FACULTY PERCEPTION AND USE OF LEARNING-CENTERED STRATEGIES TO ASSESS STUDENT PERFORMANCE

By

Matthew Lynn Johnson

Valerie Rutledge
Professor
(Chair)

Hinsdale Bernard
Professor
(Methodologist)

Elizabeth Crawford
Assistant Professor
(Committee Member)

Pam Guess
Associate Professor
(Committee Member)

Anthony Lease
Interim Dean of the College of Health, Education, and Professional Studies

A. Jerald Ainsworth
Dean of the Graduate School

FACULTY PERCEPTION AND USE OF LEARNING-CENTERED STRATEGIES TO ASSESS STUDENT PERFORMANCE

By

Matthew Lynn Johnson

A Dissertation Submitted to the Faculty of the
University of Tennessee at Chattanooga
in Partial Fulfillment of the
Requirements of the Degree of
Doctor of Education

The University of Tennessee at Chattanooga
Chattanooga, Tennessee

August 2013

ABSTRACT

In this study, the researcher explored collegiate faculty use and perception of learning-centered strategies to assess student performance on various learning tasks. Through this study, the researcher identified the assessment strategies that faculty participants most frequently used, as well as the strategies that they perceived to be most effective. In addition to an analysis of the most frequently used assessment strategies for the entire sample, the researcher also investigated differences in strategies used by faculty members in specific discipline sub-groups: Arts and Humanities, Natural and Health Sciences, and Social and Behavioral Sciences. Participants taking part in this study were faculty members from five small, private, liberal arts institutions in east Tennessee. The institutions included in this study were accredited by the Commission on Colleges of the Southern Association of Colleges and Schools (SACS-COC) and member institutions of the Tennessee Independent Colleges and Universities Association (TICUA). This study was conducted using comparative and descriptive statistics to evaluate participant responses to a survey instrument. Analysis of the results of this study indicated that there is evidence of some significant differences between the assessment practices of the faculty participants in the various discipline categories.

DEDICATION

To my wife, Sarah, thank you for your unwavering love, support, and encouragement throughout this process. Thank you for pushing me to think more critically and to question the status quo. You are a true scholar. Your diligent quest for truth inspires me to be better and know more. I love you.

To my parents, Rodney and Karen Johnson, *you* are the reason I am able to successfully complete this journey. Thank you for the sacrifices you made throughout the years, the many dollars you spent on tuition, and most importantly for the unending inspiration you provided to me. Thank you for teaching me the value of hard work and dedication. I love you both.

To the educators who have influenced my journey toward achieving this personal, professional, and educational milestone, thank you. Your influence has not gone unappreciated.

To Dr. Cathy Dotson, thank you for teaching me how to be a professional educator and for believing in me when I was not sure if I could believe in myself. Thank you for showing me that I "have what it takes."

To Dr. Roger Stiles, thank you for teaching me that there is no substitute for hard work and that no matter the task excellence is always a worthy goal. Thank you for showing me through your own life what it means to be a truly Christian educator.

To Dr. Susan Lovett, thank you for teaching me that people and relationships are what matter most. Thank you for deliberately investing in my life, for pushing me outside of my comfort zone, and for giving me opportunities to be successful.

ACKNOWLEDGEMENTS

I would like to thank my committee for making the writing of this dissertation a wonderful experience. I have loved interacting with you as individuals and as a group of scholars. Thank you for the time you have spent working with me, reading and making suggestions, and talking through concepts and ideas. Your commitment to excellence has truly been inspirational. To Dr. Valerie Rutledge, thank you for being a constant encourager in leading me through this process. Thank you for the personal investment you have made in my life. You are a servant leader and I consider you a great friend. To Dr. Hinsdale Bernard, thank you for your skillful expertise and your endless kindness and patience regarding my data analysis. Thank you for taking the time to aid and assist me on many occasions. To Dr. Beth Crawford, thank you for offering much technical support and assistance with survey development, data gathering, and formatting. You are an incredible motivator. Thank you. To Dr. Pam Guess, thank you for sharing with me your incredible wealth of knowledge related to the discipline of assessment. It has been wonderful getting to know you throughout this process. Thank you for encouraging me to dig deeper and make more deliberate connections between research and practice. This study is much stronger because of your influence.

To the School of Education doctoral faculty and staff, thank you for sharing yourselves with me over the course of these last several years. Your wisdom, knowledge, and application of principles related to learning and leadership have made an incredible impact on the man that I am today. I admire your passion for teaching, learning, and leading, and especially your

commitment to student development and success. Thank you especially to Dr. Vicki Petzko, for the many advising sessions and conversations we have shared. You are an incredible teacher, leader, and friend. You have taught me much about leadership through your own example. Thank you for taking the time to get to know me and for caring about me as an individual. I am a better educator because of your influence. You are fabulous!

To my incredible cohort members and friends, thank you for sharing yourselves with me in this incredible journey. I cannot think of a more wonderful group of people with whom I would want to have shared this experience. We have learned together, laughed together, complained together, and we will finish together! You are all wonderful people and I am better for having known you.

To the many friends and colleagues who have shared with me in this experience, thank you for your continued love and support: Dr. Andrew Alexson, Mr. Jeremiah Cook, Dr. Cathy Dotson, Dr. Jeff Elliott, Dr. Ken Froemke, Dr. Lisa Godfrey, Dr. Jerry Hall, Mr. William Harle, Dr. Susan Lovett, Dr. Salvatore Musumeci, Mr. Joe Painter, Dr. Connie Pearson, Dr. Jeff Rector, and Dr. Roger Stiles.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANOVA, Analysis of Variance

CAO, Chief Academic Officer

COC, Commission on Colleges

GRE, Graduate Record Examination

PK-12, Pre-Kindergarten through twelfth grade schools

SACS, Southern Association of Colleges and Schools

SPSS, Statistical Package for the Social Sciences

THEC, Tennessee Higher Education Commission

TICUA, Tennessee Independent Colleges and Universities Association

TNDOE, Tennessee Department of Education

CHAPTER I

INTRODUCTION

Background

Colleges and universities across the United States are faced with many challenges. The economic state of the country makes it more important than ever that educational institutions work and plan effectively to strategically position themselves as cornerstones of society. Because spending is such a focal point in all industries today (Middaugh, 2010), leaders of colleges and universities, as well as institutional stakeholders, are focusing more and more on accountability and continuous improvement to document that colleges and universities are doing what they say they are doing – educating students. The federal government has increased regulations on regional accrediting bodies, commissioning them as the gatekeepers of quality, to ensure that post-secondary institutions are held to the highest standard of accountability regarding assessing student learning (Middaugh, 2010; Suskie, 2009).

This aim of assessing student learning is not a recent development, but the manner in which assessment is conducted and used has changed significantly over the past two decades (Middaugh, 2010). In the mid-90s, a *paradigm shift* began regarding the purpose of higher education institutions, and the question became: *Is the goal of academe to provide good teaching or to ensure student learning*? This distinction between a teaching paradigm and a paradigm that focuses on learning was greatly affected by the work of Robert Barr and John Tagg (1995). Barr and Tagg identified a significant discrepancy between the stated mission of higher education (a

focus on learning) and what was actually going on in the halls of academia (a focus on the act of teaching). Under the teaching paradigm, the purpose of the institution is to provide content-focused instruction; with a learning paradigm in place, the role of the college is to produce learning (Barr & Tagg, 1995). A learning-centered approach makes a deliberate distinction between the method (teaching/instruction) and the end (learning). A learning-centered approach transforms the sedentary classroom into an active environment where information is explored in an engaging way that encourages learners to interact with content in a meaningful manner. Barr and Tagg (1995) were careful to mention that not all aspects of the teaching-centered approach are in conflict with a learning-centered philosophy; the key to their argument is that teaching should be a means to an end (learning) rather than an end in and of itself. With this shift in thinking, the purpose of higher education moves away from an exclusive focus on a *transfer of knowledge* toward an inclusion of a more constructivist approach allowing learners to discover knowledge and solve problems in a community of scholars that includes both students and professors (Hoy & Hoy, 2009).

Conceptual Framework

Barr and Tagg's (1995) perspective regarding the shift from teaching to learning has been gradually transforming the landscape of higher education. Weimer (2002) expounded upon the idea of learning-centered teaching by identifying five areas of practice that must change in order to make the transition from teaching to learning effective and lasting: the balance of power, the function of content, the role of the instructor, the responsibility for learning, and the purpose and process of evaluation. In a later work, Blumberg (2009) took the five areas proposed by Weimer and broadened them to offer practical application of these principles for developing learning-

centered teaching. Because of the depth and breadth of the literature related to these five aspects, this study focused on the assessment piece of the learning-centered model and investigated the use and perceived effectiveness of the assessment strategies that faculty participants employed in efforts to evaluate student performance.

Statement of the Problem

In recent years increasing demand has been placed on post-secondary institutions regarding the extent to which they can document that student-learning outcomes are being met. This is evidenced by the published principles from each of the six regional accrediting bodies (see Appendix D) and the emphasis that they placed on student learning. In the South, among institutions that are accredited by the Southern Association of Colleges and Schools (SACS), institutional effectiveness (the broad category that houses principles related to the documentation of student learning) is still among the top-ranked principles for which institutions receive recommendations for improvement (see Appendix E). This study investigated how often faculty participants used specific assessment strategies, as well as which strategies they perceived to be most effective in evaluating student performance.

In this study, the researcher identified the assessment strategies most commonly used to evaluate student learning and determined where and whether differences existed between strategies used by faculty members in different disciplines. Additionally, this study investigated which assessment strategies faculty members classified as most effective in evaluating the level of student performance on learning tasks. For this study, the term *effective* was defined as the extent to which the participating faculty member perceived that established student-learning outcomes had been sufficiently met with at least the minimum standard for achievement.

Research Questions

1. What strategies, techniques, and learning events, if any, do faculty members use to assess student learning?
2. What assessment strategies do faculty members find most effective in assessing student learning?
3. Of the assessment strategies used to assess student learning, are there differences between disciplines?

Significance of the Study

Because assessment continues to be a critical element within the conversation of improvement in higher education, it is important for faculty members and institutions to be aware of best-practice regarding the issues surrounding the evaluation of student learning. Through this study, the researcher has identified the most frequently employed strategies that faculty members use to document student performance. Additionally, this study allowed the researcher to identify the strategies that faculty members classify as most effective, as well as examine whether there were differences between the evaluative strategies used in various disciplines across the academy. By identifying the most frequently used strategies and the strategies perceived as most effective, the researcher is hopeful that this study will be helpful to faculty members who are interested in improving their methodology for implementing effective assessment practices that improve student learning.

The continued emphasis and pressure that has been placed on institutions to formally document assessment is not going away (Middaugh, 2010). Although the effective educator may continually assess what is taking place in his/her classroom (evaluating instructional

effectiveness, student engagement, and the extent to which learning is taking place), this intuitive approach is no longer a sufficient, stand-alone measure of quality. Often, the master teacher may instinctively *know* that learning is taking place, but when asked to *evidence* that learning has occurred, many faculty members are not able to offer objective, measureable demonstration of student mastery (Barr & Tagg, 1995; Suskie, 2009). It is the hope of the researcher that this study will lead to further inquiry regarding the effective use of learning-centered instruction in the post-secondary classroom – not mere lip service to the cause of assessment, but meaningful evaluation of student performance that strives to improve the scholarship of teaching and learning. Additionally, the researcher attempted to provide helpful information regarding the use of assessment practices and strategies that will enhance learning through the integration of evaluation *into* the learning process and therefore coupling the practice of assessment with the regular instructional activities of the classroom.

Methodological Assumptions

The researcher assumed that the faculty members participating in this study offered accurate responses to the survey questions that were presented to them. Although responses were confidential, participants may have chosen to respond to questions as they felt they *should* have, as opposed to responding with the answer that most accurately reflected their use of assessment in the classroom. This may have occurred so as to not reflect poorly upon themselves, their departments, or their institutions. The assumption was made that participants had a basic understanding of the appropriateness of various procedures and instruments that should be used to evaluate student performance within the context of the types of learning events and assignments that they utilize in the courses that they teach. It is additionally assumed that

both faculty members and institutions wanted to improve the extent to which they effectively assess, document, and demonstrate that student learning is taking place and that outcomes are being met.

Delimitations

Through this study, the researcher investigated the assessment practices of faculty members in selected small, private colleges and universities in east Tennessee. The institutions selected for this study were all members of the Tennessee Independent Colleges and Universities Association (TICUA) and were accredited by the Commission on College (COC) of the Southern Association of Colleges and Schools (SACS). Additionally, the researcher delimited the list of surveyed assessment strategies from which participants were able to select.

Limitations

The researcher investigated faculty perception regarding effectiveness and use of various assessment strategies, but the researcher realizes that the list of assessment strategies included on this survey (Appendix A) is not all inclusive and that additional strategies not included in this survey may be equally appropriate, effective, and useful for the evaluation of student learning. Additionally, due to the fact that the institutions included in this study were relatively small and may therefore employ a small number of faculty members, the generalizability of the study may be limited by the participation rate of those individuals surveyed. Another limitation of this study may be connected to participant understanding of what it means to use the *learning-centered* paradigm and the application of learning-centered concepts to the discipline and

practice of assessment. A final limitation of this study is participant accuracy in reporting the use and perception of various assessment measures.

Terms and Definitions

Accreditation – Accreditation is a review of the quality of education institutions and programs. In the United States, accreditation is a major way that students, families, government officials, and the press know that an institution or program provides a quality education (Southern Association of Colleges and Schools, 2012).

Assessment – Assessment is the ongoing process of establishing clear, measureable expected outcomes of student learning; ensuring that students have sufficient opportunities to achieve those outcomes; systematically gathering, analyzing and interpreting evidence to determine how well student learning matches expectations; and using the resulting information to understand and improve student learning (Suskie, 2009; Allen, 2004).

Authentic assessment – Performance assessments that ask students to do real-life tasks or solve real-world problems that may have many acceptable answers as opposed to only one correct solution (Suskie, 2009).

Constructivism – The constructivist approach supports the idea that learning takes place in context and that learners form meaningful experiences when they learn and understand as an active function of their experiences in situations (Hoy & Hoy, 2009).

Cooperative learning – Cooperative learning involves a situation in which a group of learners work on a task where the objective is to develop collaborative skills in learners (Hoy & Hoy, 2009).

Criterion-referenced – Criterion-referenced tests provide a description of an individual's performance in terms of the task to be performed (Grounlund, 2006).

Direct assessment – Direct assessment is based on an analysis of student behaviors or products that demonstrate how well students mastered learning outcomes (Suskie, 2009; Allen, 2004).

Discovery learning – Discovery learning is a type of inductive reasoning through which one obtains knowledge by formulating and testing hypotheses through hands-on experience (Woolfolk, 2010).

Formative assessment – Formative assessments are assessments of the learning process that are administered while learning is taking place rather than at the end of a course or program (Suskie, 2009).

Indirect assessment – Indirect assessment is based on an analysis of reported perceptions about student mastery of learning outcomes (Suskie, 2009; Allen, 2004).

Institutional effectiveness – Institutional effectiveness is the systematic, explicit, and documented process of measuring performance against mission in all aspects of an institution (Southern Association of Colleges and Schools, 2012).

Learning outcomes – Learning outcomes are the knowledge, skills, attitudes, and habits of mind that students have and take with them when they successfully complete a task, course, or program (Marzano, 2007; Suskie, 2009).

Learning-centered paradigm – A learning-centered paradigm shifts the institutional focus from transferring knowledge through instruction (teaching-centered) to ensuring student demonstration of learning (Barr & Tagg, 1995; Tagg, 2003).

Norm-referenced – A norm-referenced test provides data that describe the performance of individuals as compared to a peer reference group (Grounlund, 2006).

Rubric – A scoring rubric is an instrument that provides a set of scoring guidelines that describe the characteristics of the different levels of performance used in judging performance (Suskie, 2009; Allen, 2004; Grounlund, 2006).

Standardized tests – Standardized tests are constructed to fit detailed specifications, administered under prescribed conditions to selected groups, and scored using definite rules of scoring (Grounlund, 2006; Suskie, 2009).

Summative assessment – Summative assessment is the evaluation of student-learning outcomes that is conducted at the end of a course or program (Suskie, 2009; Weimer, 2002).

CHAPTER II

REVIEW OF LITERATURE

The review of literature for this study included three primary sections related to various theoretical approaches associated with the study of human learning, the assessment of learning, and the intersection of learning and assessment within the context of the learning-centered paradigm. The researcher has considered theories of learning ranging from behavioral and cognitive approaches to the constructivist view of learning and has investigated the psychological theory that supports various instructional and assessment practices in the classroom. Additionally, this review of literature investigated the best practices of assessment within the context of higher education to identify some effective strategies available to faculty members as they evaluate student learning.

Human Learning: Theoretical Approaches

From the instant of birth, humans in their healthiest state are naturally curious. They are active beings that exhibit an innate readiness to learn and explore (Ryan & Deci, 2000). The study of this propensity to learn and know more is not new, and Schunk (2012) offered a historical perspective on the evolution of learning as a science. He stated that Rousseau (as cited in Schunk, 2012) believed that children were basically good and that teachers should consider individual needs and talents in arranging learning activities. Pestalozzi (as cited in Schunk, 2012) placed a strong emphasis on emotional development. He also stated that education should

be universal and that learning should be self-directed. Froebel (as cited in Schunk, 2012) founded the first kindergarten due to his belief that children were basically good and needed to be nurtured from an early age. Hall (as cited in Schunk, 2012) founded the Child Study Movement to assist the educational system in ensuring that teachers knew content subject matter and the nature and capacity of the minds in which it was to be rooted; the movement also aided in childrearing by assisting parents in ensuring that their children developed to their full potential.

One important theory from developmental psychology that is related to human learning is Jean Piaget's Cognitive Developmental Theory. Piaget described how students' thinking changes over time and how experiences contribute to development. He proposed four stages of cognitive development that human beings go through as they age (Snowman & Biehler, 2006). The sensorimotor stage, which spans birth to two years of age, is composed of six sub-stages during which the infant learns to process information. The preoperational stage, ages two through seven, is related to the child's ability to use symbols to represent objects and events. The concrete operational stage, ages seven through ten, is when children begin using their mental capacity to solve problems that involve reasoning. They begin to think more systematically using logical connections to make mental associations between actions and behaviors. The formal operational stage, ages eleven through adulthood, is when children and adolescents apply mental operations to abstract objects; they start to think hypothetically and use processes like deductive reasoning (Kail, 2001).

The literature indicates that the three predominant theoretical approaches to learning are the behaviorist approach, the cognitive approach, and the constructivist approach. Modern behaviorism, spawned by the work of J.B. Watson, emerged as a major theory in the field of

psychology during the first half of the twentieth century (Schunk, 2012). Watson's new approach to psychology helped to transition the discipline toward becoming an empirical science by applying observable measures to the study animal and human behavior. Other important contributors within behaviorism were Edward Thorndike (connectionism, learning through association, trial-and-error learning), Ivan Pavlov (classical conditioning), and B. F. Skinner (operant conditioning) (Schunk, 2012). According to the ideas of these men, the basic premise of behaviorism defined learning as a measureable observation of change in behavior related to or in response to stimuli. As exemplified in Pavlov's experimentation with classical conditioning, subjects were capable of learning a habituated expectation through repeated presentation of the associated stimulus. These ideas were expanded with the postulation of Skinner's notion that humans would potentially repeat behaviors if these activities were reinforced and that individuals would discontinue behaviors for which they were punished (Schunk, 2012).

In contrast to behaviorism, the cognitive approach distinguished between performance (behavior) and learning. The cognitive approach investigated the thinking process and considered how individuals categorized and remembered information and how they used that information to solve problems (Hoy & Hoy, 2009). Within this cognitive framework, researchers identified the importance of different types of knowledge. Some information is classified as general knowledge (declarative, procedural, or conditional) while other content is specific to knowledge within a certain domain or category of information (Woolfolk, 2010). Another key component of the cognitive approach is related to how individuals process or remember information. Additionally important in cognitive approaches is the idea of teaching students how to learn and study through the use of metacognitive tactics such as mnemonics, note taking, reading strategies, and the use of visual organizers (Hoy & Hoy, 2009).

The constructivist view of learning dealt with the individual's belief about the nature of learning. In the context of constructivism, knowledge and learning are not imposed from an outside source, but rather they are formed from within the individual (Schunk, 2012). Constructivism may be labeled as more of a philosophy than a learning theory, but its implications are often carried over into beliefs about learning, classroom environment, and lesson structure. According to the principles of constructivism, students learn best when they create and discover concepts for themselves (Hoy & Hoy, 2009).

Lev Vygotsky formulated the Sociocultural Theory – a constructivist theory that emphasized the social environment as a facilitator of development and learning (as cited in Schunk, 2012). Vygotsky's basic premise of development stated that cognition begins first in social settings and only gradually comes under the student's independent control. The *zone of proximal development* referred to the difference between the level of performance a student can reach working independently and the higher level of achievement he/she can reach when under the direction of a more highly skilled teacher, parent, or peer. Vygotsky also used the concept of *scaffolding*, which referred to a teaching style that matches the amount of assistance to the learner's needs. When students are learning a new process or concept, the teacher gives a lot of direct instruction, but when the students begin to understand the concept, the teacher provides less instruction and only occasional reminders (Kail, 2001).

There are multiple methods that teachers in a constructivist classroom can use to enhance the learning process for their students. It is important that teachers in this setting ensure that the classroom environment is learning-centered (Weimer, 2002). To do this, teachers must design learning experiences that involve the student in active learning (Djajalaksana , 2011) through mentally, physically, emotionally, and socially engaging activities. Instructors who employ a

constructivist approach in the classroom use varying instructional formats to engage students in learning. Small-group activities, learning centers, cooperative learning, collaboration, and peer teaching offer students various avenues for involvement in the learning process. Teachers in constructivist classrooms also incorporate real-life situations to connect content knowledge and skills to everyday life. It is also important for students to be able to view content in various formats. Constructivist classrooms allow students to experience learning via multiple sensory modes and to demonstrate learning in ways that best represent each student's individual learning preferences (Hoy & Hoy, 2009).

Assessment of Student Learning

Assessment in higher education applies broadly to all aspects of the institution. Accrediting bodies mandate that all areas of the institution – administrators, academic/support offices, and academic units – undergo regular and systematic assessment. The process must be detailed and documented. Regional accreditors expect institutions to use a research-driven approach for institutional planning and the effective allocation of institutional monies (Middaugh, 2010). Assessment of student learning is a key component in maintaining and demonstrating institutional effectiveness.

According to Suskie (2009), assessment is the ongoing process of establishing clear, measureable student-learning outcomes. It is important to first determine what is expected of students (i.e., Upon completion of this program/course/task, what does the student need to know and/or be able to do?). Additionally, Allen (2004) stated that assessment is an overarching framework that is used to focus institutional attention on student learning as it specifically relates to program objectives, learning outcomes, instruction, and curriculum design and organization.

Types of Assessment: Direct and Indirect

When considering student learning, there are two types of assessment: direct and indirect. Direct indicators of student learning are those assessments that offer visible, tangible demonstration of what students have learned (Suskie, 2009), whereas indirect assessment investigates attitudinal remarks that students self-report about their learning experiences (Allen, 2004). Direct assessment is considered a stronger indicator of the degree to which learning has taken place, but indirect assessment does offer the evaluator some valuable data to consider. It is important to use measures that assess learning outcomes – programmatic and course specific – to demonstrate that learning is taking place (Allen, 2004).

One direct measure of student learning is student performance on tests – both published and locally-developed. Standardized tests offer a nationally-normed comparison that allows colleges and universities to see how well students perform on *industry standard* testing indicators. There are tests that assess general knowledge (Proficiency Profile, GRE, etc.) as well as tests that assess outcomes for major specific and licensure programs (Major Field Tests, PRAXIS Series). In-house tests offer a custom model to the assessment process. Faculty members are able to write test items that relate directly to course and program learning outcomes. Over time, these locally-developed tests can be normed to document student improvement. Items that are locally-developed by in-house instructors allow for the use of authentic assessment. This type of evaluation allows students to actively create and produce items that may not be measureable on a nationally published testing instrument (Allen, 2004).

Another tool that may be used as a direct measure of student learning is a culminating portfolio. Portfolios offer an end product that can be evaluated to assess and determine the

extent to which a student is competent in a given discipline. Suskie (2009) outlined some specifics to consider when using portfolios to assess student learning:

1. There must be a clear educational purpose – a portfolio is not merely a repertoire of student work but a demonstration of mastery.
2. Students should choose (using faculty guidelines/criteria) what items are included in the portfolio.
3. Students should be made aware of the evaluation criteria by which the portfolio will assessed.
4. The portfolio should be continually updated and show student growth.
5. Student reflection should be an integral part of the portfolio instrument.

A final, and important, component of direct assessment is that of *course embedded assessment*. This integrative approach gives faculty members the ability to use customized, specific tasks and assignments to assess course or program learning outcomes. Course embedded assessment uses specific assignments, test questions, or essays to connect student demonstration with learning (Suskie, 2009).

Procedures for Assessing Student Learning

Writing Student-Learning Outcomes

In order to assess student learning, student expectations for performance must be established through appropriately written learning outcomes. When writing student-learning outcomes, one must consider exactly what it is that students should know and/or be able to do upon completing the learning event. Clarifying the intention of the learning outcome provides a basis for instructional planning and sets the stage for the assessment of both teaching and

learning (Gronlund, 2009). The key to writing a good learning outcome is to keep the end in mind. When writing learning outcomes, it is important to consider the following: *What knowledge, attitudes, and skills should students take with them from this course?*

One of the most well known models for developing learning outcomes and activities is Bloom's Taxonomy. Benjamin Bloom (1956) identified three domains of learning: cognitive (knowledge and information), affective (attitudinal), and psychomotor (physical). Within the cognitive domain, Bloom identified six levels of cognitive learning. In 2001, Anderson and Krathwohl published a revised version of the taxonomy because of concern that Bloom's model oversimplified the nature of thought and its connection to learning (Marzano & Kendall, 2007). Bloom's taxonomy offers a guide to instructors as they construct learning outcomes that cover the gamut of topics within a given program or course, taking students from basic content knowledge to application of concepts and synthesis of new information. See Figure 2.1 for a breakdown of the levels and a comparison of the new and old models.

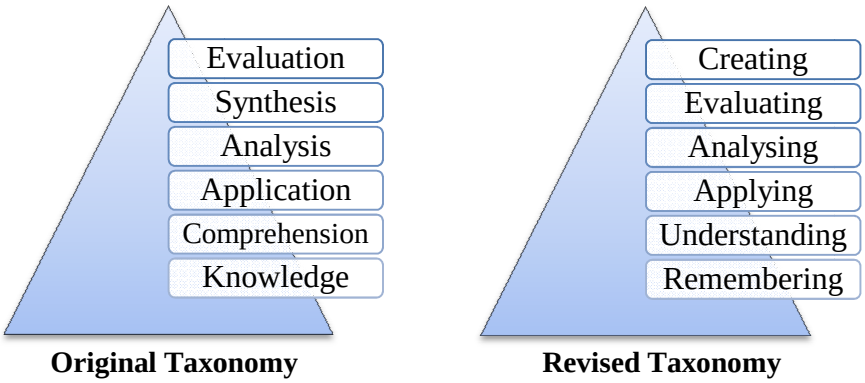

Figure 2.1. Bloom's Taxonomy. This figure represents a comparison of the learning model designed by Bloom and the new model designed by Anderson & Krathwohl. Adapted from "Taxonomy of Learning, Teaching, and Assessment: A Revision of Bloom's Taxonomy of Educational Objectives," by L.W. Anderson and D.R. Krathwohl, 2001, pp. 67-68. Copyright 2008 by Allyn and Bacon.

The key to using Bloom's Taxonomy and to writing sound objectives is to use verbs that are specific and measurable (Marzano & Kendall, 2008). They must be active and clearly communicate the depth of processing required (Allen, 2004). See Figure 2.2 for examples of appropriate verbs for each of Bloom's six levels of cognitive learning.

Action Verbs for Writing Learning Objectives					
Knowledge	Comprehension	Application	Analysis	Evaluating	Creating
define	arrange	illustrate	analyze	assess	arrange
label	classify	practice	calculate	compare	assemble
list	defend	sketch	compare	estimate	collect
memorize	estimate	translate	contrast	evaluate	compose
name	describe	investigate	diagram	explain	design
state	discuss	discover	examine	interpret	explain

Figure 2.2. Verbs Used in Writing Leveled Objectives (sample). Adapted from "Writing Instructional Objectives," by N.E. Grounlund, 2009. Copyright 2009 by Pearson.

Listed below in Figure 2.3 are some examples of appropriately written learning outcomes that can serve as a guide for understanding how the process should be carried out.

Discipline	**Course Learning Outcome: The Student Will…**
Biology	Make appropriate references and deductions from biological information.
Business/Management	Develop graphic, spreadsheet, and financial analysis support for positions taken.
Chemistry	Design an experiment to test a chemical hypothesis or theory.
English	Present original interpretations of literary works in the context of existing research on these works.
Women's Studies	Use gender as an analytical category to critique cultural and social institutions.

Figure 2.3. Examples of Learning Outcomes by Discipline. Adapted from "Assessing Student Learning," by L. Suskie, 2009, p. 132. Copyright 2009 by Josey-Bass.

Each outcome must be assessed within the program or course in which it is included. For every objective listed, there should be an associated assessment tied to student learning (a test or test item; a specific learning event). Figure 2.4 offers an example of how to align learning objectives with course content.

Assessing Student-Learning Outcomes		
Learning Outcome	Activity	Assessment
The student will write using appropriate APA formatting and style.	Students will edit sample papers for APA style accuracy, and discuss their findings with the class. Students will write a research paper using appropriate APA style and formatting.	Objective exam questions will examine student knowledge and use of APA guidelines. Part of the research paper grade will be based on student mastery of APA formatting and style.

Figure 2.4. Outcome and Assessment Alignment. Adapted from "Assessing Academic Programs in Higher Education," by M. Allen, 2004, p. 45. Copyright 2004 by Josey-Bass.

Curriculum Alignment and Mapping

Curriculum mapping is an effective assessment tool that allows faculty to assess the extent to which the program or course is meeting published educational outcomes (what students are expected to know and to be able to do once they complete the degree program or course). Kallick and Colosimo (2009) indicated that this process helps to bridge the gap between the written curriculum (program outcomes, syllabi, student-learning outcomes) and the taught curriculum (what actually takes place in the classroom). The curriculum map aids faculty and administrators in determining the extent to which instructional practices guide students toward

achieving learning outcomes. Additionally, this process will offer documentation of assessment, implementation of change, and thoughtful planning in regards to writing student outcomes and assessing student learning. Figure 2.5 offers an example of a curriculum map.

Program Curriculum Map						
Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5	Outcome 6
EDUC 100		X		X	X	
EDUC 120	X	X		X		X
EDUC 215			X		X	X
EDUC 330	X	X	X		X	X
EDUC 412	X		X	X	X	

Figure 2.5. Curriculum Map Example.

Developing and Using a Rubric

As mentioned previously, it is important that students know and understand what is expected of them. One way to inform students about faculty expectations for quality of work is through the use of a scoring rubric. After learning outcomes have been established and assignments have been described, it is helpful for the faculty member (and ultimately the student) to formulate a written checklist of what is required for successful completion of an assignment (Allen, 2004). Rubrics offer a guide for students in completing assignments as well as an objective measurement tool to assist faculty in grading assignments and items that might otherwise be subjectively scored. Simply stated, a rubric is a scoring guide that is designed in the form of a checklist or chart that outlines the criteria for evaluation (Suskie, 2009). Rubrics give explicit instructions for rating or classifying student work. The advantage of using rubrics to assess student achievement is the versatility and objectivity that they offer (Allen, 2004). Rubrics can be applied to grading essays, oral presentations, portfolios, research papers, group work, etc.

There are two general types of rubrics: holistic and analytic. Holistic rubrics offer a short narrative that breaks participants' work into a broad range of categories spanning from outstanding to unacceptable (Suskie, 2009). Analytic rubrics, on the other hand, offer the rater a series of characteristics that evaluate specific criteria of the work being assessed (Allen, 2004). Figures 2.6 and 2.7 offer basic examples of these two options.

Inadequate	The essay has at least on serious weakness. It may be unfocused, underdeveloped, or rambling. Problems with the use of language seriously interfere with the reader's ability to understand what is being communicated.
Developing Competence	The essay may be somewhat unfocused, underdeveloped, or rambling, but it does have some coherence. Problems with the use of language occasionally interfere with the reader's ability to understand what is being communicated.
Acceptable	The essay is generally focused and contains some development of ideas, but the discussion may be simplistic or repetitive. The language lacks syntactic complexity and may contain occasional grammatical errors, but the reader is able to understand what is being communicated.
Sophisticated	The essay is focused and clearly organized, and it shows depth of development. The language is precise and shows syntactic variety, and ideas are clearly communicated to the reader.

Figure 2.6. Holistic Rubric Example. Adapted from "Assessing Academic Programs in Higher Education," by M. Allen, 2004, p. 139. Copyright 2004 by Josey-Bass.

	Below Expectation	**Good**	**Exceptional**
Project Contributions	Made few substantive contributions to the team's final product	Contributed a fair share of substance to the team's final project	Contributed considerable substance to the team's final project
Leadership	Rarely or never exercised leadership	Accepted a fair share of leadership responsibilities	Routinely provided excellent leadership
Collaboration	Undermined group discussions or often failed to participate	Respected others' opinions and contributed to the group's discussion	Respected others' opinions and made major contributions to the group's discussion

Figure 2.7. Analytic Rubric Example. Adapted from "Assessing Academic Programs in Higher Education," by M. Allen, 2004, p. 139. Copyright 2004 by Josey-Bass.

It is important to consider exactly what is expected in regards to student performance when creating a rubric. Suskie (2009, p. 149) offered some questions to consider when thinking about what to look for in student work:

1. Why are students being given this assignment? What are the key learning goals? What are students expected to learn upon completion?
2. What skills should be demonstrated in this assignment?
3. What are the characteristics of good student work? Good writing? Good presentation? Lab report? Student teaching?
4. What specific characteristics should be observable in the completed assignment?

Purpose of Assessment

There is an important distinction that must be made when considering the purpose of assessment: *Is the purpose of this assessment to assign an end of course/unit grade, or is the purpose of this assessment to promote learning?* Both of these purposes have an appropriate place in the broad scheme of educative assessment – one works to improve learning (formative evaluation) and one works as a measure of accountability (summative evaluation). Assessment that is used to determine end of course performance is known as summative assessment and may be considered *high-stakes* (Paris, 1998). Summative assessment is primarily concerned with the extent to which students have achieved the intended learning outcomes for the course or unit (Gronlund, 2006). This type of learning assessment is generally comprehensive and includes all items used to evaluate student mastery of course content. Summative evaluations may sometimes place more value on accountability and therefore overshadow assessment practices meant to enhance student performance (Paris, 1998).

Conversely, assessment activities that are concerned with monitoring learning progress are called formative assessment strategies (Gronlund, 2006). This type of assessment occurs while student learning is taking place rather than at the end of a course or program (Suskie, 2009). Formative assessment is very beneficial for students and faculty members. It allows faculty members to make instructional alterations to activities and assignments in order to reiterate information with which students may be struggling (Gronlund, 2006). Formative assessment also gives students regular and immediate feedback regarding their learning progress (Blumberg, 2009) and helps them achieve their desired level of performance (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010).

A Paradigm Shift: The *Act* of Teaching vs. the *Product* of Learning

As mentioned in the introduction, in the mid-90s there began to be a shift in how colleges and universities viewed their purpose – from a focus on teaching to a focus on learning. Barr and Tagg (1995) proposed that colleges and universities should focus on producing *learning* rather than providing *instruction*. This shift in philosophy did not assume that learning occurs simply because instruction is given. Rather, it placed an emphasis on the importance of student involvement in learning. It is important to distinguish a *learning/learner-centered* approach from a *student-centered* approach. In regards to this study and the theories discussed in this review of literature, the terminology that most fully corresponded with the researcher's intent for this study was that of a *learning-centered* or *learner-centered* approach. Key writers referenced in this study (Barr & Tagg, 1995; Weimer, 2002; Blumberg, 2009) used the ideas of *learning-centered* and *learner-centered* teaching interchangeably with learning-centered teaching focusing on the *process* of learning (Blumberg, 2009) and learner-centered teaching placing emphasis on

the *person* doing the learning (Weimer, 2002). These two definitions work together to strengthen the teaching and learning process through the facilitation of an environment that encourages active learning (constructivism). Additionally, Blumberg (2009) referenced another approach, a *student-centered* methodology, which may appear to mirror a learning/learner-centered philosophy. A completely student-centered approach to learning may place too much emphasis on self-directed learning, entirely removing the teacher from the role of facilitator or expert guide (Blumberg, n.d.), a component that is crucial to the effective constructivist approach (Schunk, 2012).

In the learning paradigm described by Barr and Tagg (1995), emphasis was placed on discovery learning, collaboration, the creation of meaningful learning environments, and the quality of student learning. Additionally, a study by Bosch, et al. (2008) found similarities between the descriptors used by Barr and Tagg and those used by participants in a focus group designed to operationally define what a learning-centered institution looks like. This study also supported the idea that a learning-centered approach focuses on a variety of interactions between the learner and the instructor to facilitate meaningful and lasting learning through the application of knowledge to real-life situations (Bosch et al., 2008). Scott, Lisagor, and Marachi (2009) wrote about the *changing face* of higher education. Their study defined learning-centered teaching as instruction that focuses directly on student-learning outcomes, highlights the learner's active search for meaning/knowledge, incorporates student-to-student interactions, connects and integrates knowledge with real-world application, and works to collaboratively share information in an effort to deepen the educational experience (Scott, Lisagor, & Marachi, 2009). Additionally, Ramaley and Leskes (2002) distinguished between the old paradigm (teaching-centered) and what they call the *New Academy*. They indicated similar hallmarks of

learning-centered classrooms with the additional mentions of the "celebration" of practical knowledge, acknowledgement of student diversity, and the linkage of critical thinking to real-life problems.

Weimer (2002) identified five areas of practice that necessitate change toward a learning-centered model of teaching: the balance of power (from teacher-controlled to a shared decision making model), the function of content, the role of the teacher, the responsibility for learning, and the purpose and process of evaluation. In the typical teaching-centered classroom, the instructor is the supreme authority. A *lecture is king* mentality often exists and faculty may focus on the transfer of knowledge from expert to novice. Additionally, all aspects of learning are regulated for the student (types of assignments and evaluative measures, topics to be covered, etc.), and as a result, student motivation and buy-in are often low (Weimer, 2002). In a learning-centered classroom, there is a shift in power, from authoritarian control to shared cooperation. With a learning-centered model in place, Weimer (2002) suggested that students should be allowed to make some decisions about the types of learning activities in which they participate, allowing them to self-regulate based upon their own academic strengths and interests. This shift in control gives students the responsibility to take ownership of their own learning experience (Weimer, 2002).

The learning-centered view of content emphasizes *depth* of knowledge as opposed to the *breadth* of knowledge approach that is valued in the teaching-centered model. Rather than attempting to cram volumes of content knowledge into a single semester course, a learning-centered approach emphasizes the student's ability to continue learning after the formal educative experience has ended, making learning a lifelong endeavor (Weimer, 2002). This is not to say that content is not important. In a learning-centered classroom, content is still the

focus of teaching and learning, but it is not the only variable to be considered in the instructional decision-making process. Finkel (as cited in Weimer, 2002) emphasized the need to *use* content, not just *cover* content. This approach reinforces the constructivist mantra of making learning meaningful in useful and practical ways (Schunk, 2012). An emphasis on the use of content also promotes learner self-awareness by building a knowledge base while concurrently teaching students how to interact with academic content through the teaching of metacognitive strategies to foster deep and lasting learning.

Not only does the function of course/discipline content change in a learning-centered classroom, but the role of the teacher changes as well. The learning-centered teacher does not serve as a conduit of information or a skilled lecturer, but rather as an expert guide who serves to facilitate thinking, activities, and conversations that promote a climate of learning (Weimer, 2002). The importance of instructional *design* (as opposed to delivery) becomes more evident in a learning-centered classroom. Faculty must intentionally structure learning events that encourage active participation and motivate students to engage with the content while collaborating with fellow classmates. Additionally, learning events need to "get students doing the authentic and legitimate work of the discipline" (Weimer, 2002, p. 85), and faculty feedback should serve as a learning tool that will guide students toward improvement and mastery.

The responsibility for learning is fundamentally that of the student (Weimer, 2002). Faculty members are responsible for creating a climate that facilitates learning and piques student interest in the pursuit of knowledge. The learning-centered faculty member should communicate the necessity and value of learning by demonstrating the relevance and power of the discipline being taught. It is also the responsibility of the faculty member to provide students

with access to resources to further learning and to provide meaningful feedback to guide the learning process (Weimer, 2002; Blumberg, 2009).

Methods of evaluating student learning also take on new meaning in the learning-centered paradigm. Although final course grades are still assigned (assessment *of* learning), additional forms of evaluation take place throughout the course as a means of utilizing assessment as a tool to promote student learning and achievement (assessment *for* learning). Weimer (2002) offered some examples of learning-centered methods for the assessment of learning. Learning-centered approaches to assessment encourage continual review of material to reinforce content mastery. Also used in learning-centered assessment is the method of self-evaluation in which students evaluate their work in accordance with objective criteria for performance. Additionally, the use of peer assessment techniques (most often used in writing and composition) supports the learning-centered paradigm of evaluation by providing the evaluator and the evaluated with valuable learning experiences that improve a student's ability to analyze problems, formulate solutions, and think critically (Hoy & Hoy, 2009).

Learning-Centered Assessment

A central element in the conversation regarding this paradigm shift from teaching to learning is *learning-centered assessment* (Webber, 2012). Simply defined, Baron (1998) stated that learning-centered assessments are those assessment practices and techniques that function to enhance student learning. Suskie (2009) reinforced this idea stating that the act of evaluation in learning-centered classrooms is most concerned with student learning – learning becomes the centerpiece of practice. Webber (2012) proposed that it is "clear from the literature that

learning-centered assessment is now considered a highly-valued practice in higher education pedagogy" (p. 201).

Additionaly, Huba and Freed (2000) argued that the key to learning-centered teaching is assessment, which they defined as the process of gathering and discussing information from varied sources in order to develop a thorough understanding of what the learner knows, understands, and can do with knowledge as a result of a learning event. Learning-centered assessment is practical in its attempt to evaluate learning in the context of real-to-life situations, events, and applications (Baron, 1998). In a learning-centered classroom, there is a focus on creating an environment that engages participants in events that allow them to learn from each other through the integration, application, and transference of performance-based knowledge and skills (Baron, 1998). This focus on the meaningful exchange of ideas again reinforces the notion that classroom-based content knowledge does have real-life applicability and relevance (Blumberg & Pontiggia, 2011).

Learning-centered assessments also take into account the value of student self-assessment of performance through the use of established learning goals and set criteria for demonstrating success (Baron, 1998). This approach to assessment requires that each individual student take personal responsibility for the act of learning. Blumberg (2009) offered practical application of the ideas set forth by Weimer (2002) regarding the changes needed to implement a learning-centered assessment model. The key difference between the teaching-centered and learning-centered approach to assessment is that the latter approach integrates assessment *into* the learning process (Blumberg, 2009). Learning-centered assessment focuses purposefully on using formative assessment which should be criterion-based, include measureable outcomes, target performance objectives, and should take place early and often (Fink, 2003). With formative

assessment, an instructor's feedback vitally enhances learning and helps the learner accomplish the desired level of knowledge, skill, and/or performance (Ambrose, Bridges, DiPietro, Lovett, & Norman, 2010). Additionally, feedback offers the learner information that he/she needs to effectively self-regulate performance, learn from mistakes, and eventually improve his/her overall learning experience (Ambrose, et al., 2010). Many instructors view assessment as necessary but as taking away from instructional time; the learning-centered paradigm uses formative assessment to provide an integrated approach to learning and evaluation (Blumberg, 2009). Learning-centered assessment also accounts for student participation in the assessment and learning process by using peer assessment and self-assessment, and through the encouragement of student justification/reflection for answers and responses (Weimer, 2002). This approach to assessing student learning gives students the opportunity to learn from their mistakes in a quest for learning mastery.

Multiple studies have documented increased scholarship and study that reinforces the effectiveness of meeting learning outcomes as a result of learning-centered assessment in both general education and discipline-specific contexts. In a study published in 2004 by Goubeaud and Yan (as cited in Webber, 2012), results from the *National Survey of Postsecondary Faculty* indicated that faculty members in teacher education programs employed learning-centered assessment strategies (like research papers and essay exams) at a higher rate than did faculty in other disciplines who may have used more traditional assessment measures (such as multiple choice tests).

Duncan and Buskirk-Cohen (2011) contributed that a learning-centered approach of assessing student learning allowed their students in education and psychology courses to demonstrate a higher commitment to life-long learning, as well as an increased ability in the

application of content knowledge to real world situations. When these students participated in learning events that were assessed from a learning-centered perspective, they generally dedicated more time to projects than tests and were more successful in communicating what they had learned in creative ways. Additionally, Artherton's research (2005, as cited in Duncan & Buskirk-Cohen, 2011) indicated an occurrence of *deeper* learning when students were required to create, explain, or re-interpret information to demonstrate understanding.

Saulnier, Landry, and Wagner (2008) indicated the effectiveness of and need for a transition toward learning-centered assessments in the discipline of information systems. In their description of how this type of assessment strengthens student achievement of learning outcomes, the authors demonstrated that the application of Huba and Freed's (2000) principles for the implementation of exemplary learning tasks fit into the overarching goals of information systems education. Saulnier, Landry, and Wagner (2008) reported that learning-centered assessment practices significantly enhanced the quality of team building learning and indicated that this improvement represented a "profound break in previous methods and is essential" (p. 172) for achieving success in information systems training programs. The use and importance of authentic assessment, self-evaluation, and reflection are also used to encourage students to integrate knowledge of the discipline with activities that they are likely to see in daily work life once employed in the information systems field (Saulnier, Landry, and Wagner, 2008).

Candela, Dalley, and Benzel-Lindley (2006) propagated the incorporation of a learning-centered paradigm to enhance student learning within the discipline of nursing education. They also indicated that due to the nature of their changing field, nurses must be trained in programs that are reflective of current practices experienced in the workplace, specifically related to complex patient needs and highly technological environments (Candela, Dalley, and Benzel-

Lindley, 2006). The authors pointed out a need for a more deliberate connection of learning tasks, assessment, and student outcomes. This shift would move away from the traditionally content-laden model of curriculum to a more innovative model that chooses only the most important content and focuses on skill development and clinical practice.

Paradis and Dexter (2007) wrote about the benefits of learning-centered assessment in the discipline of geography, specifically in a capstone field analysis course. They utilized several learning-centered measures in an end-of-program capstone to determine the extent to which students had achieved departmental learning outcomes. They specifically used highly involved student portfolios and reflective essays (Paradis and Dexter, 2007). The authors indicated that the reflective essay offered an indirect measure of learning while promoting synthesis of course content as well as life-long learning. Additionally, the authors indicated that the use of these reflective and introspective assignments required students to "re-visit the intended learning outcomes to self-assess their own perceived achievements" (Paradis and Dexter, 2007, p. 176). Due to the nature of the discipline of geography and specifically field analysis, Paradis and Dexter (2007) were able to implement a number of specific assignments that were designed to incorporate student learning as the centerpiece of their instruction. Activities ranged from field exercises and laboratory-type research to reflective and persuasive essays to more creative assignments like illustrative products and the writing of a mock road-tour guidebook chapter (Paradis & Dexter, 2007). Other activities included collaborative projects that evaluated student "competencies with writing, analysis, synthesis, and application of geographic concepts" (Paradis & Dexter, 2007, p. 178).

Paulson (1999) discussed changes that occurred when he added active and cooperative learning components (learning-centered) to a lecture-based (teacher-centered) organic chemistry

course. The author had previously tried to cover a vast amount of content in a relatively short amount of time through the use of direct instruction. This method led Paulson (1999) to discover that students often memorized content but had trouble applying information to new or different situations. To try and remedy this problem, the author began using activities such as learning groups, in-class and out-of-class group projects, "minute papers" (Paulson, 1999, p. 1138), and class discussions to encourage a deeper understanding of the course content. In Paulson's (1999) previous model of teaching, he found that "rote memorization is the usual fallback for students when the amount of material covered is excessive" (Paulson, 1999, p. 1139) leading to students with limited understanding of course information. With the implementation of learning-centered assessment strategies, the author found that even though less material was being covered, students often discussed course content at a higher level than was possible within the previously used lecture model (Paulson, 1999). The author indicated that when the learning-centered model was in place, students seemed to enjoy organic chemistry more, to participate in more in-depth conversation about the content, and to achieve a higher level of ability to apply course information to various situations and problems.

Summary of the Literature

The literature that informed this study is grounded in concepts associated with learning theory, the role of assessment in higher education, best practices for evaluating student performance, and the integration of assessment into the learning process. Prior studies and scholarly writings suggested the importance of understanding how assessment strategies can be used to facilitate, enhance, and improve learning. An integrative approach to assessment aids students throughout the learning process and fosters a more productive learning environment.

Each foundational concept discussed in the review of related literature influences how instructors aid the development of students as independent learners throughout their journey in the collegiate experience and beyond.

CHAPTER III

GENERAL METHODOLOGY

Purpose of the Study

In this study, the researcher identified the assessment strategies most commonly used to evaluate student learning and determined whether or not differences existed in strategies used between faculty members in different disciplines. Additionally, through this study, the researcher investigated which assessment strategies faculty members classified as most effective in evaluating the level of student performance on learning tasks.

Population and Sample

The population of the research subjects used in this study was faculty members from select private post-secondary institutions in east Tennessee. Each institution included in this study was regionally accredited by the Commission on Colleges (COC) of the Southern Association of Colleges and Schools (SACS) and a member of the Tennessee Independent Colleges and Universities Association (TICUA). According to the National Center for Education Statistics (Retrieved 2012), enrollment for these institutions ranged from approximately 800 to 3,000 students, and these institutions collectively employed approximately 500 faculty members.

Ethical Considerations

All individuals participating in this study received information communicating the purpose and details of the project. Participants responded anonymously to the survey instrument to eliminate any potential conflict of interest resulting from researcher bias.

Research Questions

1. What strategies, techniques, and learning events do faculty members use to assess student learning?
2. What assessment strategies do faculty members find most effective in assessing student learning?
3. Of the assessment strategies used to assess student learning, are there differences between disciplines?

Overview of the Research Design

This study was conducted using a non-experimental quantitative research design that was both descriptive and comparative in nature. The researcher utilized a survey instrument to identify the assessment strategies used by collegiate level faculty members to evaluate student learning and to identified whether or not differences existed in the strategies used by faculty members in different disciplines. Additionally, the researcher investigated the assessment strategies that faculty members identified as most effective in measuring student learning.

Instrument Design

The instrument (see Appendix A) used in this study was a modified version of a survey developed by Djajalaksana (2011) for her study investigating active learning strategies used by instructors. Additionally, the survey included items from a rubric that Blumberg (2009) developed to help faculty evaluate the extent to which they used assessment strategies to increase and promote learning in the classroom. Participants were asked to provide the following demographic information:

- Faculty rank
- Discipline taught
- Age range
- Gender
- Years experience teaching at the collegiate level
- Whether they taught primarily in the undergraduate level, graduate/professional level, or both levels.

Reliability and Validity of the Instrument

The primary instrument used in this study was a slightly modified version of an instrument used in a previous study (Djajalaksana, 2011) that investigated faculty use of active learning strategies as instructional pedagogies in collegiate level courses in the information sciences. Djajalaksana (2011) developed the instrument based upon Crocker and Algina's (as cited in Djajalaksana, 2011) procedures for instrument construction. The instrument was administered to a limited number of participants in a pilot study group, and the feedback that Djajalaksana received was used to inform various modifications to the questions and format of

the survey tool. Additionally, experts in the fields of higher education instruction and anthropology validated the instrument content and design. The final version of the questionnaire also underwent reliability and validity studies by the initial instrument developer (Djajalaksana, 2011) to ensure accuracy and consistency in measurement.

The supplemental section of the instrument for the current study was based upon a faculty self-evaluation rubric published by Blumberg (2009). This rubric served as a tool whereby faculty members rated their perception and use of learning-centered strategies as related to the assessment of student learning. Each participant self-reported regarding his/her beliefs concerning the purpose and practice of using strategies that focus on the integration of assessment within the learning process. Blumberg (2009) based the development of this self-evaluation rubric on the work of Weimer (2002). The rubric was designed on a continuum that encouraged participants to view the transition from a teaching-centered paradigm to a learning-centered paradigm as a progression rather than an immediate switch (Blumberg, 2009). Validation for this instrument has been proven through Blumberg's continued use and modification of the rubric as a tool for faculty self-evaluation. Over the course of the last several years, this tool has been used and critiqued by over 250 professionals ranging from university instructors (University of the Sciences in Philadelphia) to faculty developers (annual meetings for the Professional and Organizational Development Network). Blumberg (2009) stated that the feedback provided by the individuals who have used and evaluated this instrument "has validated the components [addressed in each category] and the rubrics" (p. 304).

Measures

The instrument used in this study was designed to allow participants to respond to questions regarding the extent to which they used specific strategies (see Appendix A) to assess learning. Participating faculty identified their level of use ranging from never to almost always. Additionally, the instrument asked the faculty participant to identify the five strategies that he/she perceived to be most effective in the evaluation of student learning. The survey was comprised of eleven demographic questions; 39 specific learning events, assignments, and strategies for evaluating learning; one item that asked participants to identify the five listed strategies that they believe to be most effective in assessing learning; and five items related to participants' beliefs about the purpose and process of assessment as a tool for learning.

Procedures

The process of collecting data for this study was multifaceted. The first step in the process required receiving approval from each of the institutions selected to participate in the study. The researcher contacted the Chief Academic Officer (CAO) – typically the Provost, Academic Vice-President, or Academic Dean – to request the participation of the institution's faculty in completing the questionnaire. This required multiple instances of communication. Once the dissertation committee approved a finalized version of the survey instrument, the researcher sent an official copy of the instrument to each participating institution.

The study approval process required that formal written consent to participate be obtained from each selected institution. Once this approval was granted, the researcher e-mailed the participation letter and survey link to each faculty participant. The participation letter contained details related to the purpose of the study, identified the primary researcher and supervising

faculty member, and provided contact information for the researcher. This letter and survey link were emailed directly to each faculty member from the selected institutions.

Data Analysis

Data collection for this study instrument was done using Qualtrics, which allowed the researcher to export data into SPSS for statistical analysis. The data gathered from this study were evaluated in several ways in order to appropriately answer the research questions of the study. Because this was a descriptive and comparative study, multiple statistical analyses were required. Means and standard deviations were used to identify which strategies faculty members used most often (research question one), as well as which strategies faculty members identified as most effective (research question two). Additionally, analysis of variance (ANOVA) statistics were used to analyze these data to determine if significant differences existed between the assessment strategies faculty members used in different disciplines (research question three). Once a determination was made regarding the significance of various differences reported, post-hoc tests were utilized, as deemed appropriate by the researcher, to determine where or whether significant differences existed.

CHAPTER IV

ANALYSIS OF DATA RESULTS

Purpose of the Study

In this study, the researcher identified the assessment strategies most commonly used by faculty participants to evaluate student learning and determined whether or not differences existed in strategies used between faculty members in different disciplines. Additionally, the researcher investigated which assessment strategies faculty members perceived as most effective in evaluating the level of student performance on learning tasks.

Research Questions

1. What strategies, techniques, and learning events do faculty members use to assess student learning?
2. What assessment strategies do faculty members find most effective in assessing student learning?
3. Of the assessment strategies used to assess student learning, are there differences between disciplines?

Overview of the Research Design

This study was conducted using a non-experimental quantitative research design that was both descriptive and comparative in nature. The researcher utilized a survey instrument to

identify the assessment strategies used by collegiate level faculty members to evaluate student performance and learning and to identify whether or not differences existed in the strategies used by faculty members in different disciplines. Additionally, this study investigated the assessment strategies that faculty members perceived as most effective in measuring student learning.

Survey Instrument

As described in chapter three, the instrument (see Appendix A) used in this study was a modified version of a survey developed by Djajalaksana (2011) for research investigating active learning strategies used by instructors. Additionally, the survey included items from a rubric that Blumberg (2009) developed to help faculty evaluate the extent to which they used assessment strategies to increase and promote learning in the classroom.

Population and Sample

The survey for this study was distributed to 490 faculty members at five institutions in east Tennessee. Of the 490 participants invited to participate, 128 faculty members completed the survey for a 26% response rate. The sample group (N=128) characterizes a diverse cohort with a varied demographic composition. Of the 128 respondents, most were full-time teaching faculty (79%), with the remainder of participants self-identifying as adjunct/part-time instructors (13%) or administrative faculty (9%). Regarding faculty rank, participants were classified as full professor (32%), associate professor (29%), assistant professor (22%), instructor (9%), or adjunct faculty (8%). Participants in this study also represented a diverse experience base with regard to the number of years experience they had teaching at the college level. Thirty-four percent of participants indicated that they had more than fifteen years of teaching experience,

with 27% of participants reporting eight to fifteen years of experience, 23% with three to seven years of experience, and 16% with less than three years of experience teaching at the collegiate level.

There was a relatively equal representation of female participants (49%) versus male participants (51%). Age distributions for the sample group included participants who reported their age as ranging from 56 to 65 (27%) with the remainder of the sample group identifying age ranges of older than 65 (6%); between the ages of 46 to 55 (25%), 36 to 45 (23%), 25 to 35 (18%); or younger than 25 (1%).

The sample represented a variety of teaching disciplines. The researcher combined disciplines into three broad categories: Arts and Humanities, Natural and Health Sciences, and Social and Behavioral Sciences. The broad category of Arts and Humanities (33.6% of participants) included disciplines related to philosophy and religious studies, literature and languages, fine arts, history, and communication studies. Participants who were grouped in the category for Natural and Health Sciences (30.5% of participants) included disciplines such as biology, chemistry, physics, mathematics, computer science, nursing, and health and exercise science. In the Social Sciences (35.9% of participants) category, the researcher included disciplines related to education, psychology, sociology, business, social work, and political science. Most of the respondents indicated that they taught primarily undergraduate courses (88%) while 4% indicated that they taught primarily graduate or professional studies courses, and 8% of the participants indicated that they taught half-time undergraduate coursework and half-time graduate or professional studies coursework. For this study, the researcher asked participants to consider their assessment practices in a specific course, and 92% of participants identified an undergraduate course as they reflected on the assessment practices that they used to

evaluate student performance. Most individuals participating in this study indicated that the course about which they were reflecting was delivered in a face-to-face setting (82%) with the remainder (18%) indicating that their courses were taught in a hybrid format that integrated face-to-face instruction with online instruction. Most participants (32%) indicated that the size of the class that they had chosen ranged from 16 to 25 students with 18% of participants' class sizes ranging from 10 to 15 students, 14% ranging from 26 to 35 students, 14% ranging from 35 to 50 students, 13% with fewer than ten students, and 9% with more than fifty students.

Analysis of Research Question One: What strategies, techniques, and learning events do faculty members use to assess student learning?

Participants ranked the assessment strategies on a five-point scale. Responses regarding the frequency of use were determined based upon the mean score of data coded 1 (for *Never*), 2 (for *Rarely*), 3 (for *Sometimes*), 4 (for *Often*), and 5 (for *Almost Always*) consecutively. Frequencies of use for each surveyed item are provided in Appendix F. These frequencies were determined by ranking the mean of each of the assessment strategy items. In addition to whole-group rankings (N=128), the researcher calculated the mean rankings of the surveyed strategies organized by discipline into three categories (described in detail above): (1) Arts and Humanities, (2) Natural and Health Sciences, (3) Social and Behavioral Sciences.

Assessment Strategies for the Entire Sample. For the sample used in this research study, the five most frequently used strategies that faculty members utilized to evaluate student learning (see Appendix F for full list of frequencies), as presented in Table 4.1, were as follows: whole group discussion, quizzes, small-group student discussion, problem based learning, cooperative/team learning, and student presentations.

Table 4.1 Most Frequently Used Assessment Strategies

	Frequency Percentages					*Descriptive Statistics*		
Strategy	Never	Rarely	Sometimes	Often	Almost Always	*N*	Mean	*SD*
Whole Group Discussion	07	06	27	34	26	128	3.66	1.14
Quizzes	15	13	20	23	29	128	3.38	1.42
Small-Group Discussion	16	10	28	33	13	124	3.17	1.25
Problem Based Learning	18	14	26	26	16	126	3.09	1.32
Cooperative/Team-based Learning	26	10	19	27	18	124	3.00	1.46
Student Presentations	25	10	22	25	18	126	3.00	1.45

Assessment Strategies Grouped by Discipline. As presented in Table 4.2, participants teaching in the Arts and Humanities identified whole group discussion, quizzes, short papers, small-group discussions, and student presentations as the assessment strategies that they used most frequently.

Table 4.2 Most Frequently Used Assessment Strategies in Arts and Humanities

	Frequency Distribution					*Descriptive Statistics*		
Strategy	Never	Rarely	Sometimes	Often	Almost Always	*N*	Mean	*SD*
Whole Group Discussion	02	02	12	15	12	43	3.77	1.07
Quizzes	04	09	07	10	13	43	3.44	1.37
Short Papers	07	04	13	09	10	43	3.26	1.36
Small-Group Discussions	10	05	09	14	05	43	2.98	1.37
Student Presentations	13	05	05	10	10	43	2.98	1.60

Faculty members in disciplines included in the Natural and Health Sciences category indicated that the strategies they used most often to evaluate student performance were as follows: lab activities, quizzes, whole group discussions, problem-based learning, and small-group discussions. Table 4.3 provides data related to the frequency, mean, and standard deviation for each of these strategies.

Table 4.3 Most Frequently Used Assessment Strategies in Natural and Health Sciences

	Frequency Distribution					*Descriptive Statistics*		
Strategy	Never	Rarely	Sometimes	Often	Almost Always	*N*	Mean	*SD*
Lab Activities	08	02	02	11	17	40	3.72	1.56
Quizzes	09	02	06	10	12	39	3.36	1.55
Whole Group Discussion	05	05	14	09	06	39	3.15	1.23
Problem-Based Learning	06	10	09	07	07	39	2.97	1.35
Small-Group Discussions	08	05	15	05	05	38	2.84	1.28

In the final discipline category, Social and Behavioral Science, faculty participants indicated that their most frequently used assessment strategies were whole group discussion, problem-based learning, small-group discussions, student presentations, and cooperative/team-based learning. Table 4.4 presents data as related to the frequency of each of these items, as well as calculations for the mean and standard deviation for each strategy.

Table 4.4 Most Frequently Used Assessment Strategies in Social and Behavioral Sciences

	Frequency Distribution					*Descriptive Statistics*		
Strategy	Never	Rarely	Sometimes	Often	Almost Always	*N*	Mean	*SD*
Whole Group Discussion	02	01	08	20	15	46	3.98	1.00
Problem-Based Learning	04	01	15	18	08	46	3.54	1.09
Small-Group Discussions	04	02	11	22	06	45	3.53	1.08
Student Presentations	08	02	09	15	12	46	3.46	1.39
Cooperative/Team-Based Learning	10	02	09	13	12	46	3.33	1.48
Quizzes	07	05	12	10	12	46	3.33	1.38

Scored ratings for the less frequently used strategies for the total sample group had a mean score of less than or equal to 2.89. Additionally, frequencies for the lower-use rating for the sub-discipline sample group strategies had a mean score of less than or equal to 2.84 (Arts and Humanities), 2.64 (Natural and Health Sciences), and 3.26 (Social and Behavioral Sciences) respectively.

Analysis of Research Question Two: What assessment strategies do faculty members find most effective in assessing student learning?

In order to determine faculty perception regarding the effectiveness of the various assessment strategies that they used, the researcher asked that participants identify the five strategies that they believed to be most effective. For the purposes of this study, the term *effective* was defined as the extent to which the participating faculty member perceived that established student-learning outcomes had been sufficiently met with at least the minimum standard for achievement. Table 4.5 lists these results for the top five strategies (see Table 5.1 for

the entire listing). Faculty members participating in this study indicated that whole group discussion is the most effective strategy for evaluating student learning (46%). The second most effective strategy was identified as quizzes (41%), followed by lab activities (39%), student presentations (37%), and small-group discussion (36%).

Table 4.5 Top Five Perceived Most Effective Assessment Strategies

Strategy	*N*	% of Sample
Whole Group Discussion	57	46%
Quizzes	51	41%
Lab Activities	49	39%
Student Presentations	46	37%
Small- group Student Discussions	45	36%

Table 4.6 provides a comparison of the five most frequently used strategies (determined in research question one) as compared to the five strategies that were perceived as most effective. There is some variability in this comparison that may be due to the fact that participants were asked to choose only the five strategies that they perceived as *most* effective.

Table 4.6 Comparison of Most Frequently Used Strategies and Strategies Perceived as Most Effective

Five Strategies Perceived as Most Effective			Five Strategies Used Most Frequently		
Strategy	% of Sample	*N*	Strategy	% of Sample	*N*
Whole Group Discussion	46%	57	Whole Group Discussion	100%	128
Quizzes	41%	51	Quizzes	100%	128
Lab Activities	39%	49	Project-Based Learning	98%	126
Student Presentations	37%	46	Small-Group Discussions	98%	126
Small- Group Discussions	36%	45	Cooperative Learning	97%	124

Analysis of Research Question Three: Of the assessment strategies used to assess student learning, are there differences between disciplines?

In order to determine whether or not meaningful differences exist between the assessment strategies used by faculty members in the three discipline categories, the researcher identified the frequently used strategies that appeared most often in all three discipline categories: whole group discussion (present in all three groups), small-group discussion (present in all three groups), quizzes (present in all three groups), problem-based learning (present in two groups), and student presentations (present in two groups).

The researcher used analysis of variance (ANOVA) to investigate the significance of differences among the groups with respect to these five assessment strategies. The ANOVA was used, as opposed to a series of multiple *t-tests*, to reduce the probability of Type I errors in the analysis of the data. Should the researcher have chosen to use multiple variations of the *t-test*, the likelihood of a Type I error would have increased from 5% to 13.4%, which would exceed the acceptable criterion for error for this study. The ANOVA produces an *F-ratio* that tells us if a difference exists between the strategies used, but the *F-ratio* does not tell us where the difference lies. Additionally, *post-hoc* Tukey tests were conducted to determine criterion significance among the three discipline category groups. The independent variable, the discipline groupings, included three categories: Arts and Humanities (Group 1), Natural and Health Sciences (Group 2), and Social and Behavioral Sciences (Group 3). The dependent variable was the mean response to the five frequently used strategies that appeared most often in all three groups (whole group discussion, small-group discussion, quizzes, problem-based learning, and student presentations). Table 4.7 provides the mean and standard deviation for each of these strategies for each discipline group.

Table 4.7 Mean and Standard Deviation for the Three Discipline Groups and Five Dependent Variables

	Arts & Humanities		Natural & Health Sciences		Social & Behavioral Sciences	
Variable	Mean	*SD*	Mean	*SD*	Mean	*SD*
Whole Group Discussion	3.77	1.07	3.15	1.23	3.98	1.00
Quizzes	3.44	1.37	3.36	1.55	3.33	1.38
Small-Group Discussion	2.98	1.37	2.84	1.28	3.53	1.08
Problem-Based Learning	2.60	1.42	2.97	1.35	3.54	1.09
Student Presentations	2.98	1.60	2.38	1.18	3.46	1.39

A one-way ANOVA was used to test for preference differences among the three discipline categories. Preferences for using whole group discussion to assess student learning differed significantly across the three discipline categories (F (2, 125) = 6.322; p = .002) however, the strength of the relationship between the discipline group and whole group discussion, assessed by effect size (η^2 = .092), was moderate. *Post-hoc* analysis of these data indicated that a significant difference did exist between Natural and Health Sciences faculty use of whole group discussion as compared to faculty participants in both of the other discipline categories (Arts and Humanities; Social and Behavioral Sciences). Participants in Natural and Health Sciences were significantly less likely to use this strategy than participants in the other two groups. The Eta Squared value (η^2) provided by the analysis of the variance for this item indicates that 9.2% of the variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches.

Table 4.8 ANOVA Results: Whole Group Discussion

	Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared	Power
Between Groups	15.145	2	7.573	6.322	.002	.092	.892
Within Groups	149.730	125	1.198				
Total	164.875	127					

**$p < .01$

As indicated in Table 4.9, the ANOVA for using quizzes to assess student learning did not differ significantly across the three discipline categories (F (2, 125) = .076, p = .927) which accounts for the decreased strength of the relationship between the discipline group and quiz usage, resulting in a weak effect size (η^2 = .001). Because the power was low (.061), it was difficult to identify any significant difference in the use of this strategy based upon discipline. Additional investigation may be needed to determine why little difference existed between frequencies of use for this strategy among the disciplines. Because both the effect size and power were low, additional participants would be needed in order to increase the power from .061 to a more desirable rate (0.8 or higher).

Table 4.9 ANOVA Results: Quizzes

	Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared	Power
Between Groups	.312	2	.156	.076	.927	.001	.061
Within Groups	255.688	125	2.046				
Total	256.000	127					

As indicated in Table 4.10, the ANOVA for using small-group discussion to assess student learning did differ significantly across the three discipline categories (F (2, 121) = 4.279; p = .016) however, the strength of the relationship between the discipline group and small-group

discussion, assessed by effect size (η^2 = .066), was moderate. *Post-hoc* analysis of these data indicated that a significant difference did exist between Natural and Health Science faculty use of small-group discussion as compared to faculty participants teaching in disciplines categorized as Social and Behavioral Sciences. Participants in Natural and Health Sciences were significantly less likely to use this strategy than participants in Social and Behavioral sciences. The Eta Squared value (η^2) provided by the analysis of the variance for this item indicated that 6.6% of the variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches.

Table 4.10 ANOVA Results: Small-Group Discussion

	Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared	Power
Between Groups	12.778	2	6.389	4.279	.016	.066	.737
Within Groups	180.665	121	1.493				
Total	193.444	123					

*$p < .05$

As indicated in Table 4.11, the ANOVA for using problem based learning to assess student learning did differ significantly across the three discipline categories (F (2, 123) = 6.424; p = .002) and the strength of the relationship between the discipline group and problem based learning, assessed by effect size (η^2 = .095), was moderate. *Post-hoc* analysis of these data indicated that a significant difference existed between Arts and Humanities faculty use of problem based learning as compared to faculty participants teaching in disciplines categorized as Social and Behavioral Sciences. Participants in Arts and Humanities were significantly less likely to use this strategy than participants in Social and Behavioral sciences. The Eta Squared value (η^2) provided by the analysis of the variance for this item indicated that 9.5% of the

variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches.

Table 4.11 ANOVA Results: Problem Based Learning

	Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared	Power
Between Groups	20.622	2	10.311	6.424	.002	.095	.897
Within Groups	197.417	123	1.605				
Total	218.040	125					

$^{**}p < .01$

As indicated in Table 4.12, the ANOVA for using student presentations to assess student learning did differ significantly across the three discipline categories (F (2, 123) = 5.687; p = .004) however, the strength of the relationship between the discipline group and student presentations, assessed by effect size (η^2 = .085), was moderate. *Post-hoc* analysis of these data indicated that a significant difference existed between Natural and Health Sciences faculty use of problem discussion as compared to faculty participants teaching in disciplines categorized as Social and Behavioral Sciences. Participants in Natural and Health Sciences were significantly less likely to use this strategy than participants in Social and Behavioral sciences. The Eta Squared value (η^2) provided by the analysis of the variance for this item indicates that 8.5% of the variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches.

Table 4.12 ANOVA Results: Student Presentations

	Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared	Power
Between Groups	22.348	2	11.174	5.687	.004	.085	.856
Within Groups	241.652	123	1.965				
Total	264.000	125					

$^{**}p < .01$

Summary

In this study, the researcher investigated the frequency with which faculty members used specific assessment strategies in their evaluation of student learning. In chapter four, the researcher presented the assessment strategies used by all members of the sample group, which included faculty from a broad selection of disciplines. This chapter also contains the evaluation of the frequency of use among faculty members clustered into three smaller discipline groups: Arts and Humanities, Natural and Health Sciences, and Social and Behavioral Sciences. In addition to frequency of use, faculty perception of the effectiveness of these assessment strategies was investigated, and a comparison was done between the most frequently used strategies and the strategies that faculty members perceived as most effective. Finally, the strategies used most frequently were compared across discipline groups to determine if significant differences existed between the assessment strategies of faculty members in different groups and to determine where these differences occurred.

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

Introduction to the Problem and Study

There continues to be an increasing demand placed on college and university instructors regarding the extent to which they can demonstrate that student-learning outcomes are being met. It is now more important than ever that faculty members take the lead in ensuring that learning remains at the centerpiece of higher education. In chapter five, the researcher summarized the primary findings of this study. The research results of the study are presented along with conclusions related to faculty perception and use of the learning-centered strategies as an effective measure of student performance. Through this study, the researcher investigated the perception and use of learning-centered assessment strategies that individual faculty members use to evaluate student performance. The findings of this study added to the current research regarding the types of strategies used by faculty members in private institutions in east Tennessee to assess student learning in the collegiate classroom. Chapter five contains a brief review of the methodology, study findings, implications and recommendations for practice, as well as suggestions for future research in the area of learning assessment.

In this study, the researcher identified the assessment strategies most commonly used to evaluate student learning and investigated whether or not differences existed in strategies used between faculty members in different disciplines. Additionally, this study examined which assessment strategies faculty members classify as most *effective* in evaluating the level of student

performance on learning tasks. For this study, the term *effective* was defined as the extent to which the participating faculty member perceived that established student-learning outcomes had been sufficiently met with at least the minimum standard for achievement.

Because assessment continues to be a focal point of discussion in higher education, it is important to identify best practices regarding the issues surrounding the evaluation of student learning. The researcher identified the most frequently employed assessment strategies that faculty participants used to document how well students were performing on learning tasks. Additionally, this study allowed the researcher to identify the strategies that faculty members perceived as most effective and investigated whether differences existed between the evaluative strategies used in various disciplines across the academy. By identifying the strategies that faculty participants used most often and perceived to be most effective in measuring student learning, it is the intent of the researcher that this study prove helpful to faculty members who are interested in improving their pedagogical and evaluative practices to strengthen their teaching and improve student learning. It is assumed that this study may lead to further investigation regarding the effective use of learning-centered instruction in the post-secondary classroom.

Review of Methodology

A quantitative research design, both descriptive and comparative in nature, was utilized to determine what assessment strategies faculty members participating in this study used most often. Additionally, the researcher investigated faculty perception regarding the effectiveness of these strategies, and finally, the researcher compared the strategies used across disciplines to determine whether or not significant differences existed between teaching fields.

In order to address these areas, the researcher used a survey instrument that asked faculty members to rate their use of various assessment strategies using a Likert rating scale. The participants (*N*=128) for this study represent faculty members from five private institutions in east Tennessee. Faculty members were asked to reflect and self-report their use of specific assessment strategies in a particular course that they teach. Participants were also asked to identify the course, relative enrollment in the class section, course level, and delivery mode. Additionally, the survey instrument asked faculty participants to indicate which of their most frequently used assessment strategies they believed to be most effective in appropriately assessing student learning.

The survey that was used for this study was distributed using the Qualtrics survey system. Qualtrics provided delivery of the instrument, as well as secure storage of the raw data gathered from the survey participants. Using Qualtrics allowed the researcher to export results into Microsoft Excel and upload the results into Statistical Package for the Social Sciences (SPSS) for a detailed analysis.

Discussion, Recommendations, and Conclusion

Discussion of Research Question One: What strategies, techniques, and learning events do faculty members use to assess student learning? In order to determine the manner in which faculty participants assessed student learning, the researcher analyzed the frequency distributions and mean scores of the possible rankings from the survey instrument using Likert scale ratings (options ranging from "Never" to "Almost Always"). The various rankings for each assessment strategy were coded, and a mean was calculated for each strategy. These mean scores were ranked to determine which strategies were used most often. The results of this

analysis indicated that 60% of faculty participating in this study use whole group discussion (*M*=3.66) often or almost always to evaluate student learning. Using this same analysis by looking specifically at the "often" and "almost always" rankings, 52% of participants use quizzes (*M*=3.38) to assess learning, 46% use small-groups discussion (*M*=3.17), 42% use problem based learning (*M*=3.09), and 45% use cooperative or team-based learning (*M*=3.00).

While directed discussion has been cited as an effective means to achieving learning outcomes (Nilson, 2010), due to the fact that whole and small-group discussions do allow faculty members to hear students talk about what has been these activities might be considered less direct in evaluating student-learning outcomes. Further study would need to be conducted to determine how individual instructors approached in-class discussion and whether or not they use class discussion as a means of formatively assessing learning or as a tool to help them modify their teaching. Additionally, these findings may indicate that there is still a significant reliance on traditional assessment strategies that focus on lower levels of student content knowledge (i.e., traditional quizzes and exams).

While objective quizzes and tests may be helpful in aiding faculty members in determining the extent to which students have learned and can remember content information, these types of assessments often focus on basic levels of knowledge, comprehension, and application. Objective quizzes and tests are therefore less likely to extend into the upper levels of Bloom's taxonomy (1956) to assess student abilities of analysis, evaluation, and synthesis. These data do, however, show a potential rise in the use of more learning-centered strategies. As indicated in the most frequently used strategies, the employment of problem-based learning and cooperative learning represents the use of authentic learning tasks in the evaluation of student learning.

In addition to determining the most frequently used strategies of the entire sample (N=128), the researcher also investigated the most frequently used strategies in the three discipline categories: Arts and Humanities, Natural and Health Sciences, and Social and Behavioral Sciences. The results of this analysis signify that for Arts and Humanities, 63% of participants indicated that they use whole group discussion (*M*=3.77) often or almost always, while quizzes (*M*=3.44) were used often or almost always by 53% of faculty participants in this category. Short papers (*M*=3.26) and small-group discussion (*M*=2.98) were used often or almost always by 44% of participants, while student presentations (*M*=2.98) were used often or almost always by 47% of the faculty members classified as teaching in the Arts and Humanities discipline category. In addition to discussion and quizzes, faculty members from disciplines included in the Arts and Humanities group also used student writing and presentation to assess learning. The assessment of writing can take place both formally and informally (Nilson, 2010), and writing allows students to demonstrate learning through the creation of an original work. Writing assignments can be used to formatively assess depth and breadth of knowledge, as well as a summative assessment of end of unit/course learning.

Finally, student presentations represent an experiential learning approach to teaching and assessment (Nilson, 2010). In addition to knowledge related to the discipline content, presentation assignments allow students to practice and refine skills related to the communication of ideas that they have researched independently or discovered through in-class learning and application. Although both written assignments and student presentations may seem entirely subjective, the use of a well-designed rubric allows the instructor to more objectively evaluate these items for content, format, style, delivery, and appropriateness.

Of the participants classified as teaching in the Natural and Health Sciences category, 72% of faculty used lab activities (*M*=3.72) often or almost always, 56% used quizzes (*M*=3.36), 64% used whole group discussion (*M*=3.15), 36% used problem-based learning (*M*=2.97), and 26% of participants indicated that they used small-group discussion (*M*=2.84) often or almost always. Due to the nature of the disciplines included in this category, it may be no surprise that lab activities and problem-based learning were rated as two of the most frequently used strategies for assessing student learning. When considering laboratory activities, instructors are able to assess learning at a higher level than traditional testing. As mentioned previously, traditional objective tests tend to measure learning related to content knowledge, application, and comprehension. While laboratory skill assessments address these same areas of knowledge, they also investigate learning within the context of analysis and problem solving, synthesis, and evaluation (Nilson, 2010). Lab activities may also be used to integrate problem-based learning activities. As indicated by Candela, Dalley, and Benzel-Lindley (2006), it is increasingly important that health care training programs incorporate real-to-life simulations in order to more effectively prepare health care professionals for the workplace. Problem-based learning allows students to work individually or in groups to address problems and situations that mirror actual situations that they might face in a work environment (Nilson, 2010). Problem-based activities promote higher levels of learning by requiring the student to demonstrate skills related to analysis and problem solving, research, decision-making, collaboration, and synthesis (Nilson, 2010).

In the final discipline category of Social and Behavioral Sciences, 76% of faculty participants identified that they used whole group discussion (*M*=3.98), 58% used problem-based learning (*M*=3.54), 64% used small-groups discussion (*M*=3.53), 59% used student presentations

(*M*=3.46), and 57% used cooperative/team-based learning (*M*=3.33). Faculty members included in the social and behavioral science category used many of the same strategies as their colleagues in other disciplines. This sub-sample of participants used discussion, presentations, and problem-based learning to assess student performance. As mentioned in relation to natural and health sciences, problem-based learning focuses student efforts on issues that are similar to situations that they will face in a real-world professional setting. This seems to be a valued and useful technique for faculty members within social and behavioral sciences involved in fields such as business, education, psychology, and social work. It is reasonable to assume that this tactic for teaching and assessing learning would be useful in these disciplines due to the nature of these fields of study.

One strategy that was unique to social and behavioral sciences was cooperative learning. Cooperative learning transforms the role of the learner from that of a passive observer/listener to an active problem solver and contributor (Nilson, 2010). This model of teaching and evaluating learning transitions the classroom into an environment that promotes collaboration, a skill that is important for students interested in business, education, psychology, and other social science disciplines.

Discussion of Research Question Two: What assessment strategies do faculty members find most effective in assessing student learning? In order to determine faculty perception regarding the effectiveness of the various assessment strategies that they used, the researcher asked that participants identify the five strategies that they believed to be most effective. For the purposes of this study, the term *effective* was defined as the extent to which the participating faculty member perceived that established student-learning outcomes have been

sufficiently met with at least the minimum standard for achievement. Faculty members participating in this study indicated that the most effective strategy for evaluating student learning is whole group discussion (46%). The second most effective strategy was identified as quizzes (41%) followed by lab activities (39%), student presentations (37%), and small-group discussion (36%). Strategies that were viewed as effective by at least 20% of participants also included short papers (*N*=32; 26% of participants), problem-based learning (*N*=28; 22% of participants), major writing projects (*N*=28; 22% of participants), cooperative/team-based learning (*N*=26; 21% of participants), and case studies (*N*=25; 20% of participants).

Although it may be assumed that the strategies used most frequently by instructors would mirror the strategies that the instructor believes to be most effective, some variability was apparent between the strategies that participants indicated as most frequently used and most effective. Although lab activities was believed to be one of the more effective strategies by 39% of faculty participating in this study, it was not ranked as one of the most frequently used strategies. In the overall ranking of the most frequently used strategies, lab activities was ranked at number ten (*M*=2.68; *N*=126). Table 5.1 provides data regarding the effectiveness rankings as indicated by the faculty members participating in this study. This dissonance between *effectiveness* and *use* may be due to the large number of strategy options from which participants were expected to decide effectiveness. If this is the case, narrowing the strategies to include only the options that participants indicated using “often” or “almost always” may have allowed the researcher to draw more exact conclusions from these data.

Table 5.1 Ranked Strategies Perceived as Most Effective

Strategy	*N*	% of Sample
Whole Group Discussion	57	46%
Quizzes	51	41%
Lab Activities	49	39%
Student Presentations	46	37%
Small- group Student Discussions	45	36%
Short Papers	32	26%
Problem Based Learning	28	22%
Major Writing Project/ Term Paper	28	22%
Cooperative Learning/ Team-based Learning	26	21%
Case Study	25	20%
Personal Reflection Journal	24	19%
Film/Video Critique	20	16%
Student Peer Teaching	18	14%
Informal Writing	18	14%
Games/ Simulations	17	14%
Literature Review	17	14%
Think/Pair/Share	16	13%
Field Trips	14	11%
Concept Maps/ Mind Maps	13	10%
Student Peer Assessment	13	10%
Service Learning	11	9%
Original Research Proposal	10	8%
Role Play	9	7%
Online Discussions	9	7%
Learning Portfolio	9	7%
Video Creation	9	7%
Minute paper/ Sentence Summary	8	6%
Computer- based Learning Exercises/Games/Simulations	8	6%
Question & Answer using Clickers/ Personal Response Systems	7	6%
Campus Events	6	5%
Online Formative Quizzes	5	4%
Reflective Blogs	3	2%
Background Knowledge Probe/Just-In-Time Teaching	3	2%
Student- Generated Quiz/Exam Questions	3	2%
Student Attitude Surveys	3	2%
Debates	2	2%
Online Collaborative Projects	2	2%
Online/E – Portfolio	2	2%
Annotated Bibliography/ Webliography	2	2%

Discussion of Research Question Three: Of the assessment strategies used to assess student learning, are there differences between disciplines? The final research question investigated in this study focused on differences between the assessment strategies used by faculty participants in different disciplines. ANOVA statistics were conducted to determine if differences between discipline groups were significant, and *post-hoc* Tukey statistics were used to determine where significant differences existed. Table 4.7 reports the mean and standard deviation for the five strategies that appeared most often in all three of the discipline groups. The five strategies for which these analyses were conducted are whole group instruction, quizzes, small-group instruction, project-based learning, and student presentations.

The results of the analysis of variance indicated that significant differences existed for each of the five most frequently used assessment strategies except for quizzes. For the four strategies that did demonstrate significant differences, effect size ranged from .066 to .095 indicating that on average 8.45% of the variance in the use of these assessment strategies is attributable to the discipline in which the participant teaches. Table 5.2 indicates the individual effect size for each of the four strategies for which a significant difference was found.

Table 5.2 Effect Size for Variables that Demonstrated Significant Difference between Disciplines

Variable	Effect Size (η^2)	Percentage of Variability
Whole Group Discussion	.092	9.2%
Small-Group Discussion	.066	6.6%
Project-Based Learning	.095	9.5%
Student Presentations	.085	8.5%

Whole Group Discussion. Tukey analysis of the data related to whole group instruction indicated that a significant difference did exist between Natural and Health Science faculty use

of this strategy as compared to faculty participants in both of the other discipline categories (Arts and Humanities; Social and Behavioral Sciences). Participants in Natural and Health Sciences were significantly less likely to use this strategy than participants in the other two groups. The Eta Squared value (η^2) provided by the analysis of the variance for this item indicated that 9.2% of the variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches. These data indicate that participants in the Social and Behavioral Sciences (M=3.98) often use whole group discussion to evaluate learning; however, participants in the Natural and Health Sciences (M=3.77) still used whole group discussion more often than Arts and Humanities participants. As stated previously, whole group discussion *can* be an effective way to measure student learning when directed by the faculty member. Directed discussion offers a structured approach rather than a more chaotic outcome that may result from non-guided discussion, especially in a large class section. An important factor in the measurability of any learning task is the instructor's ability to objectify what may appear to be a mostly subjective situation. It is nearly impossible to accurately measure student learning for non-guided discussion because students are not sure where they are headed or what is expected. This lack of direction may easily be remedied if the instructor clearly communicates the objective of the task and provides detailed guidelines for student participation.

Small-Group Discussion. *Post-hoc* Tukey analysis of these data indicated that a significant difference existed between Natural and Health Science faculty use of small-group discussion as compared to faculty participants teaching in disciplines categorized as Social and Behavioral Sciences. Participants in Natural and Health Sciences were significantly less likely to use this strategy than participants in Social and Behavioral sciences. The Eta Squared value (η^2)

provided by the analysis of the variance for this item indicates that 6.6% of the variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches.

As with whole class discussion, small-group discussion is most effective when clear expectations and guidelines for student demonstration of learning are communicated. Lasting learning does not occur in a vacuum. During discussion, instructors should encourage students to make applicable connections between new information and existing knowledge and link content to real world happenings. Additionally, discussion exercises should require that students provide valid support for the claims that they make. Discussion activities should require that students integrate pertinent research and expert opinion into the formulation of their arguments.

Problem-Based Learning. Tukey analysis of the data related to problem-based learning indicated that a significant difference existed between Arts and Humanities faculty use of this assessment strategy as compared to faculty participants teaching in disciplines categorized as Social and Behavioral Sciences. Participants in Arts and Humanities were significantly less likely to use this strategy than participants in Social and Behavioral sciences. The Eta Squared value (η^2) provided by the analysis of the variance for this item indicates that 9.5% of the variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches.

The results of the analysis related to faculty use of problem-based learning were not surprising. The nature of mathematical, scientific, and health-related fields (Natural and Health Sciences category) rely heavily on student ability and mastery related to problem solving. Additionally, fields related to business, education, psychology, and social work (Social and Behavioral Sciences category) focus on problem solving as related to individuals, work teams,

community groups and organizations, and international corporations. The application of problem-based learning for natural and health sciences as well as social and behavioral sciences is a crucial component in the effective education of students within these disciplines. A student's ability to think critically, react quickly, and communicate effectively is significantly enhanced when problem-based learning is used to apply knowledge of his/her discipline to real-to-life case scenarios and situations.

Student Presentations. Tukey analysis of the data results for student presentations indicated that a significant difference existed between Natural and Health Sciences faculty use of problem discussion as compared to faculty participants teaching in disciplines categorized as Social and Behavioral Sciences. Participants in Natural and Health Sciences were significantly less likely to use this strategy than participants in Social and Behavioral sciences. The Eta Squared value (η^2) provided by the analysis of the variance for this item indicates that 8.5% of the variance for determining whether or not this strategy would be used could be attributed to the discipline in which the participating faculty member teaches.

The use of student presentations to assess student performance was identified as a top evaluative strategy for both Arts and Humanities and Social and Behavioral Sciences faculty members. The use of this strategy may be expected due to the nature of information sharing in the disciplines associated with these groups. The presentation of information is important in all academic disciplines, and student presentations serve as an especially informative assessment piece as faculty members evaluate student learning in all major fields of study. Participants in the Social and Behavioral Sciences group indicated the use of this strategy more frequently than participants in other groups. When considering the value that is placed upon presentation/communication skills within social science disciplines, it is to be expected that

faculty members in these fields of study would reinforce that value. Although the strategy of student presentations was not one of the five most frequently used strategies for faculty participants in the Natural and Health Sciences category, student presentations still ranked in the top ten strategies for this group. Further research into the use of this strategy in Natural and Health Sciences could be done to investigate the extent to which health sciences faculty members use student presentations to assess learning. The communication of information, research, and findings may be more evident in health-related fields, and it may be interesting to investigate the frequency of use within these disciplines, apart from the broader mathematics and natural science group. A larger sample of faculty members in health science disciplines would be needed to achieve this analysis.

Recommendations for Practice

The findings of this study may assist institutional leaders as well as individual faculty members in making decisions about the appropriateness of the assessment practices used to evaluate student learning. If nothing else, the results of this study may encourage faculty members to candidly reflect upon the strategies that they use to assess learning in the classroom. This type of reflection may lead to further investigation of best practices related to learning-centered assessment as well as the modification of current pedagogy to include a model that is more aligned with active learning. This study indicates that significant differences do exist across disciplines regarding the frequency with which faculty members use various assessment strategies. Realizing this may encourage faculty members to investigate, develop, and experiment with *signature strategies* that they find to work most effectively within their teaching discipline. It is the recommendation of the researcher that institutions and faculty members use

the results of this study to encourage discussion and innovative reform regarding the assessment practices at their institutions and within their departments in efforts to strengthen processes related to the scholarship of teaching and learning.

Recommendations for Further Research

As a result of this study, the researcher recommends the following suggestions for further research as related to collegiate level assessment of student learning:

1. The employment demographics of the participants in this study were limited to relatively small, private, liberal arts institutions in east Tennessee. Additional research could be conducted on similarly characterized institutions on a statewide or regional level. A statewide investigation could provide interested organizations (i.e., TICUA, THEC, TNDOE) with information that may be helpful in determining the state of assessment in private higher education in Tennessee. A regional investigation could offer broad-based generalizability to various small, private institutions in the Southeastern United Sates as well as other regions across the country.
2. As mentioned above, this study focused on small, private institutions. Additional investigation could also include state institutions, both universities and community colleges, and compare the assessment practices across types of institutions. A study such as this would offer an interesting perspective regarding pedagogical similarities and differences related to the scholarship of teaching and learning in these types of institutions.
3. This study investigated use and perceived effectiveness of certain assessment strategies. As previously mentioned, some variability did exist between the *use* and *effectiveness*

results reported in this study. Further investigation should be conducted to determine the cause of the dissonance between use and effectiveness. An investigation describing the relationship between use and effectiveness could offer some interesting findings related to why instructors decide to use certain strategies as opposed to others. This research could lead to significant improvements to faculty development and training in the use of varied assessment strategies when evaluating student learning.

4. Additional studies could also investigate the true effectiveness versus the perceived effectiveness of specific assessment strategies. Research such as this could lead to the further development of signature strategies for evaluating learning in specific settings and environments.
5. Research related to the demographic information connected to strategy use should be done to determine whether or not predictors of use exist. This research could lead to identification of what factors influence faculty member decisions regarding the use of specific assessment strategies.
6. Because of recent changes to PK-12 public school curriculum, specifically the implementation of the Common Core standards in the state of Tennessee, additional research could be conducted to investigate the impact of these trends on how outcomes assessment should be conducted in institutions of higher education.

Conclusions

Based upon the findings of this study, the researcher believes that the *paradigm shift* referred to by Barr and Tagg (1995) almost two decades ago is still taking place, especially within the context of smaller, liberal arts institutions that may place a high value on traditional

pedagogy. Educational institutions are slow moving systems when it comes to change, and the transition from a focus on teaching to a focus on learning is a slow progression that scholars of organizational leadership theory would classify as *evolutionary change.* As evidenced in the results of this study, this change takes time. The most frequently used assessment strategies; class discussion (whole and small-group) and quizzes received the highest rankings while more constructivist approaches that tend to promote authentic assessment were ranked lower in frequency. This is not to say that there is not immense value in classroom discussion or that quizzes are never an appropriate measure of learning. It is the belief of the researcher that there is great value is traditional learning experiences; however, it is also important for institutions of higher learning to show continued innovation and experimentation with contemporary learning and assessment strategies that more appropriately prepare students for advanced study as well as professional and vocational calling. Assessment is most effective when it is integrated as part *of* the learning process as opposed to something that is tacked on merely in an effort to assign a grade. There is value in tradition, but authentic, active, and problem-based evaluation offers students a theory-to-life application that helps them to integrate collegiate discourse into the practical, life experiences that they will encounter outside the halls of the academy.

REFERENCES

Allen, M. (2004). *Assessing academic programs in higher education*. San Francisco, CA: Jossey-Bass.

Ambrose, S. A., Bridges, M. W., DiPietro, M., Lovett, M. C., & Norman, M. K. (2010). *How learning works: Seven research-based principles for smart teaching.* San Francisco, CA: Jossey-Bass.

Anderson, L. W., & Krathwohl, D. R. (2001). *Taxonomy of learning, teaching, and assessment: A revision of Bloom's taxonomy of educational objectives.* Needham Heights, MA: Allyn & Bacon.

Baron, J. B. (1998). Using learner-centered assessment on a large scale. In N. Lambert & B. McCombs (Eds.), How students learn (pp. 211-240). Washington, DC: American Psychological Association.

Barr, R. B., & Tagg, J. (1995). From teaching to learning: A new paradigm in undergraduate education. *Change, 27* (6), 13-25.

Bloom, B. S. (1956). *Taxonomy of educational objectives, handbook 1: Cognitive objectives.* New York, NY: Longman.

Blumberg, P. (n.d.). Learner-centered teaching. Retrieved from http://www.usciences.edu/teaching/Learner-Centered/

Blumberg, P. (2009). *Developing learner-centered teaching: A practical guide for faculty*. San Francisco, CA: Jossey-Bass.

Blumberg, P., & Pontiggia, L. (2011). Benchmarking the degree of implementation of learner-centered approaches. *Innovation in Higher Education, 36*, 189-202.

Bosch, W. C., Hester, J. L., MacEntee, V. M., MacKenzie, J. A., Morey, T. M., Nichols, J. T., … & Young, R. R. (2008). Beyond lip-services: An operational definition of "learning-centered college." *Innovation in Higher Education, 33* (2), 83-98.

Candela, L., Dalley, K., & Benzel-Lindley, J. (2006). A case for learning-centered curricula. *Journal of Nursing Education, 45*(2), 59-66.

Djajalaksana, Y. M. (2011). *A national survey of instructional strategies used to teach information systems courses: An exploratory investigation*. Retrieved from ProQuest Digital Dissertations. (UMI 3464628)

Duncan, T., & Buskirk-Cohen, A. A. (2011). Exploring learner-centered assessment: A cross-disciplinary approach. *International Journal of Teaching and Learning in Higher Education, 23*(2), 246-259.

Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco, CA: Jossey-Bass.

Grounlund, N. E. (2006). *Assessment of student achievement.* Upper Saddle River, NJ: Pearson.

Grounlund, N. E. (2009). *Writing instructional objectives.* Upper Saddle River, NJ: Pearson.

Hoy, A. W., & Hoy, W. K. (2009). *Instructional leadership: A research-based guide to learning in schools* (3rd ed.). Boston, MA: Allyn & Bacon/Longman.

Huba, M. E., & Freed J. E. (2000). Learner-centered assessment on college campuses: Shifting the focus from teaching to learning. Boston, MA: Ally & Bacon.

Kail, R.V. (2001). *Children and their development*. Upper Saddle River, NJ: Prentice Hall.

Kallick, B., & Colosimo, J. (2009). *Using curriculum mapping & assessment data to improve learning.* Thousand Oaks, CA: Corwin.

Marzano, R. J., & Kendall, J. S. (2007). *The new taxonomy of educational objectives.* Thousand Oaks, CA: Corwin.

Marzano, R. J., & Kendall, J. S. (2008). *Designing & assessing educational objectives.* Thousand Oaks, CA: Corwin.

Middaugh, M. F. (2010). *Planning and assessment in higher education: Demonstrating institutional effectiveness.* San Francisco, CA: Jossey-Bass.

National Center for Education Statistics. (2012). Retrieved September 24, 2012, from http://nces.ed.gov/ipeds/datacenter/

Nilson, L. B. (2010). Teaching at its best: A research-based resource for college instructors.

Paulson, D. R. (1999). Active learning and cooperative learning in the organic chemistry lecture class. *Journal of Chemistry Education, 76*(8), 1136-1140.

Paradis, T. W., & Dexter, L. R. (2007). Learner-centered teaching and assessment in an undergraduate field analysis course. *Journal of Geography, 106*, 171-180.

Paris, S. G. (1998). Why learner-centered assessment as better than high-stakes testing. In N. Lambert & B. McCombs (Eds.), How students learn (pp. 189-210). Washington, DC: American Psychological Association.

Ramaley, J., & Leskes, A. (2002). *Greater expectations: A new vision for learning as a nation goes to college.* Washington, DC: American Association of Colleges and Universities.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*, 54-67.

Saulnier, B. M., Landry, J. P., & Wagner, T. A. (2008). From teaching to learning: Learner-centered teaching and assessment in information systems education. *Journal of Information Systems Education, 19*(2), 169-174.

Schunk, D. L. (2012). *Learning theories: An educational perspective.* Upper Saddle River, NJ: Pearson.

Scott, W., Lisagor, T., & Marachi, R. (2009). Learning centered universities: The changing face of higher education. *Journal of Faculty Development, 23* (1), 14-23.

Southern Association of Colleges and Schools. (2012). *Principles of accreditation: Foundations for quality enhancement.* Retrieved October 2, 2012, from http://sacscoc.org/pdf/2012PrinciplesOfAcreditation.pdf

Suskie, L. (2009). *Assessing student learning.* San-Francisco, CA: Jossey-Bass.

Tagg, J. (2003). *The learning paradigm college.* San-Francisco, CA: Jossey-Bass.

Webber, K. L. (2012). The use of learner-centered assessment in US colleges and universities. *Research in Higher Education, 53*, 201-228.

Weimer, M. (2002). *Learner-centered teaching: Five key changes to practice.* San-Francisco, CA: Jossey-Bass.

Woolfolk, A. (2010). *Educational psychology.* Upper Saddle River, NJ: Pearson.

APPENDIX A

SURVEY INSTRUMENT

Use & Perception of Learning-Centered Strategies to Assess Student Performance

1. What is your current faculty status?
   - Full-time teaching faculty
   - Part-time teaching faculty

2. What is your current faculty rank?
   - Full Professor
   - Associate Professor
   - Assistant Professor
   - Instructor/Lecturer

3. What is your gender
   - Female
   - Male

4. What is your age?
   - < 25
   - 25-35
   - 36-45
   - 46-55
   - 56-65
   - > 65

5. What discipline most appropriately represents your primary teaching field?

   - Biblical Studies
   - Biology
   - Business
   - Chemistry
   - Christian Ministry
   - Communication Studies
   - Computer Science
   - Dance
   - English:
   - Composition/Rhetoric
   - English: Literature
   - Education
   - Engineering
   - Foreign Languages
   - Health & Exercise Science
   - History
   - Law
   - Mathematics
   - Medicine
   - Music
   - Nursing
   - Occupational Therapy
   - Philosophy
   - Physical Therapy
   - Physics
   - Political Science/Government
   - Psychology
   - Religion
   - Theater
   - Visual Arts

   Other (please specify):_____

6. At what level do you primarily teach?
    Undergraduate
    Graduate
    Professional
    Half-time undergraduate, half-time graduate

7. If you teach at both the undergraduate and graduate/professional level, do you assess learning differently in your undergraduate courses than you do in you graduate courses?
    Yes
    No

8. Overall years of collegiate teaching experience
    Less than 3
    3 to 7
    8 to 15
    More than 15

9. Please identify ONE SPECIFIC COURSE that you teach regularly and type the course number and name in the space provided (Example: PSYC 100 General Psychology). As you complete this survey, please do so in reference to this course.

    _____

10. What is the delivery method for the course you listed in response to question 9?
    Face-to-face only
    Online only
    Hybrid (with some face-to-face and online components)

11. Approximate class size for the course you identified in question 9?
    Less than 10 students
    10-15 students
    16-25 students
    26-35 students
    35-50 students
    More than 50 students

12. How often do you use the following activities or assignments to assess student learning in the course that you listed in question 9:

    Never|Rarely|Occasionally|Frequently|Almost Always

    - Lab Activities: Real time practice and/or problem- solving done in a lab.
    - Question & Answer using Clickers/ Personal Response Systems: Students participate in the lecture by responding to questions / statements via hand - held/wireless technology.

- Think/Pair/Share: Students prepare a brief written response to a question; are then they share briefly their reply with a colleague; large group discussion then follows.
- Whole Group Discussion: Instructor facilitates sustained conversation and/or question and answer segment with the entire class.
- Small- group Student Discussions: Students engage in sustained conversation within small-groups.
- Minute paper/ Sentence Summary: Students complete a short writing task on a key idea, concept, or question to focus their understanding and/or provide feedback to their instructor.
- Student Peer Teaching: Students, in pairs or groups, teach designated course content or skills to fellow students.
- Cooperative Learning/ Team - based Learning: Students work together in groups or teams to master course - related knowledge and skills.
- Student Presentations: Students make presentations to the class.
- Problem Based Learning: Students work together to investigate an instructor-posed complex problem possibly having more than one correct answer.
- Role Play: Students become actors performing roles in an identified situation or context.
- Games/ Simulations: Students learn while playing games such as Jeopardy, Who Wants to be a Millionaire, Family Feud, etc. or do a simulations of real situations
- Debates: Student teams argue for or against a position using course concepts, evidence, logic, etc.
- Informal Writing: Students complete short ungraded writing activities designed to enhance learning of course content.
- Quizzes: Graded or ungraded quizzes to assess student's subject matter mastery.
- Online Discussions: Students participate in online discussions of course content.
- Reflective Blogs: Students create reflective online journal entries in a personal weblog/blog.
- Online Formative Quizzes: Students take ungraded online quizzes covering course content.
- Online Collaborative Projects: Students contribute to the creation of a course-based website or wiki.
- Online/E - Portfolio: Students document their own learning stored in an online/electronic portfolio on the internet.
- Background Knowledge Probe/ Just- In - Time Teaching: Instructor poses written questions online to assess students' understanding of course content prior to a class.
- Computer- based Learning Exercises/Games/Simulations: Students' complete interactive computer- based learning exercises.
- Case Study: Students apply course - related concepts, theories, and/or methods to analyze a real or fictitious scenario.

- Literature Review: Students investigate a course- relevant topic/problem and prepare a literature review.
- Original Research Proposal: Students design an original research project or investigation.
- Short Papers: Students author one or more short papers (ten pages or less in length) exploring course content.
- Major Writing Project/ Term Paper: Students write a significant paper exploring course content as a major course assignment.
- Student- Generated Quiz/Exam Questions: Students create questions highlighting central elements of the course for quizzes or exams.
- Concept Maps/ Mind Maps: Students prepare drawings or diagrams illustrating the relationships and connections between concepts or ideas.
- Student Attitude Surveys: Students respond to a questionnaire assessing their attitudes or beliefs about course subject matter.
- Campus Events: Students attend and respond to campus - sponsored events (e.g., invited speakers, fine art performances, and museum exhibits).
- Film/Video Critique: Students view and respond to a film/video.
- Annotated Bibliography/ Webliography: Students write brief synopses and evaluations of journal articles or websites.
- Personal Reflection Journal: Students write reflective journal entries describing personal understandings of and lessons learned about course content.
- Learning Portfolio: Students document their own learning through the creation of a course portfolio.
- Field Trips: Students visit relevant locations to deepen their understanding of course content.
- Service Learning: Students participate in and learn from community service activities that are explicitly connected to essential course objectives.
- Video Creation: Students create short video presentations to be shown in class.
- Student Peer Assessment: Students critique other students' work using previously described criteria and provide specific suggestions for improvement.

13. Of the strategies that you identified as using "frequently" or "almost always," which ones have you found to be most effective (choose five):

14. Regarding the purpose and process of assessment, indicate the extent to which you employ the following learning-centered strategies and/or ideologies to evaluate student performance:

1. Assessment within the learning process	Instructor sees assessment as less important than teaching, ***AND*** does not integrate assessment within the learning process	Instructor minimally integrates assessment within the learning process	Instructor somewhat integrates assessment within the learning process	Instructor mostly integrates assessment within the learning process
2. Formative assessment (giving feedback to foster improvement)	Instructor: uses only summative assessment (to make decisions to assign grades), ***AND*** provides students with no constructive feedback	Instructor: uses a little formative assessment ***AND/OR*** provides students with limited constructive feedback	Instructor gives students some: formative assessment ***AND*** constructive feedback following assessments	Consistently throughout the learning process instructor integrates: formative assessment ***AND*** constructive feedback
3. Peer and self Assessment	Instructor does not: consider peer and self assessments relevant ***AND/OR*** factor these assessments into final grade	Instructor rarely requires students to use peer and self assessments	Instructor requires students to use some peer and self assessments	Instructor encourages students to use peer and self assessments routinely
4. Demonstration of mastery and ability to learn from mistakes	Instructors does not provide any opportunities for students to demonstrate that they have learned from mistakes and, then show mastery	Instructors provides a few opportunities for students to demonstrate that they have learned from mistakes	Instructor provides some opportunities for students to demonstrate mastery after making mistakes	Instructor offers students many opportunities to learn from their mistakes and then demonstrate mastery
5. Justification of the accuracy of answers	Instructor: determines accuracy of answers, ***AND*** does not allow students to ask why they got answers wrong	Instructor allows students to ask why they got answers wrong	Instructor allows students to justify their answers when they do not agree with those of instructor	Instructor encourages students to justify their answers when they do not agree with those of instructor

APPENDIX B

IRB APPROVAL

MEMORANDUM

TO: Matthew L. Johnson **IRB # 13-014**
Dr. Valerie C. Rutledge

FROM: Lindsay Pardue, Director of Research Integrity
Dr. Bart Weathington, IRB Committee Chair

DATE: February 7, 2013

SUBJECT: IRB # 13-014: Faculty Perception and Use of Learning-Centered Strategies to Assess Student Performance

The Institutional Review Board has reviewed and approved your application and assigned you the IRB number listed above. You must include the following approval statement on research materials seen by participants and used in research reports:

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #13-014.

Please remember that you must complete a Certification for Changes, Annual Review, or Project Termination/Completion Form when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page http://www.utc.edu/irb or email instrb@utc.edu

Best wishes for a successful research project.

MEMORANDUM

TO: Matthew L. Johnson **IRB # 13-014**
Dr. Valerie C. Rutledge

FROM: Lindsay Pardue, Director of Research Integrity
Dr. Bart Weathington, IRB Committee Chair

DATE: February 8, 2013

SUBJECT: IRB #:13-014: Faculty Perception and Use of Learning-Centered Strategies to Assess Student Performance

The Institutional Review Board has reviewed and approved the following changes for the IRB project listed below:

- Additional institution agreed to participate

You must include the following approval statement on research materials seen by participants and used in research reports:

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project # 13-014.

Please remember that you must complete a Certification for Changes, Annual Review, or Project Termination/Completion Form when the project is completed or provide an annual report if the project takes over one year to complete. The IRB Committee will make every effort to remind you prior to your anniversary date; however, it is your responsibility to ensure that this additional step is satisfied.

Please remember to contact the IRB Committee immediately and submit a new project proposal for review if significant changes occur in your research design or in any instruments used in conducting the study. You should also contact the IRB Committee immediately if you encounter any adverse effects during your project that pose a risk to your subjects.

For any additional information, please consult our web page http://www.utc.edu/irb or email instrb@utc.edu

Best wishes for a successful research project.

APPENDIX C

CONSENT LETTER TO PARTICIPANTS

THE UNIVERSITY of TENNESSEE CHATTANOOGA

COLLEGE of HEALTH, EDUCATION & PROFESSIONAL STUDIES

School of Education
Dept. 4154
615 McCallie Avenue
Chattanooga, TN 37403-2598
Phone: (423) 425-1781
Fax: (423) 425-5380
www.utc.edu

Dear Faculty Member:

I am a student under the direction of Dr. Valerie Rutledge in the School of Education at The University of Tennessee at Chattanooga. I am conducting a research study to evaluate the strategies that faculty members use and find most effective for evaluating student performance.

I am requesting your participation, which will involve completing an online survey answering questions about the strategies that you use to assess student learning. I also hope to gather information that will identify your perception of learning-centered assessment strategies. Your input will be helpful in aiding higher education institutions just like yours in strengthening institutional assessment practices. This survey contains eleven items related to demographic information, as well as 42 items related to specific assessment strategies and techniques. The survey should take you approximately 15-20 minutes to complete. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The aggregated results of the study will be shared with each participating institution, however, your name will not be known as all responses will be kept confidential.

Thank you for taking the time to complete this survey.

If you have any questions concerning the research study, please call me at (423) 802-8247 or email me at bmh653@mocs.utc.edu or Dr. Valerie Rutledge at (423) 425 -5374 or email her at valerie-rutledge@utc.edu.

This research has been approved by the UTC Institutional Review Board (IRB). If you have any questions concerning the UTC IRB policies or procedures or your rights as a human subject, please contact Lindsay Pardue, Director of Research Integrity, at (423) 425-4443 or email instrb@utc.edu.

The Institutional Review Board of the University of Tennessee at Chattanooga (FWA00004149) has approved this research project #13-014.

Return of a completed survey will be considered your consent to participate.

Thank you.
Sincerely,

Matthew Johnson
Doctoral Candidate

APPENDIX D

ASSESSMENT STANDARDS FROM REGIONAL ACCRDITORS

Accrediting Body	Standard Regarding Student Learning
Middle States Association of Colleges and Schools (http://www.msche.org)	Standard 14, pp. 63-68 **Assessment of student learning demonstrates that, at graduation, or other appropriate points, the institution's students have knowledge, skills, and competencies consistent with institutional and appropriate higher education goals.**
New England Association of Colleges and Schools (www.neasc.org)	Standard 4.48 – 4.54 **Assessment of Student Learning** 4.48 The institution implements and provides support for systematic and broad-based assessment of what and how students are learning through their academic program and experiences outside the classroom. Assessment is based on clear statements of what students are expected to gain, achieve, demonstrate, or know by the time they complete their academic program. Assessment provides useful information that helps the institution to improve the experiences provided for students, as well as to assure that the level of student achievement is appropriate for the degree awarded. 4.49 The institution's approach to understanding student learning focuses on the course, program, and institutional level. Evidence is considered at the appropriate level of focus, with the results being a demonstrable factor in improving the learning opportunities and results for students. 4.50 Expectations for student learning reflect both the mission and character of the institution and general expectations of the larger academic community for the level of degree awarded and the field of study. These expectations include statements that are consistent with the institution's mission in preparing students for further study and employment, as appropriate. (See also 1.4 and 2.7) 4.51 The institution's approach to understanding what and how students are learning and using the results for improvement has the support of the institution's academic and institutional leadership and the systematic involvement of faculty. (See also 3.12)

Accrediting Body	Standard Regarding Student Learning
	4.52 The institution's system of periodic review of academic programs includes a focus on understanding what and how students learn as a result of the program. (See also 2.6, 4.9 and 4.10) 4.53 The institution ensures that students have systematic, substantial, and sequential opportunities to learn important skills and understandings and actively engage in important problems of their discipline or profession and that they are provided with regular and constructive feedback designed to help them improve their achievement. 4.54 The institution uses a variety of quantitative and qualitative methods and direct and indirect measures to understand the experiences and learning outcomes of its students, and includes external perspectives. The institution devotes appropriate attention to ensuring that its methods of understanding student learning are trustworthy and provide information useful in the continuing improvement of programs and services for students.
North Central Association of Colleges and Schools (www.ncahlc.org)	Criterion 3 **Criterion Three: Student Learning and Effective Teaching** **Criterion Statement** The organization provides evidence of student learning and teaching effectiveness that demonstrates it is fulfilling its educational mission. **Core Component 3a** The organization's goals for student-learning outcomes are clearly stated for each educational program and make effective assessment possible. **Examples of Evidence** • The organization clearly differentiates its learning goals for undergraduate, graduate, and post-baccalaureate programs by identifying the expected learning outcomes for each. • Assessment of student learning provides evidence at multiple levels: course, program, and institutional.

Accrediting Body	Standard Regarding Student Learning
	• Assessment of student learning includes multiple direct and indirect measures of student learning. • Results obtained through assessment of student learning are available to appropriate constituencies, including students themselves. • The organization integrates into its assessment of student learning the data reported for purposes of external accountability (e.g., graduation rates, passage rates on licensing exams, placement rates, transfer rates). • The organization's assessment of student learning extends to all educational offerings, including credit and noncredit certificate programs. • Faculty are involved in defining expected student-learning outcomes and creating the strategies to determine whether those outcomes are achieved. • Faculty and administrators routinely review the effectiveness and uses of the organization's program to assess student learning. **Core Component 3b** The organization values and supports effective teaching. **Examples of Evidence** • Qualified faculty determine curricular content and strategies for instruction. • The organization supports professional development designed to facilitate teaching suited to varied learning environments. • The organization evaluates teaching and recognizes effective teaching. • The organization provides services to support improved pedagogies. • The organization demonstrates openness to innovative practices that enhance learning. • The organization supports faculty in keeping abreast of the research on teaching and learning, and of technological advances that can positively affect student learning and the delivery of instruction. • Faculty members actively participate in professional organizations relevant to the disciplines they teach. **Core Component 3c** The organization creates effective learning environments.

Accrediting Body	Standard Regarding Student Learning
	Examples of Evidence • Assessment results inform improvements in curriculum, pedagogy, instructional resources, and student services. • The organization provides an environment that supports all learners and respects the diversity they bring. • Advising systems focus on student learning, including the mastery of skills required for academic success. • Student development programs support learning throughout the student's experience regardless of the location of the student. • The organization employs, when appropriate, new technologies that enhance effective learning environments for students. • The organization's systems of quality assurance include regular review of whether its educational strategies, activities, processes, and technologies enhance student learning. **Core Component - 3d** The organization's learning resources support student learning and effective teaching. **Examples of Evidence** • The organization ensures access to the resources (e.g., research laboratories, libraries, performance spaces, clinical practice sites) necessary to support learning and teaching. • The organization evaluates the use of its learning resources to enhance student learning and effective teaching. • The organization regularly assesses the effectiveness of its learning resources to support learning and teaching. • The organization supports students, staff, and faculty in using technology effectively. • The organization provides effective staffing and support for its learning resources. • The organization's systems and structures enable partnerships and innovations that enhance student learning and strengthen teaching effectiveness. • Budgeting priorities reflect that improvement in teaching and learning is a core value of the organization.

Accrediting Body	Standard Regarding Student Learning
Northwest Association of Schools and of Colleges and Universities (www.nwccu.org)	**Effectiveness and Improvement** The institution regularly and systematically collects data related to clearly defined indicators of achievement, analyzes those data, and formulates evidence-based evaluations of the achievement of core theme objectives. It demonstrates clearly defined procedures for evaluating the integration and significance of institutional planning, the allocation of resources, and the application of capacity in its activities for achieving the intended outcomes of its programs and services and for achieving its core theme objectives. The institution disseminates assessment results to its constituencies and uses those results to effect improvement. **4.A – Assessment** 4.A.1 4.A.1 The institution engages in ongoing systematic collection and analysis of meaningful, assessable, and verifiable data—quantitative and/or qualitative, as appropriate to its indicators of achievement—as the basis for evaluating the accomplishment of its core theme objectives. 4.A.2 The institution engages in an effective system of evaluation of its programs and services, wherever offered and however delivered, to evaluate achievement of clearly identified program goals or intended outcomes. Faculty have a primary role in the evaluation of educational programs and services. 4.A.3 The institution documents, through an effective, regular, and comprehensive system of assessment of student achievement, that students who complete its educational courses, programs, and degrees, wherever offered and however delivered, achieve identified course, program, and degree

Accrediting Body	Standard Regarding Student Learning
	learning outcomes. Faculty with teaching responsibilities are responsible for evaluating student achievement of clearly identified learning outcomes.
	4.A.4 The institution evaluates holistically the alignment, correlation, and integration of programs and services with respect to accomplishment of core theme objectives.
	4.A.5 The institution evaluates holistically the alignment, correlation, and integration of planning, resources, capacity, practices, and assessment with respect to achievement of the goals or intended outcomes of its programs or services, wherever offered and however delivered.
	4.A.6 The institution regularly reviews its assessment processes to ensure they appraise authentic achievements and yield meaningful results that lead to improvement.
	4.B – Improvement
	4.B.1 Results of core theme assessments and results of assessments of programs and services are: a) based on meaningful institutionally identified indicators of achievement; b) used for improvement by informing planning, decision making, and allocation of resources and capacity; and c) made available to appropriate constituencies in a timely manner.
	4.B.2 The institution uses the results of its assessment of student learning to inform academic and learning-support planning and practices that lead to enhancement of student learning achievements. Results of student learning assessments are made available to appropriate constituencies in a timely manner.

Accrediting Body	Standard Regarding Student Learning
Southern Association of Colleges and Schools (www.sacscoc.org)	Sub principle 3.3.1.1; page 27 3.3 Institutional Effectiveness 3.3.1 The institution identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of improvement based on analysis of the results in each of the following areas: (Institutional Effectiveness) 3.3.1.1 educational programs, to include student-learning outcomes
Western Association of Colleges and Schools (www.wascweb.org)	Standard 1.2; p. 11 Educational objectives are clearly recognized throughout the institution and are consistent with stated purposes. The institution develops indicators for the achievement of its purposes and educational objectives at the institutional, program, and course levels. The institution has a system of measuring student achievement, in terms of retention, completion, and student learning. The institution makes public data on student achievement at the institutional and degree level, in a manner determined by the institution.

APPENDIX E

SACS DECEMBER 2012 ACCREDITATION ACTIONS REPORT

Southern Association of Colleges and Schools Commission on Colleges

Actions taken by the SACSCOC Board of Trustees December 10, 2012

(Updated 2/27/13)

At its meeting on December 9, 2012, SACSCOC Board of Trustees took the following actions regarding the accreditation status of institutions reviewed. The list *does not include* the names of institutions required only to submit additional monitoring reports unless the review resulted in a negative or an adverse action.

The Commission reaffirmed the accreditation of the following institutions:

The American University in Dubai, Dubai, United Arab Emirates Austin Graduate School of Theology, Austin, Texas Christendom College, Front Royal, Virginia Coastal Carolina University, Conway, South Carolina Embry-Riddle Aeronautical University, Daytona Beach, Florida Florida Memorial University, Miami Gardens, Florida Georgetown College, Georgetown, Kentucky

Lenoir-Rhyne University, Hickory, North Carolina Miami International University of Art and Design, Miami, Florida Milligan College, Milligan College, Tennessee Millsaps College, Jackson, Mississippi Mississippi College, Clinton, Mississippi Mississippi Valley State University, Itta Bena, Mississippi Oakwood University, Huntsville, Alabama Old Dominion University, Norfolk, Virginia Our Lady of the Lake University, San Antonio, Texas Parker University, Dallas, Texas

(Includes approval of an exception to Core Requirement 2.7.4)

Pfeiffer University, Misenheimer, North Carolina Radford University, Radford, Virginia Reformed Theological Seminary, Jackson, Mississippi Shorter University, Rome, Georgia

Southeastern Baptist Theological Seminary, Wake Forest, North Carolina Southern Adventist University, Collegedale, Tennessee Southern College of Optometry, Memphis, Tennessee Southwestern Assemblies of God University, Waxahachie, Texas

Texas A & M University, College Station, Texas Texas A & M University System Health Science Center, Bryan, Texas Union Presbyterian Seminary, Richmond, Virginia

University of Houston-Clear Lake, Houston, Texas

(Includes approval of an exception to Core Requirement 2.7.4)

University of North Alabama, Florence, Alabama The University of North Carolina at Asheville, Asheville, North Carolina University of Pikeville, Pikeville, Kentucky University of South Carolina Upstate, Spartanburg, South Carolina Warner University, Lake Wales, Florida

The Commission reaffirmed the accreditation of the following institutions and removed them from sanction:

Houston Baptist University, Houston, Texas *(removal from Warning)* Mount Olive College, Mount Olive, North Carolina *(removal from Warning)* Montreat College, Montreat, North Carolina *(removal from Warning)*

The Commission accredited the following member institutions at a more advanced degree level:

Bluefield College, Bluefield, Virginia Moved from Level II to Level III offering the Master of Arts in Education online (Effective fall 2013)

Brevard Community College, Cocoa, Florida Moved from Level I to Level II offering the Bachelor of Science in Organizational Management (Effective August 2013)

Mary Baldwin College, Staunton, Virginia Moved from Level III to Level V offering the Doctor of Physical Therapy and the Doctor of Occupational Therapy (Effective June 2014)

Mississippi University for Women, Columbus, Mississippi Moved from Level III to Level V offering the Doctor of Nursing Practice (Effective spring 2013)

Saint Leo University, Saint Leo, Florida Moved from Level IV to Level V offering the Doctor of Business Administration in Management (Effective December 2013)

Southeastern University, Lakeland, Florida Moved from Level III to Level V offering the Doctor of Education (Effective July 2014)

The Commission approved the following substantive changes:

Chattahoochee Valley Community College, Phenix City, Alabama Approved the Associate of Applied Science degree in Applied Technology

Greensboro College, Greensboro, North Carolina Approved the Bachelor of Business Administration and Bachelor of Criminal Justice Administration degrees offered online

Houston Baptist University, Houston, Texas Approved the following programs: Bachelor of Arts in Cinema and New Media Arts, Master of Arts in Philosophy, Certificate in Apologetics, and the Master of Arts in Apologetics.

Mary Baldwin College, Staunton, Virginia Approved a new branch campus located in Fisherville, Virginia

Midland College, Midland, Texas—Approved the following: (1) the Associate of Arts and the Associate of Science degrees in General Studies offered at Midland High School, Lees High School, and Ozona High School, (2) Computer Graphics Technology offered at the Advanced Technology Center, and (3) the Diesel Technology program offered at the Codgell Learning Center

Parker University, Dallas, Texas—Approved Level I offering the Associate of Applied Science in Radiologic Technology

Southern University at Shreveport, Shreveport, Louisiana—Approved the Associate of Science in Business Management and the Associate of Applied Science in Health Information Technology offered through distance learning

The Commission continued the accreditation of the following institutions after an on-site review by a Substantive Change Committee:

Anderson University, Anderson, South Carolina—Review of membership at Level V offering the Doctor of Ministry

Belmont Abbey College, Belmont, North Carolina—Review of an off-campus instructional site in Charlotte, North Carolina

College of Central Florida, Ocala, Florida—Review of membership at Level II offering the Bachelor of Applied Science in Business and Organizational Management and the Bachelor of Science in Early Childhood

Florida National University, Hialeah, Florida—Review of membership at Level III offering the Master of Business Administration

Georgia College and State University, Milledgeville, Georgia—Review of membership at Level V offering the Doctor of Nursing Practice

High Point University, High Point, North Carolina—Review of membership at Level V offering the Ed.D. in Educational Leadership

Jefferson State Community College, Birmingham, Alabama—Review of the Associate of Applied Science Registered Nursing program offered at the Chilton- Clanton Center, Clanton and St. Clair-Pell City Center, Pell City, Alabama

Johnson University, Knoxville, Tennessee—Review of membership at Level V offering the Ph.D. in Leadership Studies

Medical University of South Carolina, Charleston, South Carolina—Review of off-campus instructional sites located at Hyderabad, India; Singapore; and Milton Keynes, England

Middle Tennessee State University, Murfreesboro, Tennessee Review of the following off-campus instructional sites in Tennessee: Rockvale Middle School in Rockvale, Motlow Community College in McMinnville, Nissan Training Center in Smyrna, and the Middle Tennessee Education Center in Shelbyville

Mount Olive College, Mount Olive, North Carolina Review of the Bachelor of Science in Nursing

North Greenville University, Tigerville, South Carolina Review of membership at Level V offering the Doctor of Ministry

Owensboro Community and Technical College, Owensboro, Kentucky Review of an Electronic Systems Operation Technician Certificate offered at Lewisport, Kentucky

Savannah Technical College, Savannah, Georgia Review of off-campus instructional sites at Woodville-Tompkins High School in Savannah and Fort Stewart Army Educational Center in Fort Stewart, Georgia

South University, Savannah, Georgia Review of a branch campus located in Austin, Texas

Tallahassee Community College, Tallahassee, Florida Review of the Ghazvini Center for Healthcare Education in Tallahassee, Florida

University of Houston-Downtown, Houston, Texas Review of off-campus instructional sites at Lone Star College-Kingwood and Lone Star College- CyFair

University of West Florida, Pensacola, Florida Review of the Bachelor of Science in Electrical Engineering and in Computer Engineering offered at the University of Florida Research & Engineering Facility in Shalimar, Florida

Virginia Highlands Community College, Abingdon, Virginia Review of dual enrollment off-campus instructional sites offering the General Education Certificate at the following locations: Abingdon, Virginia; Chilhowie, Virginia; Mountain City, Tennessee; Saltville, Virginia; and Bristol, Virginia

Wade College, Dallas, Texas Review of membership at Level II offering the Bachelor of Arts in Manufacturing and Design

The Commission approved the merger/consolidations of the following institutions:

Georgia Health Sciences University, Augusta, Georgia Approved the consolidation/merger of Georgia Health Sciences University with Augusta State University to be called Georgia Regents University

Macon State College, Macon, Georgia Approved the consolidation/merger of Macon State College with Middle Georgia College to be called Middle Georgia State College

North Georgia College and State University, Dahlonega, Georgia Approved the consolidation/merger of North Georgia College and State University with Gainesville State College to be called the University of North Georgia

South Georgia College, Douglas, Georgia Approved the consolidation/merger of South Georgia College with Waycross College to be called South Georgia State College

The Commission removed the following institutions from Warning:

Austin Community College, Austin, Texas Dabney S. Lancaster Community College, Clifton Forge, Virginia Edward Waters College, Jacksonville, Florida Fort Valley State University, Fort Valley, Georgia Grambling State University, Grambling, Louisiana Texarkana College, Texarkana, Texas Texas State Technical College–Harlingen, Harlingen, Texas Virginia Union University, Richmond, Virginia

The Commission removed the following institutions from Probation:

Chattahoochee Valley Community College, Phenix City, Alabama Ranger College, Ranger, Texas

Sanctions and other Negative Actions

For further information regarding Commission sanctions, see the Commission's policy "Sanctions, Denial of Reaffirmation, and Removal from Membership." Also, for the specific standard or requirement cited below, reference the Commission's Principles of Accreditation: Foundations for Quality Enhancement*. Both documents can be found on the Commission's Web page at http://www.sacscoc.org.*

The Commission denied membership at a more advanced degree level for the following institution: Benedict College, Columbia, South Carolina

Denied approval of membership at Level III because the institution did not provide an acceptable plan and supporting documentation to ensure that it has the capability to comply with the following standards as they relate to the substantive change: Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs), Comprehensive Standard 3.4.6 (Practices for awarding credit), and Comprehensive Standard 3.7.1 (Faculty competence) of the *Principles of Accreditation.*

Georgia Perimeter College, Decatur, Georgia Denied approval of membership at Level II because the institution did not provide an acceptable plan and supporting documentation to ensure that it has the capability to comply with the following standards as they relate to the substantive change: Core Requirement 2.11.1 (Financial resources), Comprehensive Standard 3.10.1 (Financial stability), and Comprehensive Standard 3.10.3 (Control of finances) of the *Principles of Accreditation.*

Martin Methodist College, Pulaski, Tennessee—Denied approval of membership at Level III because the institution did not provide an acceptable plan and supporting documentation to ensure that it has the capability to comply with the following standards as they relate to the substantive change: Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs), Comprehensive Standard 3.6.1 (Post-baccalaureate program rigor), and Comprehensive Standard 3.7.1 (Faculty competence) of the *Principles of Accreditation.*

The Commission denied approval of the following substantive changes:

Fundacion Universidad de las Americas Puebla, Puebla, Mexico—Denied approval to offer the Licenciatura in Biomedical Engineering degree program for failure to comply with Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs) and Comprehensive Standard 3.10.1 (Financial stability) of the *Principles of Accreditation.*

Parker University, Dallas, Texas—Denied approval of membership at Level III for failure to comply with Comprehensive Standard 3.6.1 (Post-baccalaureate program rigor) of the *Principles of Accreditation.*

The Commission continued accreditation, denied reaffirmation, and placed the following institutions on Warning:

Erskine College, Due West, South Carolina—For twelve months for failure to comply with Core Requirement 2.5 (Institutional effectiveness), Comprehensive Standard 3.2.10 (Administrative staff evaluations), Comprehensive Standard 3.2.13 (Institution-related entities), Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs), Comprehensive Standard 3.3.1.2 (Institutional effectiveness: administrative support services), Comprehensive Standard 3.3.1.3 (Institutional effectiveness: academic and student support services), Comprehensive Standard 3.3.1.5 (Institutional effectiveness: community/public service), Comprehensive Standard 3.3.2 (Quality enhancement plan), Comprehensive Standard 3.5.1 (General education competencies), Comprehensive Standard 3.5.4 (Terminal degrees of faculty), Comprehensive Standard 3.7.2 (Faculty evaluation), and Comprehensive Standard 3.12.1 (Substantive change) of the *Principles of Accreditation*.

Memphis College of Art, Memphis, Tennessee—For twelve months for failure to comply with Core Requirement 2.5 (Institutional effectiveness), Core Requirement 2.11.1 (Financial resources), Comprehensive Standard 3.10.1 (Financial stability), Comprehensive Standard 3.3.1.2 (Institutional effectiveness: administrative support services), Comprehensive Standard 3.3.1.3 (Institutional effectiveness: academic and student support services), and Comprehensive Standard 3.4.7 (Consortial relationships/contractual agreements) of the *Principles of Accreditation*.

Mid-Continent University, Mayfield, Kentucky—For twelve months for failure to comply with Core Requirement 2.8 (Faculty), Core Requirement 2.11.1 (Financial Resources), Comprehensive Standard 3.2.9 (Personnel Appointment), and Comprehensive Standard 3.2.10 (Administrative Staff Evaluations), Comprehensive Standard 3.3.1.1 (Institutional Effectiveness: Educational

Programs), Comprehensive Standard 3.3.1.5 (Institutional Effectiveness: Community/Public Service), Comprehensive Standard 3.4.6 (Practices for Awarding Credit), Comprehensive Standard 3.4.8 (Noncredit to Credit), Comprehensive Standard 3.5.1 (General Education Competencies), Comprehensive Standard 3.7.2 (Faculty Evaluation), Comprehensive Standard 3.10.1 (Financial Stability), Federal Requirements 4.7 (Title IV Program Responsibilities), and Federal Requirements 4.9 (Definition of Credit Hours) of the *Principles of Accreditation.*

The Commission continued accreditation, denied reaffirmation, and continued the following institutions on Warning:

Interdenominational Theological Center, Atlanta, Georgia For twelve months for failure to comply with Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs), Comprehensive Standard 3.3.1.4 (Institutional effectiveness: research), Comprehensive Standard 3.3.1.5 (Institutional effectiveness: community/public service), Comprehensive Standard 3.4.7 (Consortial relationships/contractual agreements), Comprehensive Standard 3.6.3 (Institutional credits for a graduate degree), Comprehensive Standard 3.9.3 (Qualified staff), Comprehensive Standard 3.10.3 (Control of finances), and Federal Requirement 4.7 (Title IV program responsibilities) of the *Principles of Accreditation*.

Louisiana College, Pineville, Louisiana For twelve months for failure to comply with Core Requirement 2.5 (Institutional effectiveness), Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs), Comprehensive Standard 3.3.1.2 (Institutional effectiveness: administrative support services), Comprehensive Standard 3.3.1.3 (Institutional effectiveness: academic and student support services), Comprehensive Standard 3.5.1 (General education competencies), and Comprehensive Standard 3.7.1 (Faculty competence) of the *Principles of Accreditation*.

The Commission continued accreditation, denied reaffirmation, and placed the following institution on Probation:

Virginia Intermont College, Bristol, Virginia For six months for failure to comply with Core Requirement 2.11.1 (Financial resources) and Comprehensive Standard 3.10.1 (Financial stability) of the *Principles of Accreditation*.

The Commission continued the accreditation of the following institutions and placed them on Warning:

Emmanuel Christian Seminary, Johnson City, Tennessee For twelve months for failure to comply with Core Requirement 2.2 (Governing board), Core Requirement 2.11.1 (Financial resources), Comprehensive Standard 3.10.1 (Financial stability), and Comprehensive Standard 3.10.3 (Control of finances) of the *Principles of Accreditation*.

Georgia Perimeter College, Decatur, Georgia For six months for failure to comply with Core Requirement 2.11.1 (Financial resources), Comprehensive Standard 3.10.1 (Financial stability), and Comprehensive Standard 3.10.3 (Control of finances) of the *Principles of Accreditation.*

Navarro College, Corsicana, Texas—For six months for failure to comply with Core Requirement 2.8 (Faculty), Comprehensive Standard 3.10.2 (Financial aid audits), and Federal Requirement 4.7 (Title IV program responsibilities) of the *Principles of Accreditation*.

Orangeburg-Calhoun Technical College, Orangeburg, South Carolina—For twelve months for failure to comply with Core Requirement 2.8 (Faculty) of the *Principles of Accreditation*.

Southwest Virginia Community College, Cedar Bluff, Virginia—For six months for failure to comply with Core Requirement 2.8 (Faculty) of the *Principles of Accreditation*.

Texas College, Tyler, Texas—For six months for failure to comply with Core Requirement 2.8 (Faculty) and Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs) of the *Principles of Accreditation*.

University of Virginia, Charlottesville, Virginia—For twelve months for failure to comply with Core Requirement 2.2 (Governing board) and Comprehensive Standard 3.7.5 (Faculty role in governance) of the *Principles of Accreditation*.

Wytheville Community College, Wytheville, Virginia—For six months for failure to comply with Core Requirement 2.8 (Faculty) of the *Principles of Accreditation*.

The Commission continued the accreditation of the following institution and placed it on Probation:

Florida A & M University, Tallahassee, Florida—For twelve months for failure to comply with Principle 1.1 (Integrity), Comprehensive Standard 3.2.8 (Qualified administrative/academic officers), Comprehensive Standard 3.10.3 (Control of finances), and Comprehensive Standard 3.11.2 (Institutional environment) of the *Principles of Accreditation.*

The Commission continued accreditation for good cause and placed the following institutions on Probation:

Jarvis Christian College, Hawkins, Texas—For twelve months for failure to comply with Core Requirement 2.11.1 (Financial resources), Comprehensive Standard 3.10.1 (Financial stability), Comprehensive Standard 3.10.3 (Control of finances) *(formerly Comprehensive Standard 3.10.4)*, and Federal Requirement 4.7 (Title IV program responsibilities) of the *Principles of Accreditation.*

Saint Vincent de Paul Regional Seminary, Boynton Beach, Florida—For twelve months for failure to comply with Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs) and Comprehensive Standard 3.3.1.5 (Institutional effectiveness: community/public service) of the *Principles of Accreditation*.

Southern University and A & M College at Baton Rouge, Baton Rouge, Louisiana—For six months for failure to comply with Comprehensive Standard 3.3.1.1 (Institutional effectiveness: educational programs) of the *Principles of Accreditation*.

The Commission continued accreditation for good cause and continued the following institutions on Probation:

Fisk University, Nashville, Tennessee For twelve months for failure to comply with Core Requirement 2.2 (Governing board), Core Requirement 2.11.1 (Financial resources), Comprehensive Standard 3.10.1 (Financial stability), Comprehensive Standard 3.10.3 (Control of finances) (*formerly Comprehensive Standard 3.10.4)*, and Federal Requirement 4.7 (Title IV program responsibilities) of the *Principles of Accreditation.* Greensboro College, Greensboro, North Carolina

For twelve months for failure to comply with Core Requirement 2.11.1 (Financial Resources), Comprehensive Standard 3.10.1 (Financial Stability) and Comprehensive Standard 3.3.1.1 (Institutional Effectiveness: education programs) of the *Principles of Accreditation.*

Adverse Action

Appealable actions do not go into effect until the appeal period of ten days following written notification has expired.

The Commission removed the following institutions from membership:

Florida Christian College, Kissimmee, Florida For failure to comply with Core Requirement 2.11.1 (Financial Resources) and Comprehensive Standard 3.10.1 (Financial Stability) of the *Principles of Accreditation*. *(Florida Christian College submitted a notification to appeal thereby maintaining its accreditation on Probation status. The Appeals Committee met on February 20, 2013, and voted to affirm the decision of the SACSCOC Board of Trustees taken on December 10, 2012. Further, the Committee determined that Florida Christian College, removed from accreditation based solely on finances, failed to produce evidence that the new financial information presented since December 10, 2012, was verifiable and material to the Board's adverse action. Therefore, the Appeals Committee found that testimony and documents presented at the time of the appeal did not provide an adequate basis to support a decision to remand. The removal of the accreditation of Florida Christian College is effective February 20, 2013.)*

Lon Morris College, Jacksonville, Texas For failure to comply with Core Requirement 2.5 (Institutional effectiveness), Core Requirement 2.6 (Continuous operation), Core Requirement 2.7.2 (Program Content), Core Requirement 2.7.3 (General education), Core Requirement 2.8 (Faculty), Core Requirement 2.9 (Learning resources and services), Core Requirement 2.10 (Student support services), Core Requirement 2.11.1 (Financial resources), Comprehensive Standard 3.10.1 (Financial stability), Comprehensive Standard 3.10.2 (Financial aid audits), Comprehensive Standard 3.10.3 (Control of finances), Comprehensive Standard 3.10.4 (Control of sponsored research/external funds), and Federal Requirement 4.7 (Title IV program responsibilities) of the *Principles of Accreditation*. *(Institution did not appeal the decision of SACSCOC Board of Trustees to remove accreditation. The removal of the accreditation of Lon Morris College is effective December 10, 2012.)*

APPENDIX F

FREQUENCY DISTRIBUTIONS FOR ASSESSMENT STRATEGIES

Assessment Strategy	Never	Rarely	Sometimes	Often	Almost Always	N	Mean
Lab Activities	58	6	12	18	32	126	2.68
Question & Answer using Clickers/ Personal Response Systems	91	12	10	8	4	125	1.58
Think/Pair/Share	32	20	34	28	13	127	2.76
Whole Group Discussion	9	8	34	44	33	128	3.66
Small- group Student Discussions	20	12	35	41	16	124	3.17
Minute paper/ Sentence Summary	56	26	21	13	6	122	2.07
Student Peer Teaching	48	10	38	25	5	126	2.44
Cooperative Learning/ Team - based Learning	32	13	24	33	22	124	3.00
Student Presentations	32	13	27	31	23	126	3.00
Problem Based Learning	22	18	33	33	20	126	3.09
Role Play	56	27	25	11	6	125	2.07
Games/ Simulations	46	21	40	14	5	126	2.29
Debates	71	27	19	9	1	127	1.76
Informal Writing	32	18	41	26	10	127	2.72
Quizzes	20	16	25	30	37	128	3.38
Online Discussions	79	10	22	11	5	127	1.84
Reflective Blogs	98	10	6	8	5	127	1.52
Online Formative Quizzes	92	9	8	9	7	125	1.64
Online Collaborative Projects	97	11	9	6	2	125	1.44
Online/E - Portfolio	105	5	3	6	6	125	1.42
Background Knowledge Probe/ Just- In - Time Teaching	87	12	18	7	2	126	1.61
Computer- based Learning Exercises/Games/Simulations	63	23	20	12	9	127	2.06
Case Study	42	19	34	24	9	128	2.52
Literature Review	48	15	26	22	16	127	2.55
Original Research Proposal	83	14	12	11	7	127	1.78
Short Papers	35	12	33	26	21	127	2.89
Major Writing Project/ Term Paper	60	15	10	19	23	127	2.45
Student- Generated Quiz/Exam Questions	77	26	17	6	1	127	1.65

Concept Maps/ Mind Maps	73	19	15	12	8	127	1.92
Student Attitude Surveys	59	17	28	12	11	127	2.20
Campus Events	59	20	35	11	3	128	2.05
Film/Video Critique	48	18	26	23	11	126	2.45
Annotated Bibliography/ Webliography	77	19	14	9	8	127	1.83
Personal Reflection Journal	57	16	17	20	17	127	2.40
Learning Portfolio	92	8	11	6	10	127	1.69
Field Trips	71	15	24	10	8	128	1.98
Service Learning	72	13	17	9	16	127	2.09
Video Creation	89	18	11	6	3	127	1.55
Student Peer Assessment	60	12	27	18	10	127	2.26

APPENDIX G

PERCEPTION OF ASSESSMENT STRATEGY EFFECTIVENESS PERCENTAGES

Strategy	N	% of Sample
Whole Group Discussion	57	46%
Quizzes	51	41%
Lab Activities	49	39%
Student Presentations	46	37%
Small- group Student Discussions	45	36%
Short Papers	32	26%
Problem Based Learning	28	22%
Major Writing Project/ Term Paper	28	22%
Cooperative Learning/ Team-based Learning	26	21%
Case Study	25	20%
Personal Reflection Journal	24	19%
Film/Video Critique	20	16%
Student Peer Teaching	18	14%
Informal Writing	18	14%
Games/ Simulations	17	14%
Literature Review	17	14%
Think/Pair/Share	16	13%
Field Trips	14	11%
Concept Maps/ Mind Maps	13	10%
Student Peer Assessment	13	10%
Service Learning	11	9%
Original Research Proposal	10	8%
Role Play	9	7%
Online Discussions	9	7%
Learning Portfolio	9	7%
Video Creation	9	7%
Minute paper/ Sentence Summary	8	6%
Computer- based Learning Exercises/Games/Simulations	8	6%
Question & Answer using Clickers/ Personal Response Systems	7	6%
Campus Events	6	5%
Online Formative Quizzes	5	4%
Reflective Blogs	3	2%
Background Knowledge Probe/Just-In-Time Teaching	3	2%
Student- Generated Quiz/Exam Questions	3	2%
Student Attitude Surveys	3	2%
Debates	2	2%
Online Collaborative Projects	2	2%
Online/E – Portfolio	2	2%
Annotated Bibliography/ Webliography	2	2%

VITA

Matt Johnson was born in Bowling Green, Kentucky and raised in a rural farming community just outside Lewisburg, Kentucky. Matt spent his freshman year of college at Western Kentucky University in Bowling Green, Kentucky before transferring to Tennessee Temple University in Chattanooga, Tennessee where he studied psychology and education. Upon completion of his bachelorette degree, Matt was awarded a graduate assistantship in the Teacher Education Department at TTU where he earned a Master of Education degree in educational leadership. Matt served in various administrative and instructional positions at TTU.

Matt currently serves as the Director of Institutional Effectiveness at Bryan College in Dayton, Tennessee where he coordinates the institutional assessment and research efforts of the College. At Bryan, Matt has served as a member of the President's Leadership Team for Reaffirmation, the Quality Enhancement Plan Implementation Team, and as the chair of the Institutional Assessment Committee. Additionally, Matt has served as an adjunct faculty member in the Departments of Education and Psychology.