ratings. In this regard, the instrument became used as an opinion survey rather than a constructive tool.

4. Clarity of Instructions
   a. Were the instructions for each round clear?
      Yes 6 No 0

      If no, what was unclear?

5. Clarity of the Statements
    a. Were the items succinct and clearly stated?
        Yes 4 No 2

        If no, which items should be revised?
        Panelist M -- Again; the negative comments were hard to interpret in relation to the choices. And couldn't the negatives simply be the opposite of the positives or supportive elements. For instance if having a budget line for assessment is important - wouldn't not having a budget line be a deterent? Having the conditions which negatively impact the process more clearly defined is helpful.
        Panelist Q -- Feedback provided during all 3 rounds.
        Panelist P -- 16, J

        If you have suggestions for revisions, please make them here.
        Panelist Q -- Review the feedback from all 3 rounds -- I think I had some suggestions in round 3 (that didn't occur to me until that round!).

    b. Did you encounter any “double barreled” items? These are items where you felt forced to make two decisions with one response.
        Yes 0 No 5

        If yes, which items were they?
        Panelist Q -- I think we identified them in round 1. Example: separating out the roles of faculty, administration, and staff.

        If you have suggestions for revisions, please make them here.

6. Identification of the Critical Factors
    a. Did this process identify the critical factors?
        Yes 5 No 1

        If no, what critical factors were missed?

        If no, please comment on how the method could be improved to better identify the critical factors
        Panelist Q -- I had one concern about the factors under "results/using results." I think most of the statements under this theme were rated as critical. However, this finding might not be as interesting as those related to other themes like communication, valued process, participation, etc. The reason I think this is that an assessment process (or a good one, at least) by definition is one that uses the results to make improvements. So, this theme might just be defining what assessment is -- and without those factors, assessment doesn't really exist (at least not in the way it is intended in the SLO world).
        Panelist O -- I think that the statements were somewhat provincial, i.e., "very California community college/current experience/politically-based." I think they should include a more broadly based perspective from the literature, from non-California-community college experts, and from noted national assessment experts, including those involved in accreditation and higher level leadership.

7. Opportunity for General Comments:

   a. What was well done?

   Panelist K -- The structure was most helpful. Having the website record and make available input from others was also most helpful. It was interesting to participate in an asynchronous conversation and see that it actually can be done.
   Panelist M -- Good job. Loved the web site and ease of use.
   Panelist N -- I appreciated how you revised some factors in response to comments
   Panelist Q -- Instructions were clear. You were very open to the ideas and suggestions of participants. The process itself was informative to participants.
   Panelist P -- Simple process, yield a lot of information in low impact way.
   Panelist O -- It is a noteworthy effort. The online dialogue among participants was interesting.

   b. What needs to be improved?

   Panelist K -- I don't know. I did notice that a lot of the items were tied. It would be nice to be able to made further distinctions among the factors, but I'm not sure that would really be more meaningful.
   Panelist P -- Does not address the "how to" problem. For example, how do you get an influential factuly leader to take the point on SLOs? How do you get the CEO to be informed and involved?
   Panelist O -- Some of the thwarting statements were confusing, with double negative connotations

   c. Do you have any additional comments not already covered?

   Panelist Q -- See comments above -- on some items that I marked "no," I still provided comments.
   Panelist P-- No.
   Panelist O -- Your results could be extremely valuable. They could also potentially further politicize the topic, putting our accreditation commission in any even more difficult spot than they are now, warding off strong cries for increased accountability as the HEA is reauthorized..

Appendix B
Results of Round Two and Three of the Pilot Project
Factors that Influence the Meaningful Assessment of Student Learning Outcomes

Statistical information for rounds two and three is presented to the right of each statement and the rationales submitted by panelists in round two are listed below each statement. The numbered statements are those from the original list at the beginning of the project, and the lettered items are those submitted by panelists as a results of the first round activity. To maintain an audit trail each item has retained its number or letter designation.

Section 1, Factors that Facilitate a Meaningful Process

Legend:

Mean rating	The average rating of those who rated the statement
Range of ratings	The highest and lowest ratings given by panelists (e.g. 5, 3)
NR	This statement was not moved to round III and thus was not rated
5	Critically Important
4	Moderate importance
3	Minor Importance
2	Undecided
1	Not Important

		Round II			Round III		
Item identification		*No. of ratings*	*Range of ratings*	*Mean rating*	*No. of ratings*	*Range of ratings*	*Mean rating*
Communication							
1	A written institutional philosophy of assessment that defines the purpose of assessment and the uses of the results	6	5, 1	3.67	6	5, 3	4.17
	No responses						
2	Communication strategies in place that are timely and that keep faculty, administrators, and staff informed about assessment practices and the results of assessment activities	6	5, 3	4.17	6	5, 4	4.83
	Response #0 This is essential. If no one knows what is going on, identification and assessment of SLOs will simply die out. Response #1 This is how trust is developed in the process and those who are leading it. It also results in buy-in.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
3	Communication from respected faculty members informing the campus community about the assessment process Response #0 Faculty leadership is important because it lends credibility to the process. Communication is critical because implementing SLOs, by definition, requires all faculty and staff. Response #1 Unless faculty credit the process and have experiences that meet faculty expectations for improving learning - this will be dismissed as another edubabble concern. Response #2 Definitely need a lead faculty member to train, communicate, explain, reassure, etc.	6	5, 1	4.33	6	5, 3	4.50
4	College presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation Response #0 While CEO's don't have an active role, without their leadership and support, assessment is not identified as a priority, for resources as well as attention.	6	5, 3	4.00	6	5, 3	4.17
A	Vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its Response #0 The individual in this position is often the person who provides resources and links to expertise. Response #1 It is vitally important that CIO's understand that they are not doing the process. They must let faculty lead it. Administrative driving of the process is the first sounds of assessment death hulls. Public support is helpful only if the faculty are lauded and not controlled by the CIO. Response #2 Yes, administration needs to be knowledgeable and supportive of this area. But if the VP is not particularly skillful he/she will be more of an impediment than a facilitator - the case at my institution.	6	5, 4	4.33	6	5, 4	4.33

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
5 Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	6	5, 5	5.00	6	5, 5	5.00
Response #0 By definition, assessment requirements dialogue and collaboration in order to take place. Response #1 This is where the critical thinking, self analysis, and real learning occur. Response #2 Yes, in fact identification, teaching methods, and assessment of SLOs can easily become the centerpiece of all faculty development. This is what it should have been the priority for flex and faculty development all along. Flex offerings at my college often are not directly relevant to teaching, learning, and assessment. Response #3 Again, this is how buy-in is created and also how it is possible to develop a faculty-owned assessment process Response #4 Because one of the goals (explicit or otherwise) of SLOs and assessment is to move away from the silos and get people talking and taking responsibility for the overall product emerging from the college. Also, this helps with communication, helps demonstrate the usefulness of assessment, prevents others from reinventing the wheel, etc.						
External Influence						
6 Public criticism of higher education about the educational level of graduates and a lack of data about their skills and knowledge	6	4, 1	2.50		NR	NR
Response #0 I still see this as a thwarting factor						
7 Requirements from accreditation agencies that colleges engage in student learning assessment activities.	6	5, 3	4.17	6	5, 1	3.83
Response #0 This is the impetus, and whether we like it or not, I think it is very helpful to have the leverage of accrediting agencies saying we must pay attention to this area. Response #1 I doubt that any campus would engage in this process without this form of external pressure -- no matter how dedicated they are to student learning.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
8	Demands from state and federal bodies that colleges demonstrate their effectiveness and efficiency	6	4, 1	3.00		NA	NA
	No responses						
9	Concern that if colleges don't begin to show evidence of student learning, state and federal bodies will impose assessment requirements similar to those of the No Child Left Behind legislation	6	4, 1	3.17		NA	NA
	No responses						
Trust							
10	Leaders for the process are well respected, and are accepted by faculty, administrators, and staff	6	5, 4	4.83	6	5, 5	5.00
	Response #0 No effort can be successful without this, let alone assessment. Response #1 This is sensitive data. Meaningful leaning improvement only occurs if the conversations are honest and deep. Faculty that are respected, with integrity, are the essence of the process and sustenance of the process. Response #2 If they are not, I don't see how this will work exept on the few campuses where there is a culture of evidence already instilled across the faculty. Response #3 Otherwise, people will feel that this is being imposed from someone(s) who are not part of the institution. Response #4 Need strong, informed, and respected leaders to take responsibility for and guide the process.						
11	Administration , faculty, and staff form partnerships and work in concert with each other	6	5, 4	4.33	6	5, 4	4.33
	Response #0 By definition, assessment requires the breaking down of silos and collaboration.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
12	Trusting that the results will be used in positive ways for institution and program improvement and not in punitive ways	6	5, 4	4.67	6	5, 4	4.83
	Response #0 Typically, this is critical. However, in some private institutions, assessment can take place without this. Response #1 No one will be truthful or provide meaningful data, if the results are ever associated with faculty evaluation or negative consequences. Response #2 It won't work otherwise. Response #3 I think this is critically important -- to overcome fears/misunderstanding/misperceptions. At the same time, however, this kind of trust should emerge once people are educated about the assessment process, its purpose, etc.						
Knowledge							
13	Those with lead responsibility are knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods	6	5, 4	4.67	6	5, 5	5.00
	Response #0 The blind can not lead the blind. False starts due to lack of knowledge will also be thwarting. Additionally, the integration of learning learning and teaching methods into assessment makes the process meaningful. Response #1 Knowledgeable is not the correct term - knowledge by itself without experience is useless. There are legions of people who feel they are knowledgeable. The critical importance is EXPERIENCE - real experience doing assessment. This means they will have both successes and failures to share. Response #2 I don't see how anyone could lead a campus through the process without knowledge and a clear understanding of what we are supposed to be doing and why, what others have done, etc. and how that relates to teaching methods, learning theory, etc.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
14	Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	6	5, 4	4.50	6	5, 4	4.67
	Response #0 This core team helps to sustain and to validate the diversity of approaches across the campus. Without an experienced core assessment falls to the lwest common denominator as it has in our nation. The easy way out - copying someone else's methods and superficial analysis. The SAT's and GRE's are perfect examples. What do they really assess? Above all they lead to absolutley no imporvement in learning. Response #1 This is important IF the right people are "on the bus" and are in the right seats. If the core is composed of people who are dogged in their determination to see SLOs implemented and sustained as an institutionalized process, this may be the ONLY way SLOs will ever work. It is important that those in the core group are self-effacing, clear thinking, devoted to the institution, and don't suffer from large egos.						
15	Hiring a knowledgeable outside consultant to facilitate the implementation process	6	4, 1	2.50		NR	NR
	Response #0 Outside consultants are more important in the initial phases of developing the SLO process and in training the trainers. Response #1 This can be deadly rather than a facilitating factor						

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
16 Having a consistent offering of high quality and motivating education and training opportunities for faculty, administrators and staff on learning outcomes, assessment principles, teaching methods, and learning theory	6	5, 4	4.67	6	5, 4	4.83
Response #0 Because community college faculty and staff are not always trained in teaching and learning theory, and because these are critical components of assessment, without such training and available information, the improvement component of assessment can not take place. Response #1 This would be critically important IF the faculty were ready to receive and embrace the training opportunities. Response #2 Crucial! Response #3 Many of the themes that I have marked as "critically important" have to do with educating the campus -- and faculty members in particular. If assessment is to occur at the grassroot level in the classroom, then training opportunities must be offered to faculty -- ongoing training, including sharing results with each other (how assessment results helped improve the program, what worked in terms of measurement, what didn't work, etc.)						
Valued Process						
17 Faculty view assessment as worthwhile	6	5, 4	4.83	6	5, 5	5.00
Response #0 Again, in private institutions, this is not as critical as in California publics. Response #1 Faculty won't do it well without valuing it. Response #2 Perhaps the most important factor. If the college doesn't have the right kind of instructors, forget about it. Response #3 If they don't, the whole effort will fall apart. Response #4 If faculty don't view assessment as worthwhile, then you most likely won't get good results (because assessment methods/materials are more appropriate for the old approach to teaching and learning or the assessment instruments aren't measuring what you think they are) or/and they won't be used to improve programs.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
B	Administrators view assessment as worthwhile	6	5, 4	4.50	6	5, 3	4.17
	Response #0 Assessment requires resources, including mere prioritization. Administrators ultimately hold the key to prioritization. Response #1 Faculty need time, money and recognition to do real assessment. Administrators need to see this as quality assurance for the education in the system. Businesses hire large number of people to do this and spend a great deal on the process.						
C	Staff view assessment as worthwhile	6	4, 1	3.00		NR	NR
	No responses						
18	A shared sense of responsibility for assessment across the college	5	5, 4	4.40	6	5, 4	4.67
	Response #0 This speaks to having a strong institutional value supporting assessment as a way of assuring that the college is fulfilling its responsibilty to its students.						
19	Incentives and recognition for assessment efforts (e.g. public recognition, praise, stipends, and release time)	5	5, 3	4.00	6	5, 3	3.67
	Response #0 Work beyond professional obligations should be compensated such as the time of a facilitator/coordinator and work by adjunct faculty. Response #1 If it is of value, it will be supportive. If it results in improvement in particular programs or services - budget should flow there to increase the effectiveness of the instittuion. Response #2 This can only help.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
20	Having champions of the process who are well respected and accepted by faculty, administrators, and staff Response #0 This helps create acceptance Response #1 If the campus leaders are going to be effective and guide the entire campus through the process, they must be respected by both groups (faculty and administration). Having someone who isn't respected might threaten the process -- by marginalizing it or demonstrating that the campus doesn't value the process.	5	5, 3	4.00	6	5, 4	4.67
D	Faculty frustration with lack of student learning, particularly deep learning No responses	6	4, 1	3.17		NR	NR
21	Having an assessment process that is led by faculty Response #0 This is the interface of learning. Administrators have too many other concerns which do not translate directly into real learning. Response #1 I don't see how it will work without faculty leadership. Response #2 It won't work otherwise! Response #3 Must be led by faculty because assessment occurs in the classrooms. Faculty are the most informed and knowledgeable about the instructional programs as well as their students. They will be the ones assessing those students, collecting the results, and participating in the dialogue centered around the results to improve programs.	6	5, 4	4.83	6	5,4	4.83

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
Participation						
22 By students	6	5, 1	3.00	6	5, 1	3.33
Response #0 These must be assessed, not data about them. Response #1 I suspect that colleges which have found ways to include students are making faster and more meaningful strides regarding SLOs.						
23 By faculty	6	5, 4	4.83	6	5, 5	5.00
Response #0 These must be the leaders. Response #1 Duh! Response #2 They are the ones in the classroom. Response #3 Critical or else it won't happen -- they are the ones in the classrooms; see comment under item #21.						
24 By administrators	6	5, 4	4.17	6	5, 4	4.67
No responses						
25 By staff	6	4, 1	3.17		NR	NR
No responses						
26 By stakeholders from the community	6	4, 1	2.50		NR	NR
No responses						

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
Using Results						
27 Results of assessment are used to improve programs, services, and the classroom's teaching and learning experience	6	5, 5	5.00	6	5, 5	5.00
Response #0 By definition, assessment includes the component of the cycle that is improvement. Response #1 Closing the loop results in improvement - if not, there is no real purpose. Response #2 Yes, if not, what is the point? This is the closing of the loop; the pot of gold at the end of the rainbow. Response #3 If the loop isn't closed, then it's an empty exercise. Response #4 This relates to educating people about SLOs and the assessment process. If results aren't used to improve programs, it is due to a lack of understanding about the process -- or a lack of time to complete the circle/cycle of assessment. If results aren't used to guide discussions and improve programs, then it might lead to the belief that the process isn't important or it doesn't work. Since this is one of the goals of SLOs and assessment, I see it as critical -- otherwise, you aren't really doing it!						
28 Results of assessment are designed specifically for particular audiences	6	4, 1	2.33		NR	NR
No responses						
29 Results are used to provide evidence of learning and to demonstrate the effectiveness of the college to various stakeholders	6	4, 2	3.50		NR	NR
Response #0 This may be critically important, and could certainly be a positive use of SLO evidence.						

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
An Assessment Plan						
30 A formal written assessment plan	6	5, 4	4.33	6	5, 4	4.33
Response #0 So everyone sees the vision and knows where they fit in the process.						
31 An assessment plan that is linked to college mission and integrated into the policies and practices of the institution (e.g. program review, strategic planning, and budgeting)	6	5, 4	4.67	6	5, 5	5.00
Response #0 It can not be a separate, parallel, or shadow project. Response #1 This probably is the level of integration into the college that is needed for SLOs to "take" and continue on as an institutionalized practice. Response #2 I'm not sure if it's necessarily an assessment plan that is linked to these things that is required, but in any case, processes like program review must reinforce the assessment process -- by having SLOs and assessment and evidence of student learning built into program review.						
32 A manageable plan (e.g. a few robust measures of learning)	6	5, 3	4.33	6	5, 4	4.67
Response #0 Of course - or it is not meaningful. Response #1 Perpaps critically important. I do notice that colleges which are moving on all levels and trying to get faculty to use many measures, etc. will probably have a great deal of trouble sustaining their efforts. It makes so much more sense to focus on priority, robust outcomes at the degree and certificate level. This, by the way, is what Barbara Beno says is being overlooked by the colleges going through accreditation with the 2002 standards - NONE of them are addressing AA and certificate level SLOS. But isn't this what the outside critiques are most concerned about? I.e., non-literate students being graduated. Response #2 This is how it is seen as useful bv facultv.						
33 A plan that is periodically evaluated for its effectiveness	6	5, 4	4.50	6	5, 5	5.00
Response #0 Closing the loop on assessment is evaluating the process. Response #1 It's always critical to evaluate the evaluation!						

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
Section 2, Factors that Thwart a Meaningful Process						
Based on your experience and the feedback from Round II, how important are the following factors in thwarting the implementation of a meaningful assessment process. Please re-rate each factor as to the degree of importance it plays in thwarting a meaningful assessment process.						
Legend:						
Mean rating The average rating of those who rated the						
Range of ratings The highest and lowest ratings given by						
NR This statement was not moved to round III and thus was not						
5 Critically Important						
4 Moderate importance						
3 Minor Importance						
2 Undecided						
1 Not Important						
Resistance to Change						
34 Colleges have had a traditional insulation from accountability for individual student learning	6	5, 1	3.50	6	5, 1	3.50
Response #0 Yup. This might be the largest thwarting factor of all. It is one of the brutal facts we need to face and deal with.						
35 Assessment is challenging for the community college because of its structure and function: mission, curricular focus, governance structure, faculty roles, and student climate.	6	5, 1	3.17	6	5, 1	3.50
Response #0 Assessment is contrary to the teaching paradigm that our colleges have embraced. A 180 degree change in focus is often needed, which takes time. Response #1 This can prevent or compete with meaningful assessment.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
36	Negative attitude toward the imposed assessment requirements by accreditation bodies	6	5, 3	4.00	6	5, 1	3.00
	Response #0 Yes, but on the other hand, without the push from the accreditors, we wouldn't be doing as much as we are today on thry to identify SLOs and assess learning. Response #1 With a negative attitude, assessment won't be conducted (at least not meaningful assessment), results won't be used in the way they are intended, and the purpose of SLOs and assessment will be defeated. A negative						
37	Limited evidence of the effectiveness of student learning outcomes assessment on student performance or faculty behavior	6	5, 3	4.17	6	5, 2	4.00
	Response #0 Either it works and is worth doing, or it doesn;t work. The effectiveness reflected in improved learnign and faculty practices must be the stimulant and source of energy for the process. Response #1 Because the processes are not public, and are done within department circles, and there hasn't been a push to college and communicate success stories, we are sort of in the dark regarding successful practices. Response #2 The lack of evidence is seen as a reason not to do it and why this is just a						
38	Thinking first about learning rather than instruction requires a major cultural shift	6	5, 4	4.33	6	5, 1	4.00
	Response #0 We are all most interested in our own roles. Changing the focus to learning is not surprisingly difficult for those who have been engaged in their own roles of providing instruction and services. Response #1 Yes and that's why it's so exciting but can also be overwhelming to those first being introduced to the concept.						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
39	Outcomes Based Education doesn't fit well with the current structure of education in which a student is expected to learn specific content within a specific time frame	6	5, 1	3.17	6	4, 1	3.00
	Response #0 In some ways, assessment did not bring about this new focus alone. Over the decades, the nature of higher education has changed from that of the scholarly and academic to that for wage earners and all classes. Response #1 We need to think of new ways of delivery and that is part of why it's a cultural shift.						
40	Faculty view assessment as encroaching on their academic freedom	6	5, 3	3.67	6	4, 3	3.50
	Response #0 Once faculty "get it" they won't worry about this, if in fact, anyone actually is. Response #1 It's important to create assessment processes that don't do this.						
E	Negative college climate (i.e. a general lack of motivation, trust, and commitment)	6	5, 4	4.83	6	5, 5	5.00
	Response #0 A supportive climate is invaluable for evaluating one's own work, risk free. Further, motivation to improve is a feature of a positive organizational climate, whatever the organization's purpose. Response #1 Lack of trust guarantees superficial processes and kimited usefulness. Response #2 This is HIGHLY CRITICAL at SOCCCD. I cannot speak about other districts and colleges regarding this factor, but I can tell you that years of disrespect shown by the chancellor and board of trustees toward the faculty have just about killed off any motivation, trust, and commitment to take on this additional challenge (SLOs). On the other hand, in many if not most districts this may not be important at all. Response #3 Need a commitment to student, their learning, and institutional improvement. See comments under negative attitude (#36).						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
F	Public criticism of higher education about the educational level of graduates produces resistance and diverts attention from developing a process	6	5, 1	2.50	5	4, 1	2.40
	Response #0 I am not sure about the double negative possible from this factor. Are you saying that public criticism makes assessment more difficult--or facilitates assessment? I'm getting confused. My answers above may need to be changed, as well. Response #1 Criticism may be annoying, it may even be correct, but it is hard to think that the criticism is diverting attention from getting the job done. Response #2 Yes!						
G	Negative leadership of external bodies	6	4, 1	3.17		NR	NR
	Response #0 Certainly the Senate didn't get us off to a good start. Regardless of their lip service, faculty unions are hardly concerned about teaching excellence.						
H	Lack of a tradition of shared responsibility for student learning	6	5, 3	4.00	6	5, 1	3.83
	Response #0 Can be overcome, however. I'm wondering if it might be a commitment to shared responsibility for student learning that is a necessary prerequisite -- not necessarily a tradition. A campus might not have a tradition of this, but if they develop a common commitment (or renew their commitment) to student learning, then that might be enough to address this important factor.						
I	Lack of support and understanding of boards, CEOs and CIOs	6	5, 4	4.33	6	5, 3	4.17
	No responses						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
Competition Among Priorities							
41	Concern that outcomes assessment leads to increased workload, competes with other workload priorities, and diverts energy from teaching	5	5, 3	4.20	6	5, 3	4.00
	Response #0 Although this concern is uninformed, none-the-less it exists and inhibits progress. Response #1 This is why it's important to develop a manageable assessment process.						
42	Concern about the ability to balance institutional priorities with limited resources	5	4, 3	3.60		NR	NR
	no responses						
43	Having to respond to both state and accreditation requirements create a competing demand on college resources	5	4, 1	3.20		NR	NR
	no responses						
J	Having students who are unprepared for college work (e.g., below college level reading and writing, little or no knowledge about time management and effective study techniques) taking up many of our seats because of resistance or inability to implement prerequisites. How can such students really be expected to achieve the robust outcomes of a general education course indicative of deep learning?	5	5, 1	3.40	6	5, 1	2.83
	Response #0 This is a key problem. Use of pre and post tests may be one way around the problem posed by unprepared students, but the "intrusion" of unprepared students certainly must detract from what can be accomplished by the instructor and the prepared students						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
Lack of Knowledge							
44	Campus leaders lack knowledge about learning outcomes, teaching methods, learning theory, and assessment methods	5	5, 4	4.60	6	5, 4	4.83
	Response #0 There are certain basics that faculty must understand and be given the opportunity to learn to make a usefull process. Response #1 Need the leaders on board to gain buy-in and to ensure that there is a campus-wide commitment. I think their knowledge about assessment is also necessary -- otherwise it feels like leaders are just repeating catch phrases without understanding the work, commitment, and purpose behind them.						
45	Absence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	5	5, 4	4.60	6	5, 4	4.67
	Response #0 For the same reason as above concerning why this is important, Response #1 It would depend on the people serving in this "core." The correct people must be in the group, or it is difficult to foresee SLOs ever being embraced and sustained.						
K	Lack of understanding and consensus about what needs to be done	5	5, 4	4.40	6	5, 5	5.00
	Response #0 Since the process is collaborative -- both within and between departments/disciplines/service units, there needs to be a common commitment and understanding about what is to be done and why.						

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
46 Limited opportunities for professional development in learning outcomes, assessment principles, teaching methods, and learning theory	5	5, 4	4.80	6	5, 4	4.83
Response #0 Faculty willing to do this must be given the opportunity to grow, learn and become confident about doing assessment. Response #1 If the opportunties for professional development in this area is limited on a campus, then it is difficult to see how SLOs will "take". Response #2 Training is absolutely necessary -- and it needs to be ongoing if we are to continue the cycle of assessment and develop new methods or new approaches to teaching and learning and use the results for improvement. Initial training is critical, but it doesn't end there.						
Lack of Value						
47 Lack of appreciation that assessment is integral to the improvement of programs, services, teaching, and learning.	5	5, 4	4.40	6	5, 4	4.67
Response #0 If this isn't seen, the process can't occur. Response #1 This gets to the lack of education or understanding about the process. It also relates to negative attitudes. This thwarts the process -- or, at least, compromises the impact that assessment can have (because it most likely won't be meaningful).						
48 The view that student learning outcomes and assessment are just another fad	5	5, 3	4.00	6	5, 1	3.50
Response #0 Critical to move beyond this in order to develop a meaningful process.						
49 A perception that some important learning outcomes are not measurable	5	5, 3	3.80	6	4, 3	3.50
No responses						
50 Lack of an appreciation for outcomes-based education	5	4, 3	3.80		NA	NA
No responses						

Item identification		No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
51	Faculty question their responsibility to assess anything outside their individual classes	5	4, 3	3.60		NA	NA
	Response #0 Probably there are too many faculty that fit this discription.						
52	Few incentives and recognition for assessment efforts	5	5, 3	4.00	6	5, 3	4.00
	No responses						
L	Lack of venues available for dialogue	5	5, 4	4.60	6	5, 4	4.83
	Response #0 Dialogue is the major benefit, without this it will not grow to maturity. Response #1 This is a key problem, especially at colleges which are spread out, or in which many of the instructors are part-time.						
Limitation of Resources							
53	Student learning outcomes and assessment are time consuming processes and there is little time for educational reform of this magnitude	5	5, 3	4.00	6	5, 3	3.50
	Response #0 Faculty must be given oppportunity. time, and resources within reason. True it is part of their job, but it can not be done on top of an already overloaded schedule or from their own pockets.						
54	Trying to sustain outcomes and assessment efforts and to balance other institutional priorities with limited financial resources	5	5, 3	3.60	6	4, 3	3.50
	Response #0 If the institution isn't willing to put resources into this, the effort will fail.						
55	Lack of knowledgeable administrative leadership	5	4, 4	4.00		NR	NR
	No responses						

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
56 Lack of knowledgeable faculty leadership	6	5, 4	4.67	6	5, 4	4.83
Response #0 Important that faculty are knowledgeable - but most importantly faculty must have experience. Response #1 It is surprising how few faculty there appear to be capable of understanding and taking the reins. It turns out that the majority of instructors, by and large, were never prepared well for the process of assessing learning. It would be interesting to know how many have ever made and used a rubric, or have actually done a properly conducted item analysis for an objective format test they have made. Assessment is not a strength among our faculty - they need to be taught. Response #2 Need faculty leaders, and they must be properly trained in order to train others, address misperceptions, alleviate fears, provide examples, etc.						
57 Lack of comprehensive, practical, and sustainable models that practitioners in community colleges might use for assessing, documenting, and using information about learning outcomes.	6	5, 3	4.00	6	5, 3	4.33
Response #0 I couldn't agree more. This is exactly what's missing. Response #1 If the college can't see that it's possible, it's hard to develop a process.						
58 Few sophisticated approaches for assessing skills like critical thinking and problem solving	6	4, 1	3.00		NR	NR
No responses						
59 Lack of technology support for tracking student progress	6	5, 1	3.17	6	4, 1	3.00
Response #0 The technology is there. It is just that SLO leaders don't know how to use technology to help them efficietly assess, track, and archive SLO data.						

Item identification	No. of ratings	Range of ratings	Mean rating	No. of ratings	Range of ratings	Mean rating
Limited Use of Results						
60 Assessment results are not fed back into the campus decision making process	6	5, 4	4.50	6	5, 4	4.50
Response #0 If the results do not imply changes and produce system improvements - why do it. Response #1 The assessment cycle needs to be completed, and it should be tied into other campus processes and campus decision making to demonstrate its importance, to make it meaningful, to make sure it isn't lost, to guarantee that it guides dialogue, etc.						
61 Assessment results are not used to improve the college, its programs, or the classroom's teaching and learning experience	6	5, 4	4.67	6	5, 4	4.83
Response #0 Same as above Response #1 It is hard to know. Not many have assessment results yet. Response #2 If this isn't happen, then what's the point? Response #3 If this isn't done, then the point of assessment is lost.						
62 Concern among faculty that the results of assessment will be used in faculty evaluations	6	5, 3	4.33	6	5, 3	4.17
Response #0 This will kill the motivation, or generate assessment directed at verifying faculty effectiveness rather than studying process and asking honest answers. Response #1 If this fear isn't assuaged, the process will be doomed to failure.						

Appendix C
Statements Rated as Critically Important in the Pilot Project

Preliminary Results of a Three Round Delphi Process

This table presents in rank order the critically important facilitating factors followed by the critically important thwarting factors. Only those statements that had a mean rating of 4.50 or higher in either the second or third round were included.

Legend:

Mean rating	The average rating of those who rated the statement
Range of ratings	The highest and lowest ratings given by panelists (e.g. 5, 3)
5	Critically Important
4	Moderate importance
3	Minor Importance
2	Undecided
1	Not Important

Section 1, Factors that Facilitate a Meaningful Process

		Round II				Round III			
Item identification		*No. of ratings*	*High & low ratings*	*Mean rating*	*Rank*	*No. of ratings*	*High & low ratings*	*Mean rating*	*Rank*
5	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	6	5, 5	5.00	1	6	5, 5	5.00	1
27	Results of assessment are used to improve programs, services, and the classroom's teaching and learning experience	6	5, 5	5.00	1	6	5, 5	5.00	1
10	Leaders for the process are well respected, and are accepted by faculty, administrators, and staff	6	5, 4	4.83	3	6	5, 5	5.00	1
17	Faculty view assessment as worthwhile	6	5, 4	4.83	3	6	5, 5	5.00	1
23	Participation by faculty	6	5, 4	4.83	3	6	5, 5	5.00	1
13	Those with lead responsibility are knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods	6	5, 4	4.67	7	6	5, 5	5.00	1

Pilot project conducted by Jerry Somerville
April and May, 2006

Item identification		Round II				Round III			
		No. of ratings	*High & low ratings*	*Mean rating*	*Rank*	*No. of ratings*	*High & low ratings*	*Mean rating*	*Rank*
31	An assessment plan that is linked to college mission and integrated into the policies and practices of the institution (e.g. program review, strategic planning, and budgeting)	6	5, 4	4.67	7	6	5, 5	5.00	1
33	A plan that is periodically evaluated for its effectiveness	6	5, 4	4.50	11	6	5, 5	5.00	1
21	Having an assessment process that is led by faculty	6	5, 4	4.83	3	6	5,4	4.83	9
12	Trusting that the results will be used in positive ways for institution and program improvement and not in punitive ways	6	5, 4	4.67	7	6	5, 4	4.83	9
16	Having a consistent offering of high quality and motivating education and training opportunities for faculty, administrators and staff on learning outcomes, assessment principles, teaching methods, and learning theory	6	5, 4	4.67	7	6	5, 4	4.83	9
2	Communication strategies in place that are timely and that keep faculty, administrators, and staff informed about assessment practices and the results of assessment activities	6	5, 3	4.17		6	5, 4	4.83	9
14	Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	6	5, 4	4.50	11	6	5, 4	4.67	13
18	A shared sense of responsibility for assessment across the college	5	5, 4	4.40	14	6	5, 4	4.67	13
32	A manageable plan (e.g. a few robust measures of learning)	6	5, 3	4.33		6	5, 4	4.67	13
24	Participation by administrators	6	5, 4	4.17		6	5, 4	4.60	13
20	Having champions of the process who are well respected and accepted by faculty, administrators, and staff	5	5, 3	4.00		6	5, 4	4.67	13
3	Communication from respected faculty members informing the campus community about the assessment process	6	5, 1	4.33		6	5, 3	4.50	18
B	Administrators view assessment as worthwhile	6	5, 4	4.50	11	6	5, 4	4.17	

Pilot project conducted by Jerry Somerville
April and May, 2006

Item identification		Round II				Round III			
		No. of ratings	*High & low ratings*	*Mean rating*	*Rank*	*No. of ratings*	*High & low ratings*	*Mean rating*	*Rank*
Section 2, Factors that Thwart a Meaningful Process									
E	Negative college climate (i.e. a general lack of motivation, trust, and commitment)	6	5, 4	4.83	1	6	5, 5	5.00	1
K	Lack of understanding and consensus about what needs to be done	5	5, 4	4.40	9	6	5, 5	5.00	1
46	Limited opportunities for professional development in learning outcomes, assessment principles, teaching methods, and learning theory	5	5, 4	4.80	2	6	5, 4	4.83	3
56	Lack of knowledgeable faculty leadership	6	5, 4	4.67	3	6	5, 4	4.83	3
61	Assessment results are not used to improve the college, its programs, or the classroom's teaching and learning experience	6	5, 4	4.67	3	6	5, 4	4.83	3
44	Campus leaders lack knowledge about learning outcomes, teaching methods, learning theory, and assessment methods	5	5, 4	4.60	5	6	5, 4	4.83	3
L	Lack of venues available for dialogue	5	5, 4	4.60	5	6	5, 4	4.83	3
45	Absence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	5	5, 4	4.60	5	6	5, 4	4.67	8
47	Lack of appreciation that assessment is integral to the improvement of programs, services, teaching, and learning.	5	5, 4	4.40	9	6	5, 4	4.67	8
60	Assessment results are not fed back into the campus decision making process	6	5, 4	4.50	8	6	5, 4	4.50	10

Appendix D

Verification of the Results of the Pilot Project

The purpose of this form is to provide a method for you to give an evaluation of the results of the study in which you participated last spring. Your evaluation serves as a form of verification called member checking. The method is used to determine if the results described by the researcher are accurate in the opinion of the panelists.

In a Delphi study, such as this one, the results can only represent the synthesis of the opinions of a particular group. The results provided by any panel do not predict the response of a larger population or even a different Delphi panel. You are being asked to evaluate three aspects of this report: the grouping of the statements, the titles given to each group, and the accuracy of the narrative in describing the results. Before responding to the following questions please read the attached report and review the appendixes.

1. To what extent do you agree or disagree that the statements in Appendix C were appropriately grouped by similarity? Please mark the one response that best reflects your opinion.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
	☐	☐	☐	☐	☐
Panelists	K	MPQ	LO		

If you wish to make any comments about the grouping of the statements please provide them here

O: I don't think it would make any difference. The themes that you have identified are general and relevant to almost any organizational development activity any way they are expressed.

Q: I appreciate that many of the statements apply to several themes/groupings, but it might be nice to assign each statement to one area (theme/grouping) to avoid redundancy. That's just a suggestion for the final write-up for your diss.

L: See #4

2. To what extent do you agree or disagree that the titles given to each group in Appendix C were appropriately descriptive of the statements? Please mark the one response that best reflects your opinion.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Panelists	☐ QPK	☐ M	☐ LO	☐	☐

If you wish to make any comments about the titles given to the groups please provide them here.

K: I think the titles do capture the theme suggested by the various statements. "Faculty" seems a bit vague. Maybe "Faculty Engagement" of "…Buy In" "Involvement" (in SLOs) would be more appropriate. Just saying faculty seems odd to me; same as if you had listed "Students."

P: Reserachers note-- The following comment was the texy in the email that was returned with this evaluation on 11/21/06 from panelist P

"Jerry,
It is good to see consensus on so many of the items. In fact, it might be worth citing as an important point in the narrative. In my experience, "experts" in the field of SLOs rarely agree so well.
Panelist P"

L: See #4

3. To what extent do you agree or disagree that the narrative accurately describes the aggregated opinion of the group about the critical factors affecting the meaningful assessment of student learning. Please mark the one response that best reflects you opinion.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
Panelists	☐ QK	☐ MP	☐ LO	☐	☐

a. Was something missing from the narrative that should have been included?

M: Nothing missing.

K: I didn't notice anything missing.

P: The narrative seemed to descriptive. In many cases, conclusions would certainly be supported by the data. For example, the data support a statement that a comprehensive Assessment Plan developed in collaboration with faculty is essential for the SLO process to be successful.

O: The number of participants and other methodology topics should be addressed. Also, I continue to be concerned about the unclear label of your topic: "assessment", student learning outcomes assessment, SLOs mean three different things to me and to others, and you use these terms interchangeably. Outside of the current California community context, a reader would be confused, as the nationwide effort of "assessment" has a somewhat different and broader definition.

Q: I think the narrative needs more along the lines of an introduction (which might be included in another section of your diss; if it is, feel free to ignore this suggestion) -- more introductory information about the purpose of the study, the number of participants, their positions within their respective institutions, etc. would be helpful before you get to the discussion about the data analysis (the thresholds for the mean ratings, etc.).

b. Was something included in the narrative that should not have been?

M: Nothing added, it was complete.

K: Not at all

O: Your last paragraph about faculty involvement detracts from the objectivity of the narrative and your previous efforts.

4. Additional Comments

If you have any additional comments, please provide them here.

M: The way the data was portrayed in the narrative was hard to follow. This is the most difficult aspect of displaying data - the narrative requires so much time and so many words. I think the actual statement responses are clear. Too bad there was not a more engaging method to display the data. It does not lend well to tables and graphs - but perhaps Venn Diagrams would have provdied a visual image.

K: I think participation in this study was an excellent thinking exercise. I found the findings to be both validating and informative. It would be interesting to extend or replicate this study in a few years to see how and additional two years of experience may have changed the views of the participants

O: A researcher's charge is to identify commonalities, trends and themes, and the responses helped you to do this in that the Delphi exercises now seems like a series of groupthinks, with the lowest common denominators emerging. It seems like the same five or six participants and their same comments were used too extensively in the narrative. No one could argue that trust, communication, knowledge, experience, participation, etc. are critical to organizational change and health. Is there anything more that you can find with these responses that is unique/critical to SLO assessment?

We tend to study what we know--do you see anything else emerging, or are there another "lenses"? For example, assessment at the classroom level is critical and becoming common, fortunately, we all know--but who knows how to expand that to an organizational, college level activity? We don't have much experience or knowledge about this yet so we haven't identified this component as critical. (I went back to the original comments and saw someone's note about Barb Beno and gen ed level assessment.)

Your research has, so far, provided documented consensus about what we have all probably experienced, discussed among ourselves, and professed, with little variation and range. Perhaps that's exactly what you intended to do and the problem is that I am looking for more insight.

L: Nuances and emphases vs. real disagreement are the basis of these comments. Results, Table 1, pg. 7 summarizes some important points as we moved along. "Use of " Assessment Results still seems a better heading. The distinction between Participation/Leadership/Faculty seems to get a bit muddied. Pg 9. "a shared sense of responsibility for assessment across the college" seems to be undercut by the faculty heading as preeminent. Faculty are so very important but it seems to dilute the difference between their understanding, leadership, and participation and ownership of this professional role. The line on pg 19 "faculty will not assume leadership roles" seems to come out of the blue and stand in opposition to the heart of their professionalism which drives this endeavor. Is it clear what the "faculty" heading means as a factor? Or is it simply that faculty were mentioned in every area as important? Am not sure if it's an artifact of the numbers responding. Back to pg 7: are faculty participation and leadership particular emphases to be strongly noted but not necessarily a separate factor? The reasons for this remains all those given.

Apprndix E

Results of Rounds Two and Three of the Full Study

This table documents the results of Round II and III. The items listed below are all of the statements used in this study. Statistical information is presented to the right of each item and the rationales submitted by panelists in Round II as to why a statement is considered critically important are listed below each item. To maintain an audit trail each item has retained its number or letter designation from Round II.

Legend:

High-Low rating	The highest and lowest rating given by panelists (e.g. 5, 3)
Mean rating	The average rating of those who rated the statement
Rank	The rank of a statement among all statements that had a mean rating of 4.00 or above in Round III
NR	This statement was not moved to round III and thus was not rated

Critically Important
Very Important
Moderately Important
Minimally Important
Not Important

ID	Round II			Round III			
	No. of Ratings	*High-Low Rating*	*Mean Rating*	*No. of Ratings*	*High-Low rating*	*Mean rating*	*Rank*
Section 1, Conditions that Facilitate a Meaningful Process							
Communication							
1 A written institutional philosophy of assessment that defines the purpose of assessment and the uses of the results	21	5, 2	4.19	17	5, 3	4.18	31

Response #0, Panelist R. This reflects the value or importance of assessment within the college providing a framework for the process and results. The act of writting a philosphy statement that involves the collaboration of administration, faculty and staff creates committment.

Response #1, Panelist B. A written institutional policy provides direction and vision for the process. It provides "evidence" of the value of the process.

Response #2, Panelist O. Since I believe the greatest challenges to implementing a culture of assessment are conceptual, this is a key component.

Response #3, PanelistA. A written institutional philosophy so that all participants may operate from a common understanding.

Response #4, Panelist N. In order for assessment to be valued, it needs to be tied to the institution's vision, values and philosophy.

Response #5, Panelist C. A written statement of some sort will allow for uniformtiy and also allow for institution-wide access to the program and its components.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
2	Communication strategies in place that are timely and that keep faculty, administrators, and staff informed about assessment practices and the results of assessment activities	21	5, 3	4.24	17	5, 3	4.41	15
	Response #0, Panelist O. I define "critically" as meaning "cannot occur without." This is important but not critical. Response #1, Panelist K. Communication is critical to keep faculty informed and involved in the assessment process Response #2, Panelist U. But needs to be just in time communication to those involved in that step of assessment Response #3, Panelist V. Communicating with all stakeholders and constituencies is extremely important to keep the momentum of assessment going. Response #4, Panelist A. Participants will not engage if they are not informed.							
3	Communication from respected faculty members informing the campus community about the assessment process	21	5, 2	4.10	17	5, 4	4.41	15
	Response #0, Panelist R. A meaningful institution-wide assessment process will not occur in a vacume. The process needs to be talked about, critqued, modified to meet individual's specific application. The term "communication" as it's used here is broad, and hence covers a lot of activities. Response #1, Panelist F. Respect for a specific individual is not uniform across an organization. Response #2, Panelist V. The ore involved faculty become in the assessment process the more successful and meaningful assessment would be to the teaching learning cnnection. Response #3, Panelist S. Faculty trust is hard to earn and easy to lose, so having communication from trusted colleagues is essential to the success of assessment efforts. When the message is collegial and open for discussion, faculty welcome the opportunity to hear about assessment efforts and a systematic process.							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
4	College presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	21	5, 1	4.10	17	5, 3	4.00	45

Response #0, panelist B. A vision and 100% support and engagement in this topic by the college president is crucial. It guides budgeting, promotes non-duplication of effort, and results can be used by her/him in dealing with the external constituents.

Response #1, panelist R. Without a president's support it will not flourish and, as I have seen, can die due to lack of staff resource support. On the other hand, a president shouldn't try to lead the process. They don't have time and again, if sufficient time isn't devoted to an assessment program, it will wither.

Response #2, panelist U. Have to have complete support or faculty won't buy in.

Response #3, panelist A. Top leadership is crucial so that it seen as an institutiona,l priority.

Response #4, panelist N. The leader can't lead a meaningful assessment plan w/o understanding assessment.

Response #5, panelist L. depends on your presidents role and involvement on the campus. on my campus, it would be critically important but on other campuses the president may not play that type of role

Response #6, panelist S. Leadership from the president's office gives credibilty to the process, and more importantly, lends resources (human and financial) to manage the work

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
5	Vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	21	5, 3	4.33	17	5, 3	4.35	21

Response #0, Panelist B. same as for #4

Response #1, Panelist R. The process will not be seen as a worthwhile endeavor by faculty if the VP of Instruction doesn't support the process. VP's of instruction have a lot of influence on how faculty and staff development dollars are allocated; seminars, inservices, etc. on assessment will be require financial support from the instructional side of the house.

Response #2, Panelist A. Same as above

Response #3, Panelist N. The VP needs to understand the assessment process in order to get buy-in from every other level at the college - - -other administrators as well as faculty. Faculty and deans will support assessment if they know that it's valued.

Response #4, Panelist S. Vice presidents link the work of assessment to the work of the college-- keeping it in front of managers and faculty.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
6	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	21	5, 1	4.24	17	5, 4	4.59	5

Response #0, Panelist F. In the end, our students needs to see that the institution in its entirety is committed to students having some way to demonstrate that post-secondary education has enhanced their abilities. Without the faculty, staff, and administration convening, discussing, and coming to concensus, the institution risks giving inconsistent messages to students. A united, informed, and engaged faculty, staff, and administation create an environment where assessment of student learning becomes a cornerstone of the institution.

Response #1, Panelist J. This is the hard one to balance with all the other topics we must address during these workshops, etc

Response #2, Panelist R. This is the glue that helps to build a strong and lasting process/program. It builds enthusiasm, willingness to try something new and a venue for learning about assessment techniques.

Response #3, Panelist B. Keeps everyone on the same page and promotes mutual admiration for the role of each in the process.

Response #4, Panelist V. The dialogue that happens between faculty should be the driving frce behind what is assessed and the data driven

Response #5, Panelist A. Critical for establishment of common ground

Response #7, Panelist C. without communication I believe any progra Dialogue/communication is the key for success, size of the compus d

Response #8, Panelist L. too much will kill a project

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
A Assessment process can lead to inter and intra disciplinary conversations yielding new and fresh outcomes.	19	5, 2	3.79	17	5, 3	4.06	42

Response #0, Panelist J. This is the reason most faculty will even consider assessment

Response #1, Panelist V. One of the bonuses of being involved in a meaningful collaborative assessment process is that faculty come out of their silos and get involved in conversations and discussion both in the inter and intra disciplinary platforms.

Response #2, Panelist T. There's something wrong with the wording here. Something about the verb. It's a sentence... others aren't.

Response #3, Panelist P. This is especially important for colleges like ours that use learning communities and other integrated learning approaches as part of the degree requirements.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
B	Faculty champions willing to share what they have learned about learning, reporting on assessment and resulting curricular changes	20	5, 3	4.25	17	5, 3	4.53	11

Response #0, Panelist R. (For the same reasons as cited in #6 above.) This is the glue that helps to build a strong and lasting process/program. It builds enthusiasm, willingness to try something new and a venue for learning about assessment techniques.

Response #1, Panelist B. The "early adoptors", or those respected faculty who champion the effort, lead the wagon train...

Response #2, Panelist U. Show data from assessment and improvement in your college

Response #3, Panelist V. If faculty champioms become the key players in the assessment game others are more likely to join than be spectators.

Response #4, Panelist T. If faculty are involved it can be seen as a process that helps and is part of teaching/learning. If it's imposed, or viewed as imposed, it's viewed as an outside requirement just for looks.

Response #5, Panelist S. Faculty need to hear from enthusiastic colleagues. The teachable moment comes when a faculty member learns about the ways another faculty member approaches the analysis of why students learn and why they don't

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
External Influence							
7 Public criticism of higher education about the educational level of graduates and a lack of data about their skills and knowledge	20	4, 1	2.80			NR	
Response #0, Panelist T. good opportunity for visibility. Important in that the visibility may lead us down a path we don't like. (standardized tests.)							
8 Requirements from accreditation agencies that colleges engage in student learning assessment activities	21	5, 1	3.62	17	5, 2	3.76	
Response #0, Panelist J. If there isn't a mandate some faculty will not jump on board. It is easier to do the same old thing.							
Response #1, Panelist R. Unfortunately, this is often needed to get a program started but not enough to sustain it and make it flourish. The cycle of commitment to the process will wax and wane if this is the only motivating factor. Across the country, accreditation agencies can and do provide helpful guidelines, consultation and share best practices of colleges within their associations.							
Response #2, Panelist N. If a system needs to be developed, it should be developed using the standard and criteria for which it will be evaluated.							
Response #3, Panelist M. Helps to have an outside agency driving the need from change.							
Response #4, Panelist L. this is viewed negatively now							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
9	Demands from state and federal bodies that colleges demonstrate their effectiveness and efficiency	21	5, 1	3.19	17	5, 2	3.41	
	Response #0, Panelist R. In a college were the president and other administrators were not knowledgeable nor particularly support of assessment, external forces, such as these, might be more important. At the moment I'm finding it hard to consider some of these factors, such as this one, in isolation.							
	Response #1, Panelist A. Tied to funding and/or accreditation							
	Response #2, Panelist M. Data, data, data....decisions are increasingly being made based on data.							
	Response #3, Panelist L. unless funding mirrors this, it is completely irrelevant							
10	Concern that if colleges don't begin to show evidence of student learning, state and federal bodies will impose assessment requirements similar to those of the No Child Left Behind legislation	20	5, 1	3.15	17	4, 2	3.18	
	Response #0, Panelist L. again funding needs to be the key							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
Trust							
11 Leaders for the process who are well respected, and are accepted by faculty, administrators, and staff	20	5, 2	4.40	17	5, 4	4.76	2

Response #0, Panelist B. For a process that requires this much effort, leaders must be well respected to provide authentic carisma for a successful product.

Response #1, Panelist R. Without respect from all sides, employees won't support the process nor participate.

Response #2, Panelist K. must have visible, respected faculty to lead the assessment effort

Response #3, Panelist U. Otherwise faculty just do not buy in!

Response #4, Panelist V. This would help in building a collaborative climate that is essential in sustaining a culture of assessment.

Response #5, Panelist A. Promotes comfort with change

Response #6, Panelist C. Trust in addition to communication are major components.

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
12 Administrators, faculty, and staff who form partnerships and work in concert with each other	20	5, 2	4.20	17	5, 4	4.41	15

Response #0, Panelist B. This is the fun part of it...getting to network with individuals outside my rut. The various points of view add to the "music" of the process.

Response #1, Panelist V. Same as 11

Response #2, Panelist A. Broad-based engagement

Response #3, Panelist N. Administrators, facuty and staff need to be working together to gain momentum and trust, campus-wide. The same message should be shared. One message - same standards and criteria.

Response #4, Panelist M. Facilitating student success is everyone's responsibility. Determining how to work together, to support each other, and implement changes will be everyone's responsibility.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
13	Trust that the results will be used in positive ways for institutional and program improvement and not in punitive ways	21	5, 2	4.62	17	5, 3	4.65	4

Response #0, Panelist B There is an initial fear that assessment "evidence" will be used in terminating faculty. Without trust that this will not happen, the assessment process is invalid.

Response #1, Panelist K. Assessment won't happen unless this is the case

Response #2, PanelistU. Must put this in writing on all assessment documents

Response #3, Panelist V. The use of results for student success purposes should be the sole factor and must be extremely obvious and transparent.

Response #4, Panelist A. Addresses one of greatest fears

Response #5, Panelist N. Without trust you have no assessment program.

Response #6, Panelist M. Many of our faculty were concerned that the results would be used punitively---it's important that the message gets out that the results will be used to facilitate institutional and program improvement to better educate students.

Response #7, Panelist S. In order to be brutally honest about the efficacy of a curriculum or pedagogy, faculty need to be fearless. When punishments loom, the anxiety about "looking good" skews the analysis, and may cause real problems to be minimized or overlooked entirely.

Response #8, Panelist G. Its very importan that preople see themselves as a part of a solution not as a "problem" to be solved

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
Knowledge							
14 People with lead responsibility who are knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods	21	5, 1	4.14	17	5, 3	4.59	5

Response #0, Panelist R. These leaders will earn their respect through their knowledge. (This is related to item 11 above.)

Response #1, Panelist U. Faculty are looking for support on assessment with someone who's walked the talk.

Response #2, Panelist A. Won't be worthwhile if leadership doesn't know what they're doing

Response #3, Panelist M. This is very important. You want someone or people in the lead who are knowledgeable about SLOACS.

Response #4, Panelist L. this is a lot to ask of one person who probably teaches a full load already

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
15 Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	20	5, 2	4.15	17	5, 3	4.47	12
Response #0, Panelist J. You need someone who will get the background knowledge and form a plan then listen to others and revise the plan. Response #1, Panelist R. Such a team will help spread communication about the purposes of an assessment program, can help support plan, and implement staff development opportunities, assist in research related to assessment outcomes. Overall the core team will provide neeeded synergy to the process. This is a big endeavor for one leader to carry on alone. Response #2, Panelist aA. Give sens3 of everyone having a voice Response #3, Panelist N. The college needs a group from across the disciplines to guide the process..consistency. Response #4, Panelist M. I think it is important to have a representative body to bounce ideas off, assist with decisionmaking, and to be champions of this very involved process.							
16 Use of a knowledgeable outside consultant to facilitate the implementation process	21	4, 1	2.05			NR	
Response #0, Panelist T. There may be resources inside. This might be critically important in some institutions/ not important in others. Response #1, Panelist G. This can be important in schjools who do not/cannot use internal talent.							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
17	Consistent offering of high-quality, motivating education and training opportunities for faculty, administrators, and staff regarding learning outcomes, assessment principles, teaching methods, and learning theory	20	5, 1	3.60	17	5, 3	4.12	37

Response #0, Panelist R. Most new instructional hires that come from business and industry will have very little knowlegde of these factors. Unless there are certification courses that they must complete to continue to teach, they will not learn about assessment unless there are training opportunities. Ongoing offerings will help to sustain a meaningful process as new developments in assessment are always occuring.

Response #1, Panelist T. "on-going" traning. NOt one shot deals.

Response #2, Panelist L. people are not going to want to attend the same sessions over and over, it makes flex boring

Response #3, Panelist S. Especially in career technical education areas, faculty and support staff need professional development opportunities to form a basis for change in the classroom.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
C	Understanding the need for assessment of learning outcomes at different levels, to serve different purposes: 1) classroom assessments (graded and ungraded) to improve individual student learning, 2) program assessments (aggregated data) to improve curriculum and instructional methods, 3) program review (comparative data and productivity data) to use for planning and resource allocation, and 4) institutional effectiveness (benchmarks) for monitoring of the institution's work.	20	5, 1	4.10	17	5, 2	4.06	42

Response #0, Panelist U. We need to see the purpose and usefulness, that data will be used.

Response #1, Panelist B. Understanding this provides relevance to the time consuming process. To realize one activity can do four things is helpful!

Response #2, Panelist T. Important to know the difference

Response #3, Panelist N. Effective assessment means that the college is able to make meaningful change at all levels.

Response #4, Panelist S. Confusion about the definitions of assessment and evaluation make some conversations difficult. These four areas need to be attended to by each college, but many faculty think of assessment only in the first area, where they are most comfortable.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
D	Campus leaders with experience in a variety of alternative assessment methods willing to mentor and encourage faculty to try new approaches to teaching and learning	19	5, 1	3.74	17	5, 3	4.12	37
	Response #0, Panelist V. Campus leaders who have the expertise in assessment and teaching and faculty who are willing and open to self improvement is the necessary ingredients for creating and maintainin a culture of assessment.							
	Response #1, Panelist T. This process doesn't run itself!							
	Response #2, Panelist L. faculty leaders I hope							
Valued Process								
18	Faculty who view assessment as worthwhile	19	5, 3	4.37	17	5, 4	4.47	12
	Response #0, Panelist J. If the faculty aren't on board, the whole assessment process will fail.							
	Response #1, Panelist R. If they don't view it as worthwhile, it won't be meaningful.							
	Response #2, Panelist O. While (obviously) not everyone will agree on this point initially, I think it takes a "critical mass" to sustain an assessment movement on a campus.							
	Response #3, Panelist V. The assessment process should very clearly reflect the connection between assessments and the classroom.							
	Response #4, Panelist B. If faculty don't view assessment as worthwhile, then the quality and effort will be minimal and in my opinion not valid.							
	Response #5, Panelist A. Otherwise they won't use it							
	Response #6, Panelist S. Faculty who value assessment as part of the learning process are more likely to seek out ways of getting appropriate feedback, and are more likely to improve learning using their own analyses.							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
19 Administrators who view assessment as worthwhile	19	5, 2	4.16	17	5, 3	4.35	21
Response #0, Panelist R. If they don't view it as worthwhile, it won't be meaningful.							
Response #1, Panelist O. While (obviously) not everyone will agree on this point initially, I think it takes a "critical mass" to sustain an assessment movement on a campus.							
Response #2, Panelist B. Adminsitrators must view the process as worthwile in order to give the dollars and "cheerleading" that's necessary for success.							
Response #3, Panelist A. Otherwise they won't provide support resources							
Response #4, Panelist N. If they don't, who will buy-in?							
20 Staff who view assessment as worthwhile	19	5, 1	3.53	17	4, 2	3.41	
Response #0, Panelist O. Too often staff see assessment as outside their area.							
Response #1, Panelist B. Many assessment parameters can be documented by staff (those who work with students; skills and abilities such as honesty, ethical behavior, etc.)							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
21 A shared sense of responsibility for assessment across the college	18	5, 1	4.06	17	5, 3	4.24	29
Response #0, Panelist V. No matter what kinds of sytems or processess we have in place for student learning, unless people involved in the process believe in the same vision the assessment process will become a hindrance rather than a tool for achieving institutional goals. Response #1, Panelist B. Again, assessment cannot occur in a vacuum, it takes all of us. Response #2, Panelist N. Learning outcomes is everyone's responsibility. Response #3, Panelist L. don't just let it fall on the faculty							
22 Incentives and recognition for assessment efforts (e.g. public recognition, praise, stipends, and release time)	18	5, 2	3.56	17	5, 2	3.59	
Response #0, Panelist T. This can backfire. Response #1, Panelist L. I think this should be part of our jobs!							
23 Champions of the process who are well respected and accepted by faculty and administrators	17	5, 2	4.12	17	5, 3	4.41	15
Response #0, Panelist R. This is related to items 11& 14 above.) Response #1, Panelist U. Need to know this is not a fad. Response #2, Panelist V. Same as 11 Response #3, Panelist B. As in any important endeavor, it takes someone to champion the cause. After several years, it's easy to let things slide, and with no one pushing the envelop, we slide down the mountain.							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
24	Faculty frustration with lack of student learning, particularly deep learning	17	4, 1	2.71			NR	
	Response #0, Panelist O. I think this frustration is a key motivator, especially on campuses with large numbers of senior faculty. Response #1, Panelist T. I don't know how to rank a statement that is worded in the opposite/negative. □							
25	An assessment process that is led by faculty	18	5, 3	4.22	17	5, 2	4.18	31
	Response #0, Panelist J. As mentioned before, most assessment is done by the faculty, so without their support the effort will fail. Response #1, Panelist O. I know the accrediting agencies see "faculty led" as one of the critical components. I think administrators who can "lead from behind" may be more important to getting a movement started and sustaining it until critical mass is reached. Response #2, Panelist K. To be effective, assessment must be faculty led and faculty driven Response #3, Panelist U. We need to people in the frontline to move this forward. Response #4, Panelist B. The product of assessment reflects heavily on faculty, so they must be in leading roles. Response #5, Panelist T. with administration Response #6, Panelist A. They have to do the work so they should lead. Response #7, Panelist N. Good assessment is faculty driven. Response #8, Panelist L. admin needs to be a key factor in this process because there needs to be funds as well as the personnel to complete this □							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
E Students who view assessment as worthwhile (as at Alverno College, where grades are not administered)	17	5, 1	3.00	17	4, 2	3.00	
Response #0, Panelist O. If we build it, they are likely to come to share our culture of assessment. (BTW, for the purposes of teaching critical inquiry, there's nothing like a culture of assessment based on evidence.)							
Response #1, Panelist L. do all students recognize what is important to them							
Participation							
26 By students	17	5, 2	3.41	17	5, 2	3.53	
Response #0, Panelist T. need to engage students in the discussion. (why don't we have students attend in-service WITH us?)							
Response #1, Panelist A. It is their learning being assessed.							
27 By faculty	18	5, 2	4.56	17	5, 4	4.88	1
Response #0, Panelist J. A must							
Response #1, Panelist V. Faculty should be the driving force behind meaningful assessment and data driven decision making with regards to student learningoutcomes.							
Response #2, Panelist B. same reasons as above							
Response #3, Panelist A. They are the ones who can facilitate improvement.							
Response #4, Panelist N. Faculty driven.							
Response #5, Panelist M. Need faculty buy in to move the process forward.							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
28 By administrators	18	5, 1	4.00	17	5, 3	4.35	21
Response #0, Panelist A. Critical resource support Response #1, Panelist N. Administrators need to support process financially and through actions							
29 By staff	18	5, 1	3.33	17	5, 1	3.53	
Response #0, Panelist T. Depends on staff role and who is thought to be "staff" Response #1, Panelist A. To facilitate the logistics/mechanics							
30 By stakeholders from the community	18	5, 1	2.67	17	5, 1	2.82	
No responses							
F Ongoing research support for analyzing SOA data and providing findings in ways that guide improvements in teaching, learning and assessment.	18	5, 1	3.94	17	5, 3	4.41	15
Response #0, Panelist J. Data is useless unless properly analyzed. Response #1, Panelist O. Part of the PDA cycle. Response #2, Panelist V. This is absolutely a must if we want to keep the SOA a self sustaining process. Response #3, Panelist B. Faculty don't have time to do the statistical analysis. Response #4, Panelist T. SO frustrating when the data is there but we don't have the resources to get it out!							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
G Continuity of dedicated staff having lead responsibilities for campus-wide assessment activities	18	5, 2	4.11	17	5, 3	4.12	37

Response #0, Panelist U. Assessment needs a home and people identified to provide support for the processes.

Response #1, Panelist V. Continuity is important given the fact that it takes atleat 4-5 years for a whole round of plan do check and act cycle to be completed. New blood may also be necessary in some cases where the process may have stagnated.

Response #2, Panelist B. Staff need to be part of that leading team with faculty to support the work.

Response #3, Panelist N. Continuity is essential.

Leadership

H Faculty committed to using assessment results to improve programs	18	5, 2	4.50	17	5, 4	4.59	5

Response #0, Panelist J. If the results are used to make decisions, why do it?

Response #1, Panelist V. This is the ultimate proof that the SOA process is working.

Response #2, Panelist B. Why do it if we don't reflect and make improvements?

Response #3, Panelist A. Otherwise why bother?

Response #4, Panelist N. The whole point of assessment is providing a reason/or not to make changes in the classroom.

Response #5, Panelist M. The buttom line is that the SLOAC process is being completed in order to use the results to improve programs and student learning.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
I	Department managers committed to working with faculty to use assessment results to improve programs	18	5, 2	4.17	17	5, 3	4.29	25
	Response #0, Panelist J. Again, decision making is why we need to assess. Response #1, Panelist V. Faculty members who are truly interested in student success may find it useful to have the departmental head's support in motivating others. Response #2, Panelist A. That will help it get used							
Using Results								
31	Use of assessment results to improve programs, services, and the classroom teaching and learning experience	18	5, 1	4.50	17	5, 4	4.76	2
	Response #0, Panelist J. decision making again Response #1, Panelist R. It's not the assessment in itself that makes the process meaningful, it's how the results are used that makes it so. Response #2, Panelist O. Without this closure the loop is pretty much a paper exercise. Response #3, Panelist K. If the loop isn't closed assessment will fade away Response #4, PanelistU. This is the whole point! Response #5, Panelist V. Same as 30 H Response #6, Panelist B. Why do it if we don't reflect and make improvements? Response #7, Panelist A. Otherwise why bother? Response #8, Panelist N. Results need to be used. Response #9, Panelist M. The whole reason we're all engaging in SLOACs is to promote improvement....if we don;t use the results than that is a waste of energy and time.							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
32	Results of assessment that are designed specifically for particular audiences	17	4, 1	3.06			NR	
	Response #0, Panelist O. While I think results can and should be reported in different formats (and sometimes without technical vocabulary), I think all audiences should see the same results. Response #1, Panelist L. who are your audiences? Question too vague as it stands							
33	Results that are used to provide evidence of learning and to demonstrate the effectiveness of the college to various stakeholders	18	4, 1	3.39			NR	
	Response #0, Panelist T. demonstrate the effectiveness, but also the places where changes need to be made							
J	Proof of "value added" for accountability purposes; comparison with effectiveness of other educational programs (as touted in Spellings Commission Report)	17	4, 1	2.88			NR	
	Response #0, Panelist T. We're resistent to this on the inside, but I hate to admit, but it's important if we're going to fight the tide... or figure out how to harness it. Response #1, Panelist A. Hard to actually make those comparisons given current bureaucracies							
An Assessment Culture								
K	Commonly held belief that decisions are better made on evidence	17	5, 3	4.29	17	5, 3	4.35	21
	Response #0, Panelist O. I guess colleges and universities can't be expected to be all that different from the societies/cultures in which they exist. But this is a belief that would reap big rewards if we could reach consensus about it. Response #1, Panelist V. People become believers when there is irrefutable empirical evidence.							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
L	Shared vision of the goals of specific learning experiences	17	5, 3	3.79	17	5, 3	3.59	
	Response #0, Panelist V. Shared vision of goals can lead toCollaborations that are synergetic and therefore very powerful.							
	Response #1, Panelist L. will reach this not critical at the onset							
M	Fearlessness to discover what is right and what is wrong with educational programs, and then act on that information with conviction	17	5, 2	3.94	17	5, 3	3.94	
	Response #0, Panelist U. No Fear of Consequences.							
	Response #1, Panelist V. This is a very important driving force behind assessment.							
	Response #2, Panelist L. fearlessness implies everyone has an open mind and that everyone is willing to change and accept there could be a better solution							
N	Willingness of faculty and staff to analyze data--to derive meaning from assessment results	17	5, 4	4.41	17	5, 3	4.59	5
	Response #0, Panelist J. If the data is not used, why do it?							
	Response #1, Panelist R. (Similar to item 31 above) It's not the assessment in itself that makes the process meaningful, it's how the results are used to improve student learning that makes it so.							
	Response #2, Panelist V. Same as M							
	Response #3, Panelist B. So we can do something with the results.							
	Response #4, Panelist A. This completes the assessment loop.							
	Response #5, Panelist N. Important to use the data collected to enhance instruction.							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
O Rich, colleagial conversations about learning, assessment, and the roles of teacher and learner that stimulate change in the way we approach learning	17	5, 2	4.06	17	5, 3	4.24	29

Response #0, Panelist J. Data alone won't create the change. Conversations concerning learning is what will drive the changes.

Response #1, Panelist R. (For the same reasons as cited in #6 and B above.) This is the glue that helps to build a strong and lasting process/program. It builds enthusiasm, willingness to try something new and a venue for learning about assessment techniques.

Response #2, PanelistO. I'm all for collegial conversations, rich and otherwise. But I think assessment is first a practice. (This one seems too philosophical to me.)

Response #3, Panelist V. same as # 6 in the communicatin section.

Response #4, Panelist L. the question is how do we attain these conversations???

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
P	The assessment culture must be strong within the permanent faculty and somehow extended to the part-time faculty who may not have direct contact with other faculty members. Some of our students are only taught by part-time faculty in evening courses. Unless the part-time faculty have physical or virtual conversations about assessment with the full-time faculty, we risk having two castes of students.	17	5, 3	4.12	17	5, 3	4.18	31

Response #0, Panelist V. Part time faculty put together deal with more students and classess than the Ft faculty and therefore assesment without their participation could lead to inadequate sampling procedures to say the least.

Response #1, Panelist B. Adjunct and full-time must be able to secure reliable assessment data.

Response #2, Panelist T. This could be an issue at some schools, but not others. Special condition?

Response #3, Panelist N. Assessment is not limited to full-time faculty. It's necessary to get the buy-in of PT faculty, as most of our faculty are PT.

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
An Assessment Plan							
34 A formal written assessment plan	17	5, 3	4.00	17	5, 2	4.18	31

Response #0, PanelistR. Similar to a philosophy, (question 1 above), a plan will provide a framework for the process - whose responsibility it is, what the outcomes should be, the timeframe and resources needed.
The act of writting a plan that involves the collaboration of administration, faculty and staff creates committment; It will help ensure administrative support.

Response #1, Panelist O. Necessary but not sufficient.

Response #2, Panelist B. As with anything, the first step is a plan. It gives a resource to look at by anyone seeking understanding.

Response #3, Panelist T. If you don't document it, you don't do it.

Response #4, Panelist N. Essential if assesment is to take root.

Response #5, Panelist A. So common comprehensive processes

Response #6, Panelist C. Without a plan in writing, there will be attempts to change it as it progresses along its path.

Response #7, Panelist L. to be critically important I would like to see that it invovles all aspects of the college and can transcend from academia to student sevices to facilties

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
35 An assessment plan that is linked to college mission and integrated into the policies and practices of the institution (e.g. program review, strategic planning, and budgeting)	17	5, 3	4.12	17	5, 3	4.47	12
Response #0, Panelist U. It has to be part of the Strategic Plan and mission of the College. Response #1, Panelist B. Assessment is a lot of work to not be connected to these. It also provides rationale for budgeting, etc. Response #2, Panelist N. Essential. Response #3, Panelist P. This statement should be broken into two parts: 1) mission and 2) integration into P&Ps. I see the first as more important than the second.							
36 A manageable plan (e.g. a few robust measures of learning)	17	5, 2	4.00	17	5, 3	4.41	15
Response #0, Panelist R. Baby steps are needed with successes that all can celebrate. Complicated plans never work. They eventually get re-written or shelved. Response #1, Panelist U. Too Much will result in ineffective and inapplicable processes. We have seen this already at our college. Response #2, Panelist V. A manageable but robust plan is very important in reducing the feeling of being overwhelmed, frustrated and confused about what the assessment process is all about.							
37 A plan that is periodically evaluated for its effectiveness	17	5, 3	4.12	17	5, 3	4.29	25
Response #0, Panelist J. The process must be scrutinized regularly and changes made as appropriate. Response #1, Panelist V. This is as important as implementing an assessment plan.							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
Q Common major summative assessment tools (assignments, tests, required presentations, etc.) across all sections of a course yielding common comparable data.	17	5, 2	3.53	17	5, 2	3.71	
Response #0, Panelist O. I debated "critically" versus "very" for quite a while here. I think it's an absolute must.							
Response #1, Panelist U. But only for Muitiple section courses. But ht eassessmets have to be developed by the instructors invlolved for buy in.							
Response #2, Panelist T. depends on the course							
Response #3, Panelist A. comparing apples to apples							
R For successful implementation of an assessment plan colleges need fulltime leadership for outcomes assessment who can support faculty in assessment processes.	17	5, 3	3.82	17	5, 3	3.88	
Response #0, Panelist R. It doesn't need to be ONE full-time person. It could be a team of 3 devolting 1/3 of their time.							
Response #1, Panelist O. Varies from school to school. Smaller schools may not need full time. But everyone needs some dedicated support.							
Response #2, Panelist U. This is the only way at our college we have moved forward.							
Response #3, Panelist B. It does depend on the size of the college, but dedicated personelle don't have to split their allegiance.							
Response #4, Panelist T. may be ways other than full-time.							
Response #5, Panelist V. We need someone who has the overll view of the assessment process, in the driver's seat. Otherwise faculty will become disengaged from te assessment process and go back to their silos.							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
S	The assessment plan must take into account that a specific learning outcome may not be achieved through completion of a single course. It may be introduced and/or practiced in some courses and measured in other courses. There may be some learning outcomes that cannot or should not be measured in a classroom context. We need to distinguish between knowing how to do, doing when directed, and doing when not directed. Thus, the plan needs to be broad in scope.	17	5, 2	3.41	17	5, 2	3.59	

Response #0, Panelist T. Depends on what kind of plan is envisioned.

Response #1, Panelist N. The tetaching and assessment of core skills should not begin and end with one course. The skills (if valued) should be embedded throughout so that students have ample opportunities to practice and apply the skills.

Response #2, Panelist P. This is a convoluted statement which could be cleaned up to be more user-friendly.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
	Section 2, Conditions that Thwart a Meaningful Process							
Contributions submitted by panelists but not linked to a theme								
T	Assessment of individual student learning outcomes is separate from the student transcript and seen as supplementary or less important than the transcript grade: an add-on.	17	5, 1	3.24	17	5, 1	3.12	
	Response #0, Panelist R. It is an ultimate goal to have grading and assessment processes linked.							
	Response #1, Panelist H. Something that is an "add-on" eventually dies; it must be integral. (Example: WAC programs, critical thinking programs, etc. have a tendency to die when they are not institutionalized in a vital way.)							
	Response #2, Panelist T. relevance...							
	Response #3, Panelist L. I doubt it will totally replace grades and expect it to become an add on							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
U	Instructors' grading schemes for courses are not tied to or do not directly reflect the learning outcomes being assessed. This can result in two parallel but unequal systems for recording student achievement.	17	5, 1	3.59	17	5, 1	3.94	

Response #0, Panelist R. It is an ultimate goal to have grading and assessment processes linked.

Response #1, Panelist O. I'm having trouble deciding how to apply levels of importance to these factors. How about "supportive" versus "thwarting"?

Response #2, Panelist U. Very difficult to avoid, still a problem at our instituion. Working toward all bing mergred on course outlines.

Response #3, Panelist H. Learning outcomes and the assessment of them have to be integrated with the standard tools of the teacher: the syllabus and the transcript grade.

Response #4, Panelist T. The two systems may have different purposes.

Response #5, Panelist L. I'm not in favor of replacing our current grading system or moving to an Alverno college model

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
V Focusing assessment not on the individual but on courses, programs, cohorts, or the college, thus diluting or generalizing the results in ways that are not meaningful to the individual student or instructor.	17	5, 1	2.82	17	4, 1	2.76	

Response #0, Panelist O. This is a question of design and reporting. I think the same assessments can report meaningful results to students and instructors and also be useful in aggregate.

Response #1, Panelist V. Important precursor to faculty buy in.

Response #2, Panelist T. This is a different kind of assessment.

Response #3, Panelist P. Embedded (course) assessments help with this problem somewhat.

Response #4, Panelist L. who is the individual? the teacher or the student

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
W	The amount of time it takes to do quality assessment can be viewed as time taken away from teaching.	17	5, 2	4.06	17	5, 2	3.88	

Response #0, Panelist O. Key -- assessment is teaching.

Response #1, Panelist U. Need to identify the assessment they are doing now in the classroom and how this enhances learning eaperiences for students by assessing curriculum of course and the objectives/outcomes being assessed ina formative and summative manner. Why is this important. How assessment can actually make a course easier to teach and assess.

Response #2, Panelist V. All the more reason that assessment process should be transparent in terms of its commitment to the teaching - Learning connection.

Response #3, Panelist T. Have to fight this one.

Response #4, Panelist N. Ideally, assessment is a large part of the teaching process. Good teaching has always embraced ongoing assessment of learning outcomes. I don't see them as separate.

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
X The monetary cost associated with data analysis related to assessment both in the time spent by the institutional researcher and/or additional staff members in that department and also the cost of validated assessment tools purchased for campus-wide assessment.	17	5, 2	3.59	17	4, 1	3.18	
Response #0, Panelist J. Campus-wide assessment costs time and money. An institution must be willing to spend both time (workshops, convocation days, release time. etc) and money (surveys, training, researcher, stipendds, etc). Response #1, Panelist N. Can't starve the process. Assessment is expensive. Response #2, Panelist P. This just has to be part of doing business and supported as such.							
Y Dedicating time for training in and discussion of assessment during the limited number of non-student contact days in the yearly calendar and balancing that time with all the other campus matters that demand time on those days.	17	5, 1	3.65	17	5, 2	3.41	
Response #0, Panelist J. As mentioned above in X, good assessment takes time and effort. The college must be willing to put forth the effort. Response #1, Panelist R. This facilitates not thwarts the process. Response #2, Panelist V. Collaborating with faculty development and administrative personnell is the key. Increase time for student success discussions and reduce rhetorical speeches by administrators.							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
Z	Instructors who use student learning outcomes and assessment methods, find they are torn between the excitement over student learning and the amount of work they do to make student learning happen - all without compensation or modification of an ancient system of building class schedules and paying instructors.	17	5, 1	3.29	17	5, 1	3.29	

Response #0, Panelist T. This can be negotiated

Response #1, Panelist V. The usual collection of data for the sake of keeping the administrators' at bay should be replaced by a feeling of ownership. Faculty should feel that the data can be used to create meaningful changes and adminstrators should support the efforts.

Response #2, Panelist N. If done correctly, the teaching and assessment go hand-in-hand. They are not separate processes.

Response #3, Panelist M. I hear a lot of faculty on our campus complaining about the amount of work they need to do---SLOAC is just another piece of work for them which they feel they should be compensated for. Not that I agree with providing additional compensation.

Response #4, Panelist L. those who are excited, do it

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
Lack of Clear Communication							
AA Lack of clearly articulated expectations for participation in feedback processes utilizing assessment data	16	5, 2	3.75	17	5, 2	3.71	
Response #0, Panelist U. If the expectations are not clear it will not happen, need strong leadership.							
Response #1, Panelist T. Awkwardly worded							
Response #2, Panelist V. The feedbac loop is what is going to keep the assessment process ongoing and meaningful.							
Resistance to Change							
38 A college tradition of insulation from accountability for individual student learning	17	5, 1	3.12	17	5, 2	3.71	
Response #0, Panelist O. This is a symptom and not the actual problem.							
Response #1, Panelist U. We are in the process of reorganizing and changing this. Deans need to be responsible to verify quality curriculum is developed and assessment is being done.							
Response #2, Panelist T. awkward wording							
39 Assessment that is challenging because of the structure and function of the community college: mission, curricular focus, governance structure, faculty roles and student climate	17	4, 1	3.06			NR	
Response #0, Panelist T. don't get this... especially the "because of"							
Response #1, Panelist L. what do you mean by challenging							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
40	A negative attitude toward the imposed assessment requirements by accreditation bodies	17	5, 1	3.12	17	5, 1	3.29	
	Response #0, Panelist V. If this is not cleared faculty have a tendency to think tat assessment as a process will disappear as quickly as it was brought into awareness. Response #1, Panelist P. Folks need to be reminded that "we" ARE the accreditors. Response #2, Panelist L. becoming less important							
41	Limited evidence of the effectiveness of student learning outcomes assessment on student performance or faculty behavior	17	5, 1	3.71	17	5, 2	3.53	
	Response #0, Panelist O. To the contrary, I think there is plenty of evidence to show that targeted outcomes assessment influences both student performance and faculty behavior. I'd like to see evidence to the contrary. Response #1, Panelist U. Need to communicate success stories. Response #2, Panelis N. Faculty need to see the utility.							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
42 A need to shift focus to learning, rather than instruction, which requires a major cultural shift	17	5, 1	3.94	17	5, 2	4.12	37
Response #0, Panelist H. The overwhelming tendency is for teachers to focus on what they are going to do in a class, not what students will be able to do after the class.							
Response #1, Panelist V. Many faculty members are aweare of this movement but many still have to internalize it and change behaviors accordingly. Until that time it will be "I teach and you pay attention and learn."							
Response #2, Panelist N. Learning centered is more effective - more authentic. Puts the responsibility of learning on the student. Very difficult for faculty to let go of this control.							
Response #3, Panelist L. this has been occurring for years							
43 The fact that Outcomes-Based Education doesn't fit well with the current structure of education in which a student is expected to learn specific content within a specific time frame	17	5, 2	3.65	17	5, 2	3.41	
Response #0, Panelist R. Meaningful assessment is competency based and people learn at different rates.							
Response #1, Panelist U. We need to fit curriculum development be all, including assessment, should be seamless for faculty and students.							
Response #2, Panelist N. Requires a revamping of the curriculum structure.							
Response #3, Panelist L. those who support this movement already acknowledge this and have made concessions in their classes to adapt							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
44	Faculty's view of assessment as encroaching on their academic freedom Response #0, Panelist V. A lot of times this is used as an excuse to not join the "asssessment movement" as it is perceived. Making the assessment process as clear and transparent as possible is the key to beating this feeling. Response #1, Panelist L. it's not and anyone who studies it recognizes that	17	5, 2	3.18	17	5, 2	3.88	
45	Negative college climate, i.e. a general lack of motivation, trust, and commitment Response #0, Panelist N. People aren't willing to invest in something they don't trust. Without investment and buy-in, you have a superficial program.	17	5, 2	3.53	17	5, 2	3.76	
46	Public criticism of higher education about the educational level of graduates, which produces resistance and diverts attention from developing a process Response #0, Panelist O. Isn't this a repeat?	17	4, 1	2.53			NR	
47	Negative leadership of external bodies Response #0, Panelist T. Examples? What is negative leadership? Response #1, Panelist L. what do you mean by external bodies □	17	4, 1	2.41			NR	
48	Lack of a tradition of shared responsibility for student learning Response #0, Panelist T. takes awhile to develop tradition	17	4, 1	3.18			NR	
49	Lack of support and understanding of boards, CEOs and CIOs Response #0, Panelist R. Without their support, leaders won't be identified to allocate time to spear heading the process, offering develoment opportunities, holding sessions for dialogue about outcomes, conducting research on outcomes and how those outcomes can be used to improve learning.	17	5, 1	3.18	17	5, 1	3.41	

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
AB Assumption that assessment violates "academic freedom"	17	5, 2	3.24	17	5, 2	3.71	
Response #0, Panelist O. It's an issue that needs to be addressed. But I think it's just a hurdle people like to through in front of assessment before it builds up too much steam.							
AC Belief that assessment is separate from instruction instead of part of the same circle.	17	5, 2	3.82	17	5, 2	3.88	
Response #0, Panelist U. Need to merge as all curiculum.							
Response #1, Panelist V. The more embedded the assessment process is to the classroom instructional activities, more faculty are likely to join in without any added incemtives.							
Response #2, Panelist N. The college needs to view assessment as an important component of instruction.							
Response #3, Panelist L. even if it is approached differently, eventually they have to be tied							
Competition Among Priorities							
50 Concern that outcomes assessment leads to increased workload, competes with other workload priorities, and diverts energy from teaching	17	5, 3	4.18	17	5, 2	4.18	31
Response #0, Panelist U. Needs to earn our use by publizing success stories.							
Response #1, Panelist V. Once the assessment process is clearly defined wih individual roles and responsibilities clearly defined, individual faculty members involvement will be minimal but significant.							
Response #2, Panelist A. "I don't have time" is readiest excuse.							
51 Concern about the ability to balance institutional priorities with limited resources	17	5, 2	3.76	17	5, 1	3.59	
no responses							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
52	Having to respond to both state and accreditation requirements, which creates a competing demand on college resources	17	5, 2	3.29	17	4, 1	3.12	
	Response #0, Panelist T. align them as much as possible.							
53	Unprepared students registered in classes because of resistance or inability to implement prerequisites	16	5, 1	2.69	17	5, 1	2.94	
	Response #0, Panelist O. This is not, strictly speaking, a learning outcomes issue, is it?							
	Response #1, Panelist T. not sure how this relates							
	Response #2, Panelist N. The colleges need to invest more in upfront assessment, and explaining the purpose to incoming students. Colleges also need to be firm on college readiness. It's difficult in open-door colleges, but minimum requirements need to be established and honored.							
AD	Lack of shared belief in "Assessment as Learning". A shared belief erases the either/or dichotomy of "either teaching" "or assessing."	16	5, 2	3.38	17	5, 2	3.94	
	Response #0, Panelist V. A shared belief of "student success" is an absolute precursor to meaningful assessments.							
Lack of Knowledge								
54	Campus leaders who lack knowledge about learning, outcomes, teaching methods, learning theory, and assessment methods	17	5, 2	3.82	17	5, 2	4.12	37
	Response #0, Panelist R. Without such knowledge, they only reason they'll support it is if they have to because of accreditation, state or federal mandates.							
	Response #1, Panelist N. It's difficulty to gain buy-in if your answers can't be answered.							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
55 Absence of a core team, committee, or task force comprised of selected college personnel representative of the college to guide institutional assessment	17	5, 2	4.12	17	5, 3	4.29	25
Response #0, Panelist R. Such a team can truly highlight the importance of the assessment program and provide guidance and support to whoever leads the process.							
Response #1, Panelist U. Need leadership and identity.							
Response #2, Panelist B. It won't happen without this.							
Response #3, Panelist N. Without a core team, it's difficult to get assessment campus-wide, and to assess at program level.							
56 Lack of understanding and consensus about what needs to be done	16	5, 3	4.13	17	5, 2	4.06	42
Response #0, Panelist R. This can stall the process from moving forward or even getting off the ground.							
Response #1, Panelist O. This is the chicken that choked the assessment snake at our institution. We've been stuck here for at least three years.							
Response #2, Panelist V. The assessment process will not be successful without the consensus. faculty will continue to operate from silos.							
Response #3, Panelist A. If not common and coordinated, won't be meaninful or useful.							
Response #4, Panelist N. Assessment can't move forward if there is a lack of understanding. People aren't willing to invest in something to which they aren't committed.							
Response #5, Panelist L. consensus with who? The committee or the college as a whol							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
57	Limited opportunities for professional development in learning outcomes, assessment principles, teaching methods, and learning theory	18	5, 2	3.56	17	5, 3	3.94	
	Response #0, Panelist R. New instructors are often not expected to enter the college with deep understanding of assessment practices, thus they need to learn it while here, either via inservices, or courses needed for teaching certification							
AE	Students /graduates that do not understand the importance of indirect measures and do not participate in assessment efforts like alumni surveys, employment surveys, student surveys, exit interviews, and focus groups.	18	5, 1	2.94	17	4, 1	3.24	
	Response #0, Panelist N. The whole point of learning outcomes is to determine if students learned what the college intended the students to learn. If students don't have a clear understanding of the importance of assessment on learning, the college has done a poor job regarding assessment.							
	Response #1, Panelist P. These are really indirect measures rather than direct measures of learning							
Lack of Value								
58	Lack of appreciation for assessment as integral to the improvement of programs, services, teaching and learning	18	5, 3	3.89	17	5, 2	4.18	31
	Response #0, Panelist R. Value and knoweledge (Q54) go hand in hand.							
	Response #1, Panelist A. If it isn't considered worthwhile, it won't be done.							
	Response #2, Panelist M. Stakeholders need to see the value in something and the use of the data gathered in order to continue investing time and energy							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
59 The view that student learning outcomes and assessment are just another fad	18	5, 1	3.39	17	5, 1	3.35	
Response #0, Panelist R. I don't think people truly believe this. Response #1, Panelist U. Faculty need to understand this is not going away. Keep in touch, communicate accomplishments and next steps. Response #2, Panelist V. This in my opinion is a big hindrance especially if you are trying to establish a culture of assessment. generally happens when the previous assessment process has been haphazard and nonsystematic.							
60 A perception that some important learning outcomes are not measurable	18	5, 2	3.44	17	5, 2	3.29	
Response #0, Panelist O. For philosophical discussions about assessment this is one of my favorites.							
61 Lack of an appreciation for outcomes-based education	18	5, 2	3.50	17	5, 2	3.47	
Response #0, Panelist R. Q 54, 58, and 61 reflect the same concept. We need to know what we are talking about in order to develop a							
62 Faculty who question their responsibility to assess anything outside their individual classes	18	5, 2	3.50	17	5, 3	3.76	
Response #0, Panelist R. Some - fortunately a few - faculty SHOULD question their responsibility because their skills are limited. Some can't write well, read well, and have not developed a host of other core abilities. Response #1, Panelist N. Learning outcomes and assessment is everyone's responsibility.							
63 Few incentives and recognition for assessment efforts	17	5, 2	3.29	17	5, 2	3.12	
Response #0, Panelist O. Why should recognition for assessment efforts be any more forthcoming? Response #1, Panelist L. not everyone is looking for recognition some do it to be better teachers							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
64 Lack of venues available for dialogue	18	5, 2	3.17	17	5, 1	3.47	
Response #0, Panelist R. Venues build enthusiasm, motivation and new ideas to build upon.							
Response #1, Panelist O. Rationalization -- asynchronous discussion boards go unread and unused. Lots of option -- getting people to use them is the issue.							
Limitation of Resources							
65 Student learning outcomes and assessment being seen as a time-consuming processes when there is little time for educational reform of this magnitude	17	5, 2	3.76	17	5, 2	3.76	
No responses							
66 Attempts to sustain outcomes and assessment efforts and to balance other institutional priorities with limited financial resources	17	5, 2	3.76	17	5, 2	3.88	
No responses							
67 Lack of knowledgeable administrative leadership	17	5, 2	4.06	17	5, 2	3.94	
Response #0, Panelist R. If they don't have a clue, they won't devote adequate resources to the effort including someone or group to lead the effort, funds for professional development, research to study and document outcomes.							
Response #1, Panelist B. Adm leadership provides the dollars to support this process, without dollars and vision it won't go.							
Response #2, Panelist N. Without administrative backing and understanding, the assessment program will be weak.							
Response #3, Panelist L. not just lack of knowledge to be critical important it should say lack of knowledge and lack of support							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
68 Lack of knowledgeable faculty leadership	17	5, 3	4.24	17	5, 4	4.59	5
Response #0, Panelist R. Many faculty will do this on their own, despite faculty leadership.							
Response #1, Panelist U. Vital to succeed							
Response #2, Panelist B. FAculty are the foundations for stellar assessment, so faculty leadership must be knowledgable.							
Response #3, Panelist V. Faculty leadership is the key to a faculty driven model of student success enhancement.							
Response #4, Panelist A. They are key players.							
Response #5, Panelist N. Without administrative backing and understanding, the assessment program will be weak.							
69 Lack of comprehensive, practical, and sustainable models that practitioners in community colleges might use for assessing, documenting, and using information about learning outcomes	17	5, 2	3.76	17	5, 2	3.94	
Response #0, Panelist R. This would make it easier but I'm not sure if it would make it more meaningful.							
Response #1, Panelist O. If this is true, we can get big and rich by creating these models.							
Response #2, Panelist U. We researched for 1 year before implementing a new model.							
Response #3, Panelist V. Absolutely important that this model feeds into strategis planning and goal setting for the institution.							
Response #4, Panelist L. because of the diversity in the cc's themselves, one model will not fit all!							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
70	Few sophisticated approaches for assessing skills like critical thinking and problem solving	15	5, 2	3.60	17	5, 3	3.76	
	Response #0, Panelist N. The outcomes are only as good as the assessment tools. Response #1, Panelist L. not sure what you are asking here? how will few approaches thwart the movement?							
71	Lack of technology support for tracking student progress	17	5, 1	3.47	17	5, 1	3.53	
	Response #0, Panelist 0. May be true for some institutions. But the technology exists. Response #1, Panelist N. Technology is needed to support longitudinal studies. Studies are needed to know if changes had any impact.							
AF	Contractual acknowledgment of workload implications for faculty undertaking program assessment tasks--faculty need compensated time to do this important work	17	5, 2	3.59	17	5, 2	3.47	
	Response #0, Panelist A. Many won't do it if not seen as part of official job Response #1, Panelist L. do you mean leaders or all faculty?							
Negative External Influence								
AG	Outside (and sometimes inside) pressure to present assessment results in an oversimplified form. (Refusal to acknowledge the complexity of the task.)	17	5, 1	3.00	17	5, 1	3.59	
	Response #0, Panelist V. The complexity of the model should be self revealing because assessment as a process is an evolving issue for an institution. Response #1, Panelist L. do you mean turning slo's into quantitative data?							

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
Lack of an Assessment Culture							
AH Colleges are still struggling to understand the purpose of the assessment process in the overall scheme of things involving institutional planning, evaluation and effectiveness. While the above process is seen as absolutely crucial and the necessary funds are set aside, assessment is still hanging by itself usually a one man/woman department. It really does not reflect well with faculty who see this person trying to be everything to everyone. An assessment department like the others that I have indicted should be backed up by appropriate resources in terms of money, staffing and other resources. We have not made much progress in this area i.e the implementation of the continuous cycle of plan, do check act due to the above reasons. We have some extremely talented professionals driving this, and yet the process fails due to inappropriate funding. Lip service only goes so far.	17	5, 2	3.76	17	5, 2	3.76	

Response #0, Panelist O. Well said.

Response #1, Panelist V. If will be good to link the various activities of the different departments within an instituion, and also provide the same support for assessment activities as it is done for faculty development, students services etc.

Response #2, Panelist N. The process should be centralized and dedicated to assessment.

ID	No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
Limited Use of Results							
72 Assessment results are not fed back into the campus decision making process	17	5, 1	4.06	17	5, 3	4.29	25

Response #0, Panelist J. If the people doing the assessment don't see and discuss the results, why should they continue to be involved?

Response #1, Panelist K. Closing the feedback loop is critical to successful assessment

Response #2, Panelist U. Need feedback, basic principle.

Response #3, Panelist B. If rsults need to be used, they MUST be returned to the ones who are charged with making changes based on the results...and in a timely manner.

Response #4, Panelist N. Don't collect the data if it isn't going to be shared and used to make meaningful change.

Response #5, Panelist M. Results need to be fed back into campus decisionmaking or faculty will believe that completing the SLOAC work has no value.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
73	Assessment results that are not used to improve the college, its programs, or the classroom teaching and learning experience	17	5, 3	4.53	17	5, 3	4.59	5

Response #0, Panelist J. Using the assessments to drive decision-making is critical

Response #1, Panelist R. This is what makes assessment meaninful.

Response #2, Panelist K. Otherwiase assessment is a waste of time and resources

Response #3, Panelist U. Start collecting data and success stories.

Response #4, Panelist B. If not used, the process is a waste of time, money, and is demoralizing.

Response #5, Panelist V. If results are not used to make appropriate changes faculty and others will not take assessment seriously. As it stands today, assessment is generally a responsibility of one person with no supports or helps.

Response #6, Panelist A. Otherwise, what's the point?

Response #7, Panelist N. Don't collect the data if it isn't going to be shared and used to make meaningful change.

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
74	Concern among faculty that the results of assessment will be used in faculty evaluations	16	5, 2	3.94	17	5, 2	3.65	
	Response #0, Panelist R. No response, not able to judge. Response #1, Panelist V. That is the reason why assessment as a process should be transparent and faculty driven. Response #2, Panelist N. Assessment should not be mixed-up with faculty evaluation - they are separate processes. As stated earlier, authentic assessment is dependent upon trust. Response #3, Panelist M. Need to stress that they will not be used in that manner to get more buy in □							
AI	Part-time instructors may have inconsistent access across a campus or divisions to assessment and outcomes dialogue and representative examples.	17	5, 2	3.53	17	5, 2	3.76	
	No responses							

ID		No. of Ratings	High-Low Rating	Mean Rating	No. of Ratings	High-Low rating	Mean rating	Rank
AJ	Since assessment is around for quite a while now everyone wants to collect some data without a clear purpose behind. Then they expect someone other than themselves to do something about "fixing things." As such there is a lot of data out there collecting dust on college shelves with no one doing any follow up. Some are even convinced that assessment means collecting data and talking about accomplishments. Very few actually go ahead and use data to generate solutions to enhance student achievement and success.	16	5, 2	3.88	17	5, 2	3.76	

Response #0, Panelist J. If assessment isn't used to drive changes to improve student learning then assessment is meaningless.

Response #1, Panelist U. Need to teach how to use the data.

Response #2, Panelist V. Taking responsibility for the data collected and a willingness to take risks in order to effect changes is the key to the assessment process being viewd as an useful tool for the teching - learning connection.

Response #3, Panelist A. There's not asessment without the data being used.

Response #4, Panelist N. Don't collect the data if it isn't going to be shared and used to make meaningful change.

Appendix F

Critically Important and Extremely Important Statements in the Full Study

This table presents those statements that were rated as critically important and those that were classified as extremely important. Only statements that had mean rating of 4.00 or higher in Round III were included. Of the 110 statement consider in this study, 45 received mean ratings of 4.00 or above. Of these 45 statements 11 had mean rating of 4.50 or higher. Section 1 presents the facilitating statements and section 2 contains the thwarting statements. In each of these two sections the statements are listed in rank order by mean rating.

Legend:

High-Low rating	The highest and lowest rating given by panelists (e.g. 5, 3)
Mean	The average rating of those who rated the statement
Rank	The rank of a statement among all statements that had a mean rating of 4.00 or above in Round III
NR	This statement was not moved to round III and thus was not rated
5	Critically Important
4	Very Important
3	Moderately Important
2	Minimally Important
1	Not Important

Item identification		Round II			Round III			
		No. of Ratings	*High-Low rating*	*Mean*	*No. of Ratings*	*High-Low rating*	*Mean*	*Rank*
Section 1, Conditions that Facilitate a Meaningful Process								
Statements Rated as Critically Important (mean rating of 4.50 and above)								
27	Participation by faculty	18	5, 2	4.56	17	5, 4	4.88	1
11	Leaders for the process who are well respected, and are accepted by faculty, administrators, and staff	20	5, 2	4.40	17	5, 4	4.76	2
31	Use of assessment results to improve programs, services, and the classroom teaching and learning experience	18	5, 1	4.50	17	5, 4	4.76	2
13	Trust that the results will be used in positive ways for institutional and program improvement and not in punitive ways	21	5, 2	4.62	17	5, 3	4.65	4
6	Opportunities for dialogue and collaboration among faculty, administrators, and staff (e.g. convocations, orientations, presentations, retreats, and workshops)	21	5, 1	4.24	17	5, 4	4.59	5

Item identification		Round II No. of Ratings	Round II High-Low rating	Round II Mean	Round III No. of Ratings	Round III High-Low rating	Round III Mean	Round III Rank
14	People with lead responsibility who are knowledgeable about learning outcomes, teaching methods, learning theory, and assessment methods	21	5, 1	4.14	17	5, 3	4.59	5
H	Faculty committed to using assessment results to improve programs	18	5, 2	4.50	17	5, 4	4.59	5
N	Willingness of faculty and staff to analyze data--to derive meaning from assessment results	17	5, 4	4.41	17	5, 3	4.59	5
B	Faculty champions willing to share what they have learned about learning, reporting on assessment and resulting curricular changes	20	5, 3	4.25	17	5, 3	4.53	11
Statements Classified as Extremely Important (mean rating of 4.00 and above but less than 4.50)								
15	Presence of a core team, committee, or task force comprised of selected college personnel who are representative of the college to guide institutional assessment	20	5, 2	4.15	17	5, 3	4.47	12
18	Faculty who view assessment as worthwhile	19	5, 3	4.37	17	5, 4	4.47	12
35	An assessment plan that is linked to college mission and integrated into the policies and practices of the institution (e.g. program review, strategic planning, and	17	5, 3	4.12	17	5, 3	4.47	12
2	Communication strategies in place that are timely and that keep faculty, administrators, and staff informed about assessment practices and the results of assessment activities	21	5, 3	4.24	17	5, 3	4.41	15
3	Communication from respected faculty members informing the campus community about the assessment process	21	5, 2	4.10	17	5, 4	4.41	15
12	Administrators, faculty, and staff who form partnerships and work in concert with each other	20	5, 2	4.20	17	5, 4	4.41	15
23	Champions of the process who are well respected and accepted by faculty and administrators	17	5, 2	4.12	17	5, 3	4.41	15
F	Ongoing research support for analyzing SOA data and providing findings in ways that guide improvements in teaching, learning and assessment.	18	5, 1	3.94	17	5, 3	4.41	15

Item identification		Round II No. of Ratings	Round II High-Low rating	Round II Mean	Round III No. of Ratings	Round III High-Low rating	Round III Mean	Round III Rank
36	A manageable plan (e.g. a few robust measures of learning)	17	5, 2	4.00	17	5, 3	4.41	15
5	Vice presidents of instruction who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	21	5, 3	4.33	17	5, 3	4.35	21
19	Administrators who view assessment as worthwhile	19	5, 2	4.16	17	5, 3	4.35	21
28	Participation by administrators	18	5, 1	4.00	17	5, 3	4.35	21
K	Commonly held belief that decisions are better made on evidence	17	5, 3	4.29	17	5, 3	4.35	21
I	Department managers committed to working with faculty to use assessment results to improve programs	18	5, 2	4.17	17	5, 3	4.29	25
37	A plan that is periodically evaluated for its effectiveness	17	5, 3	4.12	17	5, 3	4.29	25
21	A shared sense of responsibility for assessment across the college	18	5, 1	4.06	17	5, 3	4.24	29
O	Rich, colleagial conversations about learning, assessment, and the roles of teacher and learner that stimulate change in the way we approach learning	17	5, 2	4.06	17	5, 3	4.24	29
1	A written institutional philosophy of assessment that defines the purpose of assessment and the uses of the results	21	5, 2	4.19	17	5, 3	4.18	31
25	An assessment process that is led by faculty	18	5, 3	4.22	17	5, 2	4.18	31
P	The assessment culture must be strong within the permanent faculty and somehow extended to the part-time faculty who may not have direct contact with other faculty members. Some of our students are only taught by part-time faculty in evening courses. Unless the part-time faculty have physical or virtual conversations about assessment with the full-time faculty, we risk having two castes of students.	17	5, 3	4.12	17	5, 3	4.18	31
34	A formal written assessment plan	17	5, 3	4.00	17	5, 2	4.18	31

Item identification		Round II No. of Ratings	Round II High-Low rating	Round II Mean	Round III No. of Ratings	Round III High-Low rating	Round III Mean	Round III Rank
17	Consistent offering of high-quality, motivating education and training opportunities for faculty, administrators, and staff regarding learning outcomes, assessment principles, teaching methods, and learning theory	20	5, 1	3.60	17	5, 3	4.12	37
D	Campus leaders with experience in a variety of alternative assessment methods willing to mentor and encourage faculty to try new approaches to teaching	19	5, 1	3.74	17	5, 3	4.12	37
G	Continuity of dedicated staff having lead responsibilities for campus-wide assessment activities	18	5, 2	4.11	17	5, 3	4.12	37
A	Assessment process can lead to inter and intra disciplinary conversations yielding new and fresh	19	5, 2	3.79	17	5, 3	4.06	42
C	Understanding the need for assessment of learning outcomes at different levels, to serve different purposes: 1) classroom assessments (graded and ungraded) to improve individual student learning, 2) program assessments (aggregated data) to improve curriculum and instructional methods, 3) program review (comparative data and productivity data) to use for planning and resource allocation, and 4) institutional effectiveness (benchmarks) for monitoring of the institution's work.	20	5, 1	4.10	17	5, 2	4.06	42
4	College presidents who are knowledgeable about assessment, publicly supportive of it, and visible in its implementation	21	5, 1	4.10	17	5, 3	4.00	45

Item identification	Round II			Round III			
	No. of Ratings	High-Low rating	Mean	No. of Ratings	High-Low rating	Mean	Rank
Section 2, Conditions that Thwart a Meaningful Process							
Statements Rated as Critically Important (mean rating of 4.50 and above)							
68 Lack of knowledgeable faculty leadership	17	5, 3	4.24	17	5, 4	4.59	5
73 Assessment results that are not used to improve the college, its programs, or the classroom teaching and learning experience	17	5, 3	4.53	17	5, 3	4.59	5
Statements Classified as Extremely Important (mean rating of 4.00 and above but less than 4.50)							
55 Absence of a core team, committee, or task force comprised of selected college personnel representative of the college to guide institutional assessment	17	5, 2	4.12	17	5, 3	4.29	25
72 Assessment results are not fed back into the campus decision making process	17	5, 1	4.06	17	5, 3	4.29	25
50 Concern that outcomes assessment leads to increased workload, competes with other workload priorities, and diverts energy from teaching	17	5, 3	4.18	17	5, 2	4.18	31
58 Lack of appreciation for assessment as integral to the improvement of programs, services, teaching and	18	5, 3	3.89	17	5, 2	4.18	31
42 A need to shift focus to learning, rather than instruction, which requires a major cultural shift	17	5, 1	3.94	17	5, 2	4.12	37
54 Campus leaders who lack knowledge about learning, outcomes, teaching methods, learning theory, and assessment methods	17	5, 2	3.82	17	5, 2	4.12	37
56 Lack of understanding and consensus about what needs to be done	16	5, 3	4.13	17	5, 2	4.06	42

Appendix G
Verification of the Results of the Full Study

The purpose of this form is to provide a method for you to give an evaluation of the results of the study in which you participated last fall. Your evaluation serves as a form of verification called member checking. The method is used to determine if the results described by the researcher are accurate in the opinion of the panelists.

In a Delphi study, such as this one, the results can only represent the synthesis of the opinions of a particular group. The results provided by any panel do not predict the response of a larger population or even a different Delphi panel. You are being asked to evaluate three aspects of the attached report: the grouping of the statements, the titles given to each group, and the accuracy of the narrative in describing the results. Before responding to the following questions please read the attached report.

1. To what extent do you agree or disagree that the statements, as listed in each of the tables, were appropriately grouped by similarity? Please mark the one response that best reflects your opinion.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
	☐	☐	☐	☐	☐
Panelists	B E L P V	C D K N		H	

If you wish to make any comments about the grouping of the statements please provide them here

2. To what extent do you agree or disagree that the titles given to each group of statements were appropriately descriptive of the statements? Please mark the one response that best reflects your opinion.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
	☐	☐	☐	☐	☐
Panelists	B C E L N V	D K P		H	

If you wish to make any comments about the titles given to the groups please provide them here.

3. To what extent do you agree or disagree that the narrative accurately describes the aggregated opinion of the group of panelists about the critical factors affecting the meaningful assessment of student learning. Please mark the one response that best reflects you opinion.

	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
	☐	☐	☐	☐	☐
Panelists	B L N V	C D E K P		H	

a. Was something missing from the narrative that should have been included?

Panelist B: No
C: Not that I could detect
E: No
K: No

b. Was something included in the narrative that should not have been?

Panelist B: No
C: Again, not that I could detect
E: No
K: No

4. General Evaluation of the Study
   a. What aspects of this study were well done?

Panelist B: Excellent communication throughout the study. Well done summary and implications. Seeing this compiled is reaffirming of all the hard work being done.

C: I thought the overall study was good. This very last part, the wrap-up, however, was a bit long.

E: The study was well done. The Delphi method was a wonderful way to collect relevant accurate data

H: The process was thorough. The presentation of the findings was very readable and usable.

K: In my opinion the entire study was well executed and the methodology used was appropriate

L: the inclusion of a variety of panelists

N: Learning outcomes - the concept and process were well done. You captured, I belive, its function and purpose

P: The methodology was an interesting approach to what is a very broad topic. It was a good way to synthesize the issues.

V: It clearly articulated the opinions of the participants, and based on the gap analysis would be a very useful document for colleges. It clearly stated what is happening with assessments which is, implementing rather than assessing.

   b. What aspects need to be improved?

Panelist C: Can't think of anything at this time

L: more research which will come in more time, this study is a pioneer in its field

N: Process could be simplified

V: Application of the findings to developing a model for assessment. The sample obtained may not be a representative sample from community colleges.

5. Additional Comments

If you have any additional comments, please provide them here.

Panelist B: FYI: page 16: line 2 from bottom, spelling of knowledge/experience
page 17 line 9: statement(s) panelist(s)
page 34 line 5: there are two "important"
page 47 line 11: spelling of faculty

D: Hi Jerry, it looks fine, but one thing that is perhaps unique to my campus is the personnel engagement of classified staff (researchers/project coordinators) - who end up being responsible for facilitating faculty SLO assessment groups and implementing institutional change projects. You have to go with the group thought - which I think eliminated staff in the early feedback rounds. Yes, I agree faculty are essential - as is administrator support. One reason to maybe focus on classified staff roles is that they build trust between administrators and faculty and reinforce the idea that the process is "faculty-driven" and not a measuring tool for faculty. At my college, good or bad, staff involvement is designed to be non-threatening, guiding, and mostly invisible, but also ensures the project keeps moving and communication happens. Similar to the SLO Coordinator (faculty) on our campus, this role eliminates obvious dependency on administrators, yet supports faculty learning the process of developing and assessing SLOs in a non-threatening environment until they are actually able to "drive" the process and become SLO development and assessment experts. The other reason I mention "staff" is because most of the SLO development is focused on instruction right now - the domain of faculty. As the crossover between curriculum and student services (i.e. learning communities/cohorts, accreditation emphasis on SLOs in student services) continues to blur past academic and services silos, then where and by whom SLOs get developed and measured will also blur.

E: This study provides information that is much needed in the area of assessment. It emphasizes the importance of student learning at a time when we (higher education) are being asked to be accountable to our stakeholders. I appreciate the oppportyunity to have been a part of this study.

H: It may have been helpful to be more explicit about what bottlenecks in the road to establishing a culture of assessment need to be "unpacked."

N: Well done. Thank you for including me. I think that you came up with some useful/meaningful data.

P: I would like to see some concrete ideas about how the results could influence outcomes assessment strategies used by colleges.