Embedding a Culture of Evidence in Institutional Effectiveness: Are We Connecting the Dots?

Pedro L. Martinez
Glen A. Holmes
Winston Salem State University

"Assessment is the engine that drives student learning "
 Cowan, 1998

Introduction

Institutional effectiveness remains elusive despite the nationwide concerted effort across all institutions of higher learning to provide accountability measures, as required by accreditation agencies. The paucity of evidence that exists between documentation of achieving students' learning outcomes and its connection to institutional effectiveness has become the main focus of the six major accreditation agencies. For example, SACS states that the "evaluation of an institution's educational quality and its effectiveness in achieving its mission is a difficult task", it further expects an institution "to document quality and effectiveness in all its major aspects" (SACS, 2001/2004, p.5)

Part of the problem in documenting real evidence of learning is compounded by the simple fact that in the past, "institutional effectiveness" was measured and easily understood by citing percentages of students' graduation, retention and degree/certificate completion as being equivalent to student learning outcomes. Institutions of higher learning readily garnished the evidence that quickly generated retention and graduation rates, certificate and degree completions and other date points. However, these did not answer the fundamental question of what students learned. The implication was that the higher the figures reported, the greater the rate of success. On the surface, this sounds logical and plausible. That is until we begin to examine that institutions of higher learning are not only diverse in their mission and purpose, but are also a representation of the characteristics of the population they serve. Some institutions seem to be more "efficient" when students do well, as reported by higher retention and graduation percentage rates. However, the truth of the matter is that these measures do not take into account the challenges that many of our students bring with them in terms of college readiness and in the form of educational gaps. If an institution is more "selective", by the very nature of its students' composition, it will tend to be more "successful" since better academically prepared students will result in higher percentages of retention and graduation rates. The dilemma is in answering these questions: "Was the institution successful in teaching the students or did the students, by their own attributes, contribute to the gains claimed by the institution? Are student outcomes sufficient evidence of learning or do we need to use different measures to provide real evidence of student learning?" These are examples of the chicken and the egg conundrum. It strikes at the very heart of what accreditation agencies are looking for: "Was the institution actually effective in providing the instruction that yielded the gains reported by student learning outcomes? In the past, measures such as degree/certificate completion and transfer percentages were the par excellence measures of institutional effectiveness. By using these aggregate statistics, *assessment* became secondary, something that was privately done by instructors in their classes. However, recently, student learning outcomes have become the "benchmarks" by which institutions of higher learning can provide an

alternative and "true" measure that the institution's mission has been accomplished. It is commonly agreed in academia that learning outcomes, when measured through assessments, can provide a better picture of an institution's effectiveness because they focus on the academic attainment of individual learners.

What is institutional effectiveness?

In the simplest way, *institutional effectiveness* answers the question: What is the mission of the university/college and to what extent is the institution accomplishing its mission? The answer to this question is provided when *indicator(s)*, a condition in the form of learning outcomes, are measured through assessment. When an institution reports its 'core indicators', we know that these indicators are the measures that it has aligned with its mission and values and are considered of most worth. Core indicators have become the main focus when addressing the question of how well the institution is accomplishing its mission, especially to accreditation agencies. The reason is because they can systematically provide a picture of the students' progression to the public sector.

In many instances, institutions of higher learning engage in evaluating their "effectiveness" to satisfy the requirements of accreditation agencies. Often times, this process has become a ritual or a mere cyclical event rather than an ongoing process. The "culture of evidence" being espoused by many professional organizations and/or long term initiatives such as "Achieving the Dream" , is a concerted effort to guide post secondary education institutions to systematically provide the evidence that student learning outcomes have been accomplished. In order to do this, a *culture of evidence must exist, one that utilizes data* that allows for student learning and institutional performance to be assessed. The importance of establishing culture of evidence is mainly due to the fact that institutions of higher learning have haphazardly collected evidence because they have lacked intentionality of purpose to guide them. Intentionality of purpose is the most important component sustaining this culture of evidence.

Assessment for Accountability or for Excellence

For the last two decades, the debate whether student learning is consistent or inconsistent with assessment for accountability has been at odds with the assessment for improvement of student learning. Richard Frye, a scholar in this issue (Frye1999), contends that the term **assessment** historically became synonymous with **"accountability"** and de facto with *institutional effectiveness*. When legislators and other entities asked if institutions of higher learning had done their job, institutions that provided this assessment evidence were considered **accountable** in the public's eye. Therefore, aggregated statistics became the norm for documenting fiscal efficiency and resource productivity and the standards for accountability. The main concern is what factors must be considered when asking questions about what assessment to use and which one is compatible with student learning outcomes. The second concern is to what extent the institution has made an investment in assessing **meaningful** student learning. Undoubtedly, this issue continues to be debated by the Academy.

This historical note illustrates that although accountability is not new to higher education, the recent dialogue points out that student learning outcomes are also designed to demonstrate the unique mission of the institution, its curriculum and that assessment measures should reflect these characteristics. Thus assessment for *excellence is* the institution's effort to assess its own performance and to improve delivery of learning**.** It is the summary of self monitoring initiatives of the institution's performance in individual courses and throughout all academic programs (majors). When the institution engages in this type of evaluation, then it is considered to be involved in the *assessment for excellence*. That means that assessment becomes the vehicle for monitoring the results of teaching and learning. Assessment may

take different formats but mainly focuses on measuring student learning outcomes. Assessment, in its simplest form, reveals whether or not students are learning as a result of our intended teaching efforts.

What are student learning outcomes and how are they measured?

Undoubtedly, accreditation agencies have shifted their focus to student learning outcomes. The old indicators of quality such as the number of degrees, size of endowment, library holdings, and other institutional inputs and assets are no longer the preferred mode for measurement. Instead, the prevalent measures of institutional excellence focus on student abilities, skills and dispositions measured in the form of student learning outcomes (output). According to Frye (1999) "assessment is the vehicle for educational improvement" not an end it itself. (AAHE, 1992). Assessment is the vehicle that shows how well the institution has fulfilled its mission through the selection of student outcomes in individual courses, programs, and other co-curricular activities and gauging how effective the college/university has been. Supporting this concept is the notion that students bring with them a set of skills, competencies and dispositions and that there is added value when institutions provide the right learning experiences that increase to the knowledge, skills and competencies that students already possess. The way to provide this information in a way that is concrete and measurable depends on the learning activities selected that ensure the learning outcomes are accomplished. Ideally, these are aligned with the institution's mission and are predicated on the fact that they have been made public, and are consensually agreed upon by faculty and clearly stated for students. The institution becomes the gate keeper of these learning outcomes and to the extent that they are accomplished, it can determine its own effectiveness.

What is the connection between student learning outcomes and assessment?

Student learning outcomes (SLOs) are statements of the knowledge, skills, and competencies that the individual student should possess and can demonstrate after a period of time, such as at the end of the course or after completing a sequence of experiences in an educational major. Learning outcomes are *direct measures of learning*, in contrast to the term student outcomes which are indirect measures determined by graduation, course completion rates or grades. Although these indirect measures have a value of their own, they only provide a partial answer to the question of accountability and may even provide a better picture of productivity. For student learning outcomes, the emphasis is on "learning". In contrast, SLOs focus specifically on students, individually as well as collectively, and the skills, knowledge, and values they should ultimately possess in the trajectory of their education. Student learning outcomes (SLOs) are a valid measure of the quality of instruction. They should be consistent with the mission of the institution and should be considered valid indicators of the overall performance of the institution at a given time line. Lately, the national discourse has shifted and SLOs are being utilized as performance measures for institutional comparisons for efficiency and cost containment. An example of this is the $10,000 University (Governor Perry) and others who want to restrain the escalating cost of higher education. The discussion of SLOs for efficiency and performance-based funding will not be part of this discussion.

Assessment and Student Learning Outcomes

When distinguishing between "student outcomes" and "student learning outcomes", one must note that neither one of them is the exclusive domain of the institution or the faculty. Both entities are accountable for ensuring that outcomes and learning outcomes have been accomplished. However, faculty by the very nature of their jobs, must document to the institution and the public that they are not only providing the right environment for our students to acquire the required skills, competencies and

attributes but that they have also agreed upon a set of learning outcomes that are well aligned with the institutions' mission. Authors such as Astin (1993) have made a clear distinction between student outcomes and student learning outcomes. Astin argues that outcomes by themselves are not a fair measure or a proxy for "learning outcomes." Learning outcomes are then direct measures of learning and not indirect measures such as graduation or course grades. However, Astin further asserts that the institutions of higher learning also bear responsibility for student learning outcomes in as much they have a greater influence on the quality of education that the faculty can produce through the quality of teaching that is provided that results in acquiring the skills and competencies stated or implied in the institutions' mission. Thus, both the institution and the faculty are the stakeholders in achieving learning outcomes. Further, they both must produce the evidence that SLOs have been accomplished. What students bring with them and to what extent the institution added value is the net result of faculty instructional efforts that can be measured. In order to measure those gains, institutions must provide the evidence. Value added measure determines what students have gained from entering into the institution and how they perceive their personal and academic growth after leaving the institution.

Arum and Roksa (2010) have made claims in their book, Academically *Adrift, that "American* higher education is characterized by limited or no learning for a large proportion of students". Such serious indictment of our colleges and universities could be rebuttal if higher education can provide evidence that rigor and learning has taken place and that the public perception can be refocus when assessment of learning becomes a practice and yields the evidence that learning can be measured. Higher education needs to focus on to what extent it can document that it is educating our students.

Despite the criticism and the apprehension as to what extent higher education is educating students, evidence can be provided with "valuable assessment". Valuable assessment is predicated on certain principles (Erhman & Chikering, 1996) that have been promulgated and refer to as the "Nine Principles of Good Practice for Assessing". We will only focus on two of these:

1. Assessment requires attention to outcomes but also, and equally, to the experiences that lead to those outcomes, (Principle 4)

2. *Assessment makes a difference when* it begins with issues of use and illuminates questions that people really care about, (Principle 7)

It is a logical principle that to effectively evaluate "learning", the assessment(s) used should be appropriate and yield the results emanating from the learning outcome(s) being measured. In most instances, SLOs are written in course syllabi as objectives. There is distinction between objectives and student learning outcomes. Objectives by themselves are not the same as student learning outcomes, although objectives may be written as student learning outcomes. Some educators do not necessarily make the distinction between the two terms; others adhere to the idea that learning outcomes are a subset of the learning objective category. The reason for this distinction is that objectives tend to focus on the learning expected to take place while student outcomes provide the evidence that the learning has been accomplished. Course objectives are general statements of the knowledge, skills, and dispositions that students are expected to master upon successful completion of the course. They are often written in the form of topics and themes and do not necessarily provide a criteria and conditions for learning. By contrast, Student Learning Outcomes focus on what the student should know and realistically be able to do by the end of a topic covered in class, or course. SLOs are much more detailed in specifying conditions, outcomes, and criteria for the evaluation within the context of a unit or completion of a course. This distinction is important because SLOS direct the types of measures that assessment will

provide. Whichever SLOs the institution, faculty and other stake holders have selected will determine the alignment between SLOS and assessment measures. In addition, the competencies and skills of professionals required in the real job environment may require outlining the specific competencies of students beyond those in the general education core. SLOs can be more explicit and point out the expectations for student learning that the faculty and the institution want to accomplish.

For practical purposes, objectives and outcomes should be the same if the objectives are written in manner that provides a criterion for evaluation. Not all objectives are written in this format. We can arguably state that objectives are statements of what instructors want to teach vis-a-vis a desirable outcome and usually based on its value. Whereas student learning outcomes are the evidence that indicates the learner accomplished what the instructor intended. In the final analysis, the guiding principle, however, is that SLOs should be clear to the instructor, the student, the institution, the accreditation agency and to the rest of the public. not only to you, but also to students, colleagues, managers, sponsors and any other stakeholders you can think of, what counts as evidence that an outcome has been met.

Assessment can begin immediately in the classroom from any evidence collected from students, work, projects and other evidence. In this genre, assessment is considered to be "direct". The assumption is that, learning outcomes are cumulative and that they required to be collected over a reasonable period of time before a judgment is made that the learning outcomes have been reached. However in the trajectory of a student's academic learning is there a point in time by which the individual learner has the opportunity to assess their own learning? How do students know after completing a class or major that they have acquired the necessary skills and abilities that faculty intended for learners to accomplish? Assessment in this sense can be *indirect* and the learner can provide and affective measure of judgment of their opinions as to whether they learned through surveys and questionnaire.

 Assessment may be direct or indirect based on the type of evidence we seek. Both can provide a general picture of the type of students that we want to produce based on the mission statement stated missions are better. But the most crucial and prevalent questions still remains: Did leaning take place? What learning do we deem important in our general courses and to what extent have we identified the core indicators of what the institution values? These questions will, in one way, determine the types of assessment the institution, faculty and departments will choose and construct. They can be answered when clearly intended missions at the institutional and department level have been clearly stated.

Assessment in general can be best described as a process that can yield evidence of learning. Tanner (2001, p.17) defines assessment as the process of data-gathering and evaluative processes that allows us to understand teaching and learning. Learning is cumulative and although it could be measured by looking at the results of a single assignment, test or project, the universal principle of all assessment is to provide a global and comprehensive measure of cumulative learning. How do we ensure that at the end of a course, or at the completion of major, students have acquired the desired competencies, skills and dispositions needed to be successful in the field chosen? Undoubtedly, faculty and the institution are responsible for measuring learning. Are we there yet?

What process shall we use and what types of assessment are available?
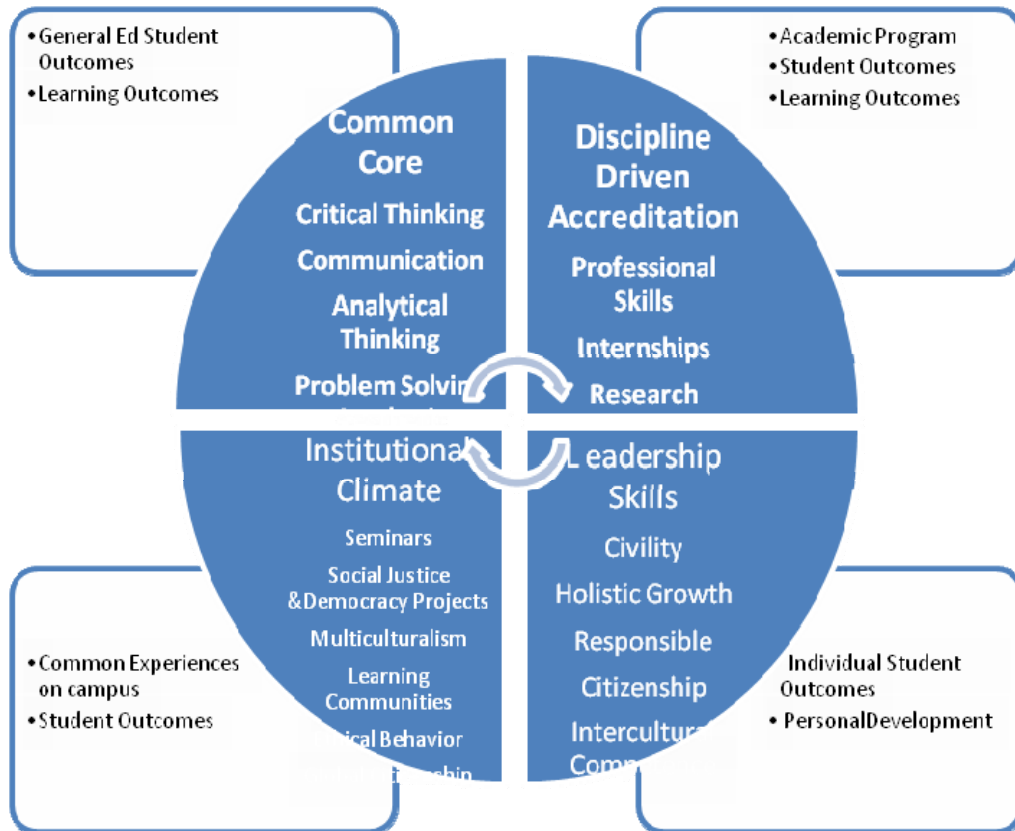
Prior to the selection of any assessment tools, we highly recommend that you meet with department colleagues and discuss the types of student learning outcomes that you want to select. Once you have aligned the existing core outcomes from your institution, elicit syllabi and survey if these contain and communicate the desired learning outcomes to be achieved at the end of the course. The preferred core, often alluded to as 21st Century Skills, a category may include skills and competencies in

critical thinking, effective written and oral communication, problem solving, analytical thinking, technological literacy, ethical development. These are not only sought in the general education course, but also across all majors and minors. Learning is cumulative. Neither one nor two courses can produce the competencies already mentioned nor can one single assessment measure account for the evidence we seek. Multiple measures during the completion of the course and the students' academic trajectory should provide a better picture of the evidence that student learning outcomes have been accomplished. We highly recommend the technique of ***course mapping*** to determine how the evidence that is being collected is consistent with the core standards set by the institution. Do they reflect the core values in the general education curriculum? Building upon those outcomes should be extended throughout other courses in the major. They should serve as a sort of scaffold to be embedded in individual courses and all the sequence of courses that constitute a major. Thus, when choosing the learning outcomes that are consistently infused throughout the rest of the course sequence, the institution may reach a consistency level, a consistency achieved by standardizing learning outcomes in all educational programs. Although there are many other factors that are used to determine the level of acceptance that SLOs have been accomplished, we highly recommend that you choose evidences accompanied with rubrics that will meet the program's level of acceptance in achieving the standard(s). The evidences may take different forms and the assessment should be varied, depending upon the type of learning outcome that you seek to measure. Once you have identified the student learning outcomes to be measured, we highly recommend the use of the matrix and charts below to identify the type of assessment that is well aligned with learning outcomes:

Target	Direct	Indirect
Individual or Group	**Summative or Formative** **Examples of Summative Assessment** Portfolios and e-portfolios Capstone projects Embedded questions Exams, including pre-tests and post-tests Performance on case studies, simulations, action research Performance evaluation (e.g. juries for performing arts, recitals, etc.) Final exams Standardized exams, including licensure exams (e.g. Collegiate Assessment of Academic	Surveys, including satisfaction surveys, exit surveys, alumni surveys, and employer surveys (e.g. National Survey of Student Engagement, NSSE) Focus groups on experiences or attitudes Interviews on experiences or attitudes Data on enrollment Data on graduation or retention Student demographic data Student self- or peer-assessment

	Proficiency, CAAP, Collegiate Learning Assessment, CLA, Proficiency Profile) *Value added Exams Assignments that are graded with the final score and no suggestions for improvement **Examples of formative assessment** Providing constructive comments and suggestions for improvement while grading a student's essay Grading on a rubric that allows a student to see what is expected and how they can improve Quizzes or learning modules that allow students to track their learning progress Final exams Standardized exams, including licensure exams Assignments that are graded with the final score and no suggestions for improvement Peer coaching, mentoring, undergraduate research coaching	

Assessment and Outcomes Selection Chart

Formative and Summative Assessment

Assessment under the "**Summative Category"** refers to some form of evaluation conducted at the end of a given period of time. It may have or lack a criterion (a). Very often, the summative assessment is used to provide some form of ranking or facilitate a judgment for a decision making process. Formative assessment, on the other hand, focuses on the progression to an intended goal, providing a measure of growth or progress based on some agreed standard or benchmark(s). Although summative assessment may provide an overall measure of progression that is final, summative evaluation is consistent with the intent to improve instruction by the instructor (s) as well as a way to gauge the progression of achieving one individual outcome in a series of learning outcomes. When deciding what type of assessment to use for determining learning outcomes, these two categories may guide guided by the core values of the institution and those

selected by the individual academic program. Brookhart (2007) explains that there are three key elements that support formative assessment:
1) to inform teaching practice,
2) to make instructional decisions and
3) to provide students with the necessary instructor assistance to improve their own work (practice).

The biggest advantage of *formative* assessment is that the student has the opportunity to improve and be more successful in achieving outcomes prior to a *summative* evaluation. A summative evaluation can be used to establish that formative measures provide student opportunities to achieve the intended learning outcomes. Both should be part of the learning continuum and are not mutually exclusive. Both can determine the amount of effort put forth by the instructor as well as the learner.

Direct or Indirect Assessment

Direct assessment measures are derived by direct observation of student learning outcomes through demonstrating competency in their knowledge, skills and dispositions. It requires that actual samples or artifacts be used, often requiring student's work as a form of evidence. These may be in individual courses or those required by a program. An indirect measure, on the other hand, gauges ones' opinion of the perceived attainment of a student learning outcome. The direct measures can demonstrate a student's ability to apply knowledge or skills while the indirect is the perceived understanding of one's ability to perform a task or skill.

Although the authors have presented different approaches to assessment, we also recommend that an eclectic approach should be used to produce a comprehensive plan for assessing student learning outcomes. Summative assessment will yield data that can stand alone and provide the larger picture of how the institution has helped students learn. Formative assessment data, however, can contribute to a more comprehensive assessment plan by assisting faculty to identify specific hurdles that may prevent students from learning and monitor their teaching techniques and strategies to assist students to achieve the intended goals

Closing the Loop

Any comprehensive assessment, regardless of its components, should provide both the institution and the faculty with the ability to examine the data and to make the decisions that often guide best practices. Assessment is used to validate institutional accountability so that the institution is guided to follow the best possible instruction for students to accomplish whatever learning goals have been selected as indicators of a quality education. It also provides faculty with the opportunity to review what they individually and collectively do to impact the learning process of every student. In developing an optimum assessment plan, we recommend that in order to close the loop, the institution and its faculty ask these basic questions:

What level of assessment will be conducted? The assessment can be of an individual course or a series of courses. It can also be used to assess the educational program.

Is the assessment addressing a specific level for analysis? The assessment may be used for specific or multiple audiences. Some assessment may be considered specifically for accreditation purposes or licensure. Others will take into account the instructor's intent to improve her/his instruction. Other type of assessment may be addressing requirements imposed by state agencies such as the State Department of Instruction, State Higher Education agency, or recommended by an individual discipline-related accreditation agency or council.

For whom are we collecting this data? Assessment can be done for the individual student or for an entire group of students. Some assessment may be cyclical and may be collected at specific intervals but with various audiences: freshmen, declared majors or graduating seniors.

What do we want to know? Assessment can be conducted for multiple purposes. Some forms will assess to what extent the student has acquired content knowledge or developed a competency or a series of skills. Assessment may be used to elicit to what extent students are satisfied with course, program or the entire college experience. Some assessment may assist students in zeroing in a career choice and make a decision on an intended major. Institutions may want to know how the alumni are doing after leaving the institution and may collect data to see the workforce landscape of their graduates, as well as to assess whether or not alumni feel that they were prepared for their professions.

Summary

Faculties for a long period of time have believed that tests and papers are sufficient to provide evidence of student learning outcomes. Students on the other hand, believe that by memorizing material and regurgitating information, they have learned. The institution would rather produce statistics because it is more convenient and some type advantageous although deceptive.

Accreditation agencies, organizations, legislative bodies and the tax payer are beginning to insist the evidence that students have learned and that after completing a certificate or a degree the financial investment can be justified. Creating a culture of evidence is achievable through well planned assessment measures that can provide better clarity that learning in higher education is value added. For our students and faculty, assessment and learning outcomes are the evidences that can validate that learning has taken place and that teaching and learning can be improved by this process. The authors firmly believe that teaching in the 21st century requires that colleges/universities have a faculty core who is highly engaged with students. Secondly, students should be challenged to accept responsibility for their education as they become proficient in their chosen majors through the skills, knowledge and competencies that have enduring understandings that are applicable for lifelong learning. According to Martinez, (Martinez, 2010), "the primary purpose of institutions of higher learning should be to prepare students. However, the college/university should also ensure that faculty possesses the commensurate skills and pedagogy to guide their students in constructing their own knowledge. Being an expert in a discipline is not sufficient, it is only the beginning. A faculty member should be a great communicator of the subject matter, be cognizant and apply the best teaching/learning theories, multiple intelligences and multiple methods of instruction delivery beyond the lecture model. Faculty development, workshops, seminars and other learning experiences should be provided to the faculty so that they can consistently improve the delivery of teaching/learning. The Institution has the obligation to provide faculty with the tools, support and the

training that will enable them to provide evidence that learning outcomes have been achieved. Through this approach, institutions of higher learning will be able to document to the public, the accreditation agencies and the tax payers that learning outcomes have been achieved through intentionality of purpose, focused instruction and through hands- on activities that allow students to master the structure of their discipline as active learners."

References

AAHE Assessment Forum, 1992 "Nine Principles of Good Practice for Assessing

Allen, M. J. (2007). *Direct and indirect assessment strategies*. Retrieved from
http://westoahu.hawaii.edu/pdfs/vcaa/workingdocs/directandindirect.pdf

Arum, R. and Roksa J. (2010**) Academically** *Adrift: Limited Learning on College Campuses.* University of Chicago Press, University of Chicago.

Astin, A.W. (1993). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education*. Phoenix, AZ: Oryx Press

Bennett, D.C., 2001, Assessing quality in higher education – Perspectives, *Liberal Education,* Spring. Council for National Academic Awards (CNAA), 1990, *The Measurement of Value Added in Higher Education*. London, CNAA.

Brookhart, S.M. & Nitko A. J. (2007) *Assessment & Grading in Classrooms.* Upper Saddle River, New Jersey. Pearson Merrill Prentice Hall, Jul 13, 2007

Chickering, Arthur and Stephen C. Ehrmann (1996), "*Implementing the Seven Principles: Technology as Lever,"* AAHE Bulletin, October, pp. 3-6. (http://www.tltgroup.org/programs/seven.html)

Chickering, A.W., and Gamson, Z.F. (1991). *Applying the Seven Principles for Good Practice in Undergraduate Education*. New Directions for Teaching and Learning. Number 47, fall 1991. San Francisco: Jossey-Bass Inc.

Cowan, J. (1998), On Becoming an Innovative University Teacher, Buckingham, SRHE and OUP

Ewell, E T. 1992. Outcomes Assessment, Institutional *Effectiveness, and Accreditation: A Conceptual Exploration.* Resource papers for the Council on Postsecondary Accreditation Task Force on Institutional Effectiveness. (ERIC Document Reproduction Service No. 343 513.)

Frye, S. (1999). *Assessment, accountability, and student learning outcomes*. Retrieved February 26, 2013, from the Western Washington University Web Site: http://www.ac.wwu.edu/~dialogue/issue2.html

McClenney, K. and B. McClenney (2003). *Student Learning, Persistence and Attainment: A Community College Inventory. Retreieved January 15, 2013, from* http://www.ccsse.org/center/resources/docs/research/Community%20College%20Inventory.pdf.

Martinez, P.L. (2010) *Dr. Pedro l. Martinez Personal Philosophy.* Winston Salem State University, Winston Salem, NC.

Mueller, J. (2010). *What is authentic assessment?* Retrieved from January 22, 2013 from
http://jonathan.mueller.faculty.noctrl.edu/toolbox/whatisit.htm

 Tanner, D.E. (2001). *Assessing Academic Achievement.* Needham Heights, MA: Allyn & Bacon.

*The Principles of Accreditation: Foundations for Quality Enhancement. R*etrieved February 7, 2013 from
http://www.sacscoc.org/principles.asp, 2/26/2013.