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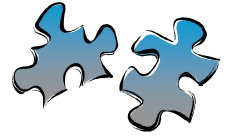
### Executive Summary

The current state of knowledge about the effectiveness of a college education is limited. There is no commonly used metric to determine the effectiveness — *defined in terms of student learning* — of higher education. The lack of a culture oriented toward evidence of specific student outcomes challenges informed decision-making by institutions, students and their families, and future employers of college graduates. Currently at both the state and national level, there are attempts to embrace a systemic, data-driven, comprehensive approach to understanding the quality of postsecondary education, with direct, valid, and reliable measures of student learning. Current efforts such as the *Measuring Up* reports use a comprehensive national system for determining the nature and extent of college learning.

The Tennessee Higher Education Commission (THEC) asked a consulting team of Vanderbilt University doctoral students to examine two issues: 1) The

“incomplete” Tennessee received in *Measuring Up 2006*; and 2) The impact performance funding has on the academic culture as it relates to student learning. This report identifies those findings to link learning, accountability, and performance. Additionally, an in-depth review of accountability in higher education, measurement of student learning outcomes in higher education, and the linkage between them is explored.

There is great variability within the U.S. postsecondary education system. Some examples illustrating the underlying complexity of postsecondary education can be considered from the institutional, student, and learning environment perspectives. These dimensions are important for accountability considerations because they relate directly to approaches utilized to assess student learning for the purposes of monitoring and improving institutional effectiveness in the teaching and learning domains.



At the state and national levels, there are three common themes in the measurement of student learning at the postsecondary level:

- workplace readiness and general education skills
- knowledge / discipline-specific knowledge and skills
- “soft” or noncognitive skills

The consultants conducted a qualitative study to explore the three common areas of measuring student learning. The study resulted in the identification of twelve emerging themes relative to performance funding and accountability in Tennessee institutions of higher education.

As a result of the work to understand THEC’s two questions, the consultants provide the following recommendations:

*Question One: Compliance to meet NCHEMS (Measuring Up) learning model.*

- 1) Contact the Tennessee Department of Labor and Workforce Development, Governor’s Office and Department of

education to encourage involvement in SAAL.

- 2) Collaborate with private colleges and universities to meet requirement for “performance of college graduates.”
- 3) Require all or a portion of two-year institutions to administer the ACT WorkKeys test.
- 4) Require all or a portion of four-year institutions to administer the CLA

*Question Two: Measuring student learning as a component of performance funding.*

- 1) Continue weighting mechanisms for program review/academic audit and accreditation.
- 2) Change weighting values for program review/academic audit and accreditation.
- 3) Encourage institutions to provide more pedagogical training and incentives for participation

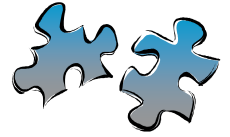


### Introduction

The Tennessee Higher Education Commission (THEC) wanted to gain greater understanding as to how the National Center for Public Policy and Higher Education measures student learning in their report *Measuring Up 2006*. Specifically, the first guiding question became discerning why Tennessee received an “incomplete” for student learning in the report since the state does in fact measure student learning through its performance funding criteria.

The second guiding question THEC asked the consulting team to examine was the impact performance funding has on the academic culture as it relates to student learning. In other words, THEC wanted the consulting team to gain understanding as to the role performance funding plays when academic councils and departments discuss and make decisions regarding student learning initiatives. THEC asked

the students to study one institution from the community college, Tennessee Board of Regents (TBR) four-year system, and the University of Tennessee system.

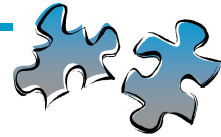


### What We Know, What We Need To Know

Federal and State officials continue to implement programs that attempt to make higher education institutions more accountable. Recognition of the increasing importance and rising cost of a college education has produced a shift in the notion of accountability. Rather than colleges and universities looking inward to define challenges confronting them, there is now a growing set of external pressures. At the state level, for example, the implementation of performance based programs in most states demonstrates the desire for greater accountability. State-wide performance based reporting and funding programs create a greater role for policymakers outside of higher education institutions. Policymakers are paying more attention to matters such as whether students graduate and how much they learn (outcomes) rather than strictly input measures such as student enrollment and faculty teaching loads. On the national level, regional accrediting agencies have been instructed by Congress and the U.S. Department of Education to prioritize the

review of demonstrable methods of measuring levels of student learning at accredited public and private institutions. Government and corporate stakeholders believe that many college graduates lack the knowledge and skills required for successful careers in an economy driven by technology and information.

Public officials and policymakers are requiring colleges and universities to provide more institutional performance data. The performance based programs in some states, like the program in Tennessee, have been in place for more than twenty years. Policymakers need to know if these programs are achieving the desired results. There are many questions that need to be answered. After twenty years of experience, can we identify best practices and are there lessons that we can learn from the implementation of some of these programs? What areas of institutional performance are policymakers requiring colleges and universities to report and what impact are these



performance programs having on the academic culture of the institutions involved with the programs? What skills or desired student outcomes are being specified and measured by these institutions? The *Measuring Up 2006 Report* recommends the use of standardized tests. When trying to measure student learning and the acquisition of desired skill sets at the postsecondary level, should one standardized two-year and one standardized four-year test be utilized to compare the levels of student learning between institutions? The variability of institutional characteristics and diversity of students who apply to and enroll in colleges and universities are important aspects of the postsecondary education system. The diversity of institutional missions must be recognized when implementing a system of accountability. To gain a better understanding of state-wide and national efforts to measure institutional performance, the consulting team reviewed the literature on accountability in higher education to provide a context for the two guiding questions of this project.

### Accountability in Higher Education

Government officials at both the state and national levels are searching for ways to hold higher education institutions more accountable to the public. The *Measuring Up* series of national reports (the focus of the first guiding question) and performance funding programs like the one implemented in Tennessee (the focus of the second guiding question) are evidence of the desire for more accountability. Throughout most of the history of American higher education, “accountability” was not a word associated with academic endeavors (Zumeta, 2001). Until the 1980s, public colleges and universities were given a great deal of autonomy. State government was often content to “leave the money on the stump” for higher education institutions with few

State government was often content to “leave the money on the stump” for higher education institutions with few questions asked (Trow, 1993).

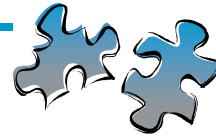


questions asked (Trow, 1993). The federal government paid little attention to higher education until World War II and the period of student enrollment growth that followed. In debates on the initial terms for providing major federal funding for research and student aid, a central notion was that government should leave institutions' core academic functions alone (Keppel, 1987; Trow, 1993). The days of academic autonomy were left behind as higher education grew in social and economic importance and its budgetary impact grew significantly during the period of enrollment growth in the 1960s and 1970s. Rather than colleges and universities looking inward to define challenges confronting them, there is now a growing set of external pressures. Increased public scrutiny and calls for accountability characterize this shift. Much of the explanation lies in economics.

Financial pressures on states during the economic slowdown of the early 1990s led state policymakers to look more closely at higher education funding. State funding for higher education is discretionary. Other major functions supported by states'

general funds—elementary and secondary education, Medicaid, corrections, and welfare—are driven by federal or judicial mandates and are not subject to much state budgetary control. The push from the federal budget to state and local governments for medical services and K-12 education is placing pressure on state funding for higher education. In 1990, for the first time, Medicaid displaced higher education as the second largest category of state spending eclipsed only by elementary and secondary education (Mumper, 2001). Higher education experienced three years of absolute decreases in state appropriations during the economic slowdown of the early 1990s (Zumeta & Fawcett-Long, 1997). Colleges and universities are able to mitigate the effects of budget cuts by tapping other sources of revenue such as tuition increases, grants, and private donations (Hovey, 1999).

Confronted with a steady decline in government support, most institutions have offset their revenue losses by passing the costs on to the students through significant tuition increases. The growth in public college prices, greatly in excess



of the growth in typical middle- and working-class incomes (NCPPE, 2002), continues to raise questions about access and affordability. The public and elected officials recognize how essential the achievement of a college degree is in the modern economy, and they are concerned about access to higher education. Citizens and government officials want institutions to become more efficient. The demand for increased efficiency and effectiveness is part of the focus on accountability and makes legislators less willing to abide by traditional norms of academic autonomy vis-à-vis government (Zumeta, 2001).

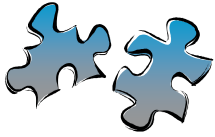
In the name of greater accountability, not only are public colleges and universities being asked to provide more operating data to government officials, but also an increasing number of institutions are finding some of their state appropriations linked to measured performance on the state's list of priorities (Burke & Serban, 1997, 1998). In some cases, states have

mandated more “efficiency” by establishing performance goals such as improving graduation rates, increasing faculty time in teaching undergraduates, raising transfer rates between community colleges and four-year institutions, and showing improvements in graduates' scores on standardized tests of learning (Burke, 1997b).

Managing, measuring, and rewarding results became the new trinity (Hammer & Champy, 1993).

Performance management initiatives in the 1990s emphasized that organizations should improve quality while cutting costs and increasing services. Performance accountability advocated management by results rather than control by regulations. By concentrating on performance rather than on compliance, managers combine the goals of accountability and improvement. Organizations can improve performance while decentralizing authority by being tight on setting goals and assessing results but loose on the means of achieving them. Managing, measuring, and rewarding results became



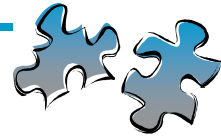


the new trinity (Osborne & Gaebler, 1992; Hammer & Champy, 1993). However, the academic community never defined with any precision the objectives of undergraduate education or developed systematic methods for assessing campus performance.

By default and preference, the perception of institutional quality depended largely on resource inputs, such as the quantity of campus resources, the quality of admitted students, and the reputation of faculty research. It neglected institutional outputs and outcomes, such as the quantity and quality of graduates and the range and benefits of research and service to states and their citizens. This “Resource and Reputation” model reflected provider desires rather than customer demands (Astin, 1985). The move of health care to managed care appeared to leave higher education as the last refuge of a provider-driven enterprise (Burke et al., 2000).

Once considered a luxury for most citizens and a private benefit to graduates, tertiary education has become essential to the economic success of states in a competitive national and global economy driven by knowledge and information. Recognition of the rising importance and increasing cost of higher education produced a shift in the notion of accountability. The “old accountability” asked the accounting question of how public campuses expended state resources. The “new accountability” asked the management question of what were their results (Gold, 1995; Burke et al., 2000). Performance funding and budgeting differ from these earlier efforts by allocating resources for achieved rather than promised results. This practice shifts the budget question from what states should do for their campuses toward what campuses should do for their states and their students (Burke, 2001).

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### Accountability and Performance

#### Funding

In the late 1980s and early 1990s, the main emphasis in state accountability policy was on information—increased institutional reporting to state agencies, the legislature, and the public, in what was often referred to as institutional “report cards” (Ruppert, 1994). Although the use of such report cards continues, policymakers have generally been unsatisfied that reporting alone leads to accountable behavior. Many states have tied performance standards to a portion of public-funding allocations to colleges and universities (average of 3% of total state funding for those states utilizing performance funding incentive programs). Performance funding implies a greater role for policymakers outside the public higher education institutions. Governors, executive budget officers, and state legislatures specify performance measures and use them in attempts to influence institutions’ priorities and behavior. Previously, states had depended upon the good judgment of citizen trustees and higher education boards to monitor

#### Common Performance Funding Approaches

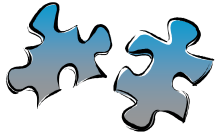
1. *Inputs, processes, and outcomes*
2. *Resource efficiency and effectiveness*
3. *State need and return on investment*
4. *“Customer” need and return on investment*

(Ewell and Jones, 1994)

institutions’ activities and to protect public interests. The traditional input budget allocation methods (enrollment, type of institution, etc.) are being supplemented by performance indicators that state policymakers consider more indicative of efficiency or desired outcomes, or both (Zumeta, 2001).

Ewell and Jones (1994) identified four approaches commonly used by performance programs to measure progress toward accountability objectives:

- 1) *Inputs, processes, and outcomes*: a “production” process model aimed at measuring the value added to departing



students; 2) *Resource efficiency and effectiveness*: designed to measure the efficient use of resources such as faculty, space, and equipment; 3) *State need and return on investment*: designed to measure the fit between higher education and state needs (e.g. work force preparation); and 4) *“Customer” need and return on investment*: designed to measure the impact of higher education in meeting individual needs (e.g., retention and graduation rates, employability of graduates).

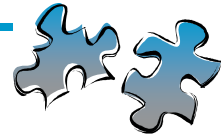
Burke and Serban (Burke, 1997a, 1997b; Burke & Serban, 1997; Serban, 1997) conducted research on the measures of accountability used in states employing performance funding and they provided a taxonomy of measures that describe what

is actually being implemented. The taxonomy distinguishes input, process, output, and outcome measures.

Policymakers are paying more attention to matters such as whether students graduate and how much they learn (outcomes) rather than strictly to input measures such as student enrollment. Burke (1997) studied the eight performance funding state programs that were in existence in the mid-90s and found that only 13% of the performance indicators fell into the input category, 18% in the output category, 21% in the output indicator category, and 42% in the category of process indicators. Most of the process indicators identified by Burke were traditional efficiency-oriented measures

### Most Common Performance Funding Indicators

- Undergraduate retention and graduation rates
- Professional licensure test scores or pass rates
- Transfers from community colleges to the baccalaureate sector
- Use of technology
- Faculty teaching load measures.

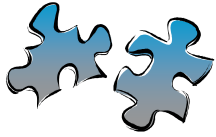


such as teaching load, average class size, and program duplication indicators.

Nontraditional process measures that were gaining popularity in the 90s were proportion of courses using technology and assessment measures of student learning beyond the classroom setting (e.g., by standardized tests). Burke (1997) believes that the focus on process and output measures (63%) reflects business and government's demands for indicators that are measurable and understandable for budget decision-making. The most common performance indicators across the eight performance funding states were: 1) undergraduate retention and graduation rates (used in all eight states); 2) professional licensure test scores or pass rates; 3) transfers from community colleges to the baccalaureate sector; 4) use of technology; and 5) faculty teaching load measures. Other indicators included time to degree completion; faculty / staff diversity indicators; job placement; preparation levels of entering students; noninstructional costs as a share of total costs; satisfaction surveys; student

learning measures (test scores); and workforce training.

Burke (1997) compared the performance funding programs between the states where the legislature initiated the program and those where the higher education coordinating board was the primary group influencing the establishment of the program. Burke identifies the differences between the programs where the legislature prescribed all or most of the performance measures and those where the coordinating body largely negotiated specific measures with the public colleges and universities. Burke found that legislative-specified programs focused more on external accountability. Programs initiated by coordinating boards, negotiating with higher education institutions, focused more on internal notions of improvement. Burke also classifies the indicators in the following focus groups: efficiency, quality, equity, and choice. Efficiency was the dominant value in states where a state mandate prevailed. In two of the three states where coordinating boards worked with institutions to specify indicators and the

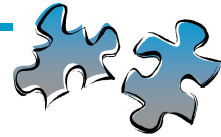


legislature was less involved, quality was the dominant value. Indicators focusing on equity or choice were rare in all eight performance funding programs.

Gaither (1997) identified several lessons learned from the initial efforts to develop performance indicators: the number of performance indicators should be kept to a minimum (less than 20); indicators should not be developed in a top-down manner; both the faculty and state legislature need to be involved in selecting the indicators to promote “buy in”; one model cannot be applied to all types of institutions; policymakers tend to prefer quantitative to qualitative measurement; and performance results must be communicated in a timely and understandable fashion for policymakers and the public. Layzell (2001) offers four suggestions for state policymakers when developing performance-based funding initiatives for higher education institutions: keep it simple—limit the number and complexity of indicators; communicate and clarify performance goals and objectives often when developing a performance-based funding program; leave room for error and

experimentation; and learn from others’ experiences, but develop a program that reflects your own particular needs and concerns.

By the year 2003, twenty-five states had implemented performance funding programs as part of their higher education budget allocations (McLendon et al., 2004). Thirty-four states had adopted performance budgeting programs, with many states utilizing both performance funding and budgeting programs. Performance budgeting allows policymakers to consider campus performance as one factor in determining the total allocation for an institution. The link in performance budgeting is discretionary and not as specific as performance funding indicators and related resource allocations. Forty-two states had adopted a performance reporting policy by 2003. The popularity of all three performance-accountability policies increased significantly in the 1990s. The focus on accountability is attributed to a variety of factors, including structural changes in the U.S. economy (e.g., globalization), which brought pressure



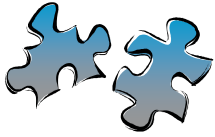
from the business sector for campuses to maximize productivity and efficiency; financial pressures placed on state governments in the 1990s; and elected officials' opinion that public institutions are not capable of voluntarily meeting the growing demands of accountability (Burke & Serban 1997; McLendon et al., 2004; Zumeta, 1998).

### *Arguments for and against Performance-Based Programs*

Serban (1997) provides three supporting arguments for performance funding. 1) It fosters both external accountability and institutional improvement. Although all performance programs claim to pursue both accountability and improvement, in practice, the performance indicators usually stress one purpose over the other. 2) Performance funding helps transform public campuses from provider-centered enterprises driven by the aspirations of administrators and faculty into client-centered organizations focused on the needs of students and society. Students constitute the most favored clients in these performance programs, but they also

respond to the needs of states, businesses, and public schools. 3) Performance funding centers attention on undergraduate education. Public officials and business leaders complain about the quality and quantity of faculty teaching and student learning, the preoccupation with graduate studies and research, and the neglect of undergraduate education. Critics charge that baccalaureate campuses admit too many unqualified undergraduates, devote too many resources to correcting their deficiencies, and graduate too few of the students admitted. Public officials and business leaders also claim that too many graduates lack the knowledge and skills required for successful careers in an economy driven by technology and information.

One of the performance funding implementation problems identified by Burke and Serban (1997) is the desire of state officials for uniform measures across institutions with diversity of institutional missions and circumstances. Measures tend to reward outputs or outcomes (e.g., standardized test results and graduation rates) without adequate consideration of



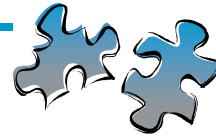
differences in inputs, such as preparedness of incoming students or base resource levels, which may have significant effects on results (Zumeta, 2001). Another implementation problem is the controversy surrounding the selection of specific performance indicators and related incentive funding. A considerable amount of judgment remains in most scoring systems because reaching agreement on specified formulas is difficult.

Burke (2001) summarizes the arguments for and against performance based allocation programs. The arguments for the programs include the following: 1) adds performance as a factor in state funding and budgeting; 2) links planning and budgeting; 3) pushes state officials to identify their priorities and encourages dialogue with campus leaders; 4) fosters both external accountability and institutional improvement; 5) presses

campuses to become more client-centered and less provider-centered (Serban, 1997); 6) centers attention on undergraduate education; 7) rewards good and penalizes poor performance; and 8) decentralizes authority without undermining accountability.

*Measures tend to reward outputs or outcomes without adequate consideration of differences in inputs, such as preparedness of incoming students or base resource levels, which may have significant effects on results (Zumeta, 2001).*

The arguments against performance based programs, according to Burke (2001) include: 1) difficulty of assessing results in higher education (performance programs struggle with the difficulty of measuring the results of undergraduate education); 2) diminishing the diversity of campus missions (critics claim that no single program could reflect—much less encourage— campus differences in type and mission); 3) producing budget instability; 4) punishing the poorest institutions (reflects the reality that the amount of resources often affects the level



of performance); 5) combining the incompatible purposes of external accountability and institutional improvement; 6) creating excessive costs for data collection and analysis; 7) stressing efficiency over quality; 8) subjecting higher education to shifting state priorities (Arkansas, Colorado, Kentucky, and Minnesota dropped their performance programs because of shifting administrations and changing priorities); and 9) favoring traditional over nontraditional campuses (many of the indicators are set for traditional baccalaureate campuses with full-time enrollments). Tennessee was the first State to implement a performance funding program. The State continues to review and modify the program standards in order to avoid some of the programmatic challenges listed above.

### *Performance Funding in Tennessee*

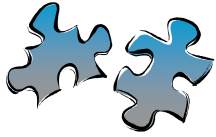
Tennessee's performance funding program, initiated in 1979 by the Tennessee Higher Education Commission (THEC), was the first in the nation. THEC initiated the program in part to

respond to concerns that the enrollment-driven funding model would no longer fund institutions adequately as enrollments began their predicated decline in the 1980s. Tennessee's program placed an emphasis on a perennial concern of the legislature: the quality of undergraduate education. The performance measures have broadened over the years, and the

### TN Performance Funding Weighted Categories

1. Student learning environment and outcomes (40% of score weighting for four-year institutions; 35% for community colleges)
2. Student satisfaction (10% of score weighting)
3. Student persistence (15% of score)
4. State master plan priorities (20% of score for four year institutions; 25% for community colleges)
5. Assessment outcomes (15% of score).





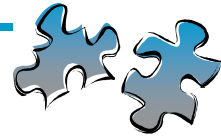
higher education institutions, working with THEC, have played a substantial role in refining the indicators and how they are used. The periodic revisions have: 1) refined the scoring procedures; 2) intensified and specified the focus on assessment on student learning; 3) shifted the overall emphasis away from external reporting and toward internal improvement; 4) tried to take differences in institutional missions into account; and 5) sought to allow for innovative efforts that do not have immediately measurable results (Zumeta, 2001).

Institutional performance funding scores in Tennessee are based on a variety of indicators. The basic categories and related weighting for the 2005–10 performance funding cycle, with some variation by type of institution, are: 1) *Student learning environment and outcomes* (40% of score weighting for four-year institutions; 35% for community colleges); 2) *Student satisfaction* (10% of score weighting); 3) *Student persistence* (15% of score); 4) *State master plan priorities* (20% of score for four-year institutions; 25% for community colleges);

and 5) *Assessment outcomes* (15% of score).

In the category of student learning, the performance components include general education (institutional mean test scores using standardized tests), major field assessment, accreditation, and program review. In the second category, student satisfaction is measured by student, alumni, and employer surveys. Student persistence is measured by the percentage of student retention and persistence to graduation at an institution. The Master plan scoring components include institutional strategic planning goals, state strategic planning goals, transfer and articulation (for four-year institutions), and job placement (for community colleges). Assessment outcomes are measured by pilot programs and implementation progress.

There is evidence of improvement in student and alumni satisfaction with both academic programs and student services, in job placement rates for graduates of two-year college career programs, and in the proportion of creditable programs that are accredited (Zumeta, 2001).



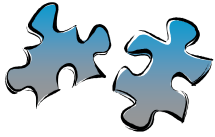
Tennessee continues to focus significant attention on undergraduate education and its measurable outcomes (e.g., tested reading, writing, computing, and critical-thinking skills), but significantly, the evidence of improvements in students' performance in these areas over the years is "scant" (Banta, Rudolph, Van Dyke, & Fischer, 1996). Valid, direct measures of student outcomes are difficult to develop.

Many educators find fault with virtually every attempt to measure educational outcomes (Fisher, 1995). Experiences with assessment tell educators and policymakers that the process of setting explicit goals, evaluating teaching and learning, and making the results public is challenging. In fact, assessment results made public so runs against the grain of the academy that even years of experience with performance funding is not sufficient to convince a large segment of college faculty that anything positive is achieved through public assessment (Banta et al., 1996; Schmidt, 2002). "Few of the performance-based financing systems have yielded either of the benefits that higher education leaders had hoped they would

Many educators find fault with virtually every attempt to measure educational outcomes (Fisher, 1995).

bring: clear improvements in education, and an increase in state support for public colleges that have proved themselves" (Schmidt, 2002, p. A20). "The question of whether it works is irrelevant" (p. A1), said Peter Ewell, a senior associate with the National Center for Higher Education Management Systems (NCHEMS). Given their popularity, performance-based financing systems "are not going away. They are simply going to remain part of the landscape" (p. A.20).

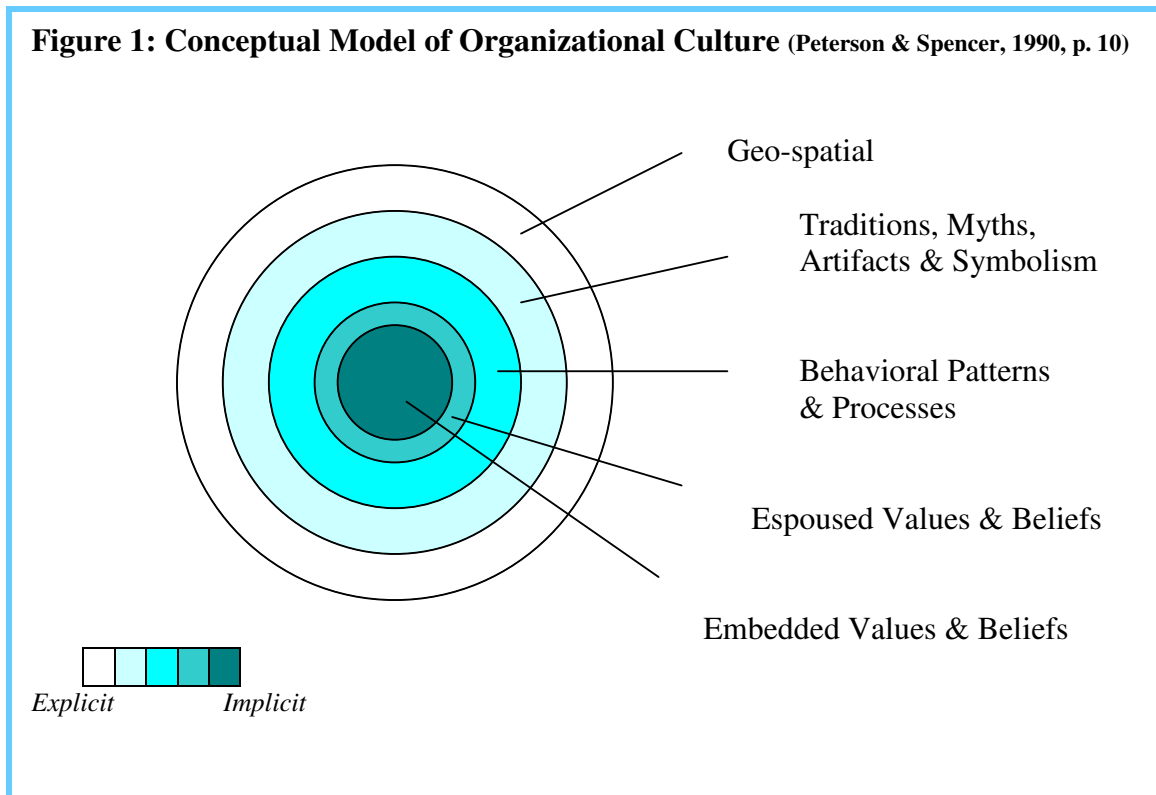
The performance based programs continue to be popular in many states; however, recent trends indicate that the dollar allocations tied to performance standards will continue to be a small percentage of total state allocations for higher education institutions. Many states aggressively pursued performance funding programs in the late 1990s, but empirical studies (for example, annual surveys on accountability by Joseph Burke and colleagues at SUNY)

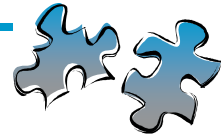


show there has been a retreat in the present decade from efforts to link performance to substantial amounts of state funding (Zumeta, 2007).

Performance funding incentives have now been in place for 28 years in Tennessee. Policymakers evaluate the incentive program to see if the emphasis on improved student learning and outcome assessment has been embedded in the culture of higher education institutions in the state. Organizational culture is generally grouped around the following

four broad categories: geospatial; traditions, artifacts, and symbolism; behavioral patterns and processes; and espoused versus embedded values and beliefs (See Figure 1) (Ott, 1989; Peterson & Spencer, 1990; Schein, 1985). Geospatial explores the physical elements of the campus. Traditions and artifacts provide a broad range of information about shared assumptions, values, and beliefs that institutional members hold about their organization. “Often, these elements illustrate the idealized view of the institution, highlighting values and





beliefs that are avowed but not necessarily practiced” (Peterson & Spencer, 1990, p. 11).

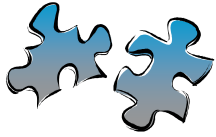
Behavioral patterns and processes involve manifested behaviors sustained and repeated over time that develop values and beliefs that the members share within their organization. The embedded values are those that members carry with them, and these implicit values provide a real sense of the meaning of their organizational reality (Schein, 1985). Policymakers need to understand the ways in which the Performance Funding Program in Tennessee influences faculty behavior and institutional culture on the various campuses.

According to Bogue and Brown (1982) and the THEC staff members who took the lead in implementing performance funding in the late 1970s, the policy has from the outset been designed to improve higher education in the state. In 1990, the THEC staff reiterated this goal in a formal statement of purpose: “The Performance Funding Program is designed to stimulate instructional improvement and student

learning as institutions carry out their respective missions” (THEC, 1993, p. ii). Most institutions have undertaken student assessment initiatives that probably would never have been implemented in the absence of the external stimulus of performance funding (Banta, 1988). These activities have yielded data utilized to improve curricula, instruction, and student services, such as advising, on some campuses. Van Dyke, Rudolph, and Bowyer (1993) have described benefits of student assessment, such as increased faculty attention, to general education and development of generic skills, such as writing, speaking, computing, and critical thinking. Faculty development associated with assessment has given instructors new understanding of teaching and testing techniques that improve student outcomes.

### College-Related Outcomes and Benefits

Both of the guiding questions for this study focus on defining and measuring desired student outcomes. To many, college students do not acquire the intellectual and practical skills necessary for successful careers in an economy

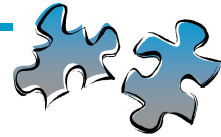


driven by technology and information. Public officials and business leaders have a vested interest in student learning because they know that higher levels of student achievement benefits individuals and society at large.

Analyzing four categories of college-related outcomes and benefits (public economic benefits, private economic benefits, public social benefits, private social benefits), the Institute for Higher Education Policy (IHEP) concluded that individuals and society at large benefits with each person who attends college (IHEP, 1998; Williams & Swail, 2005). As many as four fifths of high school graduates need some form of postsecondary education to prepare them to live an economically self-sufficient life and to deal with the increasingly complex social, political, and cultural issues they will face (McCabe, 2000). Earning a baccalaureate degree is the most important rung in the economic ladder (Bowen, 1978; Bowen & Bok, 1998; Boyer & Hechinger, 1981; Nuñez, 1998; Nuñez & Cuccaro-Alamin, 1998; Pascarella & Terenzini, 2005; Trow, 2001), as college

graduates on average earn almost a million dollars more over the course of their working lives than those with only a high school diploma (Pennington, 2004). According to the National Center for Public Policy and Higher Education (2004), out of every 100 ninth graders, 68 graduate from high school, 40 immediately enter college, 27 are still enrolled their sophomore year, and only 18 complete any type of postsecondary education within six years of graduating from high school. Consistent with these findings, state legislatures have continued to increase the pressure on colleges and universities to improve persistence and become more accountable for student learning. At the national level, the federal government has placed student learning as one of the top priorities for college accrediting agencies.

The development of cognitive skills is one of the more important outcomes of college attendance. Developing intellectual and practical skills, particularly critical and creative thinking, has never been more important (AACU, 2005). The cognitive complexity domain consists of two



outcome categories—reflective judgment and application of knowledge, abilities needed to think critically and logically to evaluate or assess the quality of one’s own thinking and experience by exercising independent judgment (Kuh, 1993). Practical competence represents students’ capacity to perform effectively after college in a variety of areas. Employers and policymakers are increasingly interested in this arena, saying that while students are well-prepared in their major field, many lack the skills and abilities needed to be successful in the workplace (Cappelli, 1992; Ewell, 1994; Hayek & Kuh, 1999; Immerwahr, 1999). Although practical competencies can be obtained in classrooms, laboratories, and studios, the nature of many out-of-class activities often requires that students become competent in these areas, demanding that students examine and test their skills and values in a variety of situations not unlike those they will encounter after college (Kuh et al., 1994; Kuh, 1995). Student learning connects to a variety of desired student and personal development outcomes that confer benefits on individuals and society. These include becoming proficient in

writing, speaking, critical thinking, scientific literacy, quantitative skills, and more highly developed levels of personal functioning represented by self-awareness, confidence, self-worth, social competence, and sense of purpose. Although cognitive development and direct measures of student learning outcomes are of great value, relatively few studies provide conclusive evidence about the performance of large numbers of students at individual institutions (Association of American Colleges and Universities, 2005; National Center for Public Policy and Higher Education, 2004; Pascarella & Terenzini, 2005).

As a result of these concerns, 44 states have created some form of accountability or statistical reporting system (Burke & Minassians, 2002), and of those, 27 have formal “report cards” that characterize, among other things, learning outcomes (Naughton et al., 2003). Of those states that do characterize student outcomes in a report card, Naughton et al. (2003) found 227 performance indicators that were either directly or indirectly related to student learning.



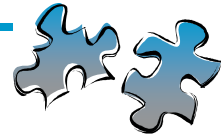
Klein et al. (2005) identifies both direct and indirect indicators of student learning. Direct indicators of student learning include scores from achievement and ability tests. The most frequent direct indicators are scores on the Graduate Record Examination (GRE), licensure examination pass rates, and value-added measures based on published tests such as Collegiate Assessment of Academic Proficiency (CAAP). Indirect indicators are proxies for learning. They typically include graduation rates, degrees awarded, self-reports of learning obtained through student surveys such as the National Student Survey of Engagement, and employer surveys. Data on indirect measures are generally much easier and less expensive to gather than data on direct measures. Consequently, 80% of the learning indicators reported by 26 of the 27 states in Naughton et al.'s study (2003) focused on indirect indicators.

Much of the current policy debate has focused on direct assessment of student learning (Callen & Finney, 2002; Klein, 2002; Shavelson & Huang, 2003). Not surprisingly, a reaching consensus as to

what to measure or how to measure it presents challenges. Callen and Finney (2002) have proposed a national assessment for higher education not unlike the National Assessment of Educational Progress, the “Nation’s Report Card” for K-12 education. Such an assessment would permit state-by-state comparison for policymakers that would be reported in *Measuring Up*, a biennial higher education report card. Such an approach provides information to state policymakers for decision-making, but this level of aggregation is not particularly useful for institutional improvement. In contrast, some researchers (Benjamin & Hersh, 2002; Klein, 2001; Klein et al., 2003) have proposed a multilevel assessment adapted to local institutions’ concerns for the improvement of teaching and learning. Results of such an assessment system could also be included in state report cards.

### *How to Measure and Compare Institutional Quality*

Current efforts to measure institutional quality have generally relied on one or



more of the following four methods: 1) tabulating actuarial data; 2) obtaining ratings of institutional quality; 3) conducting student surveys; and 4) directly measuring student skills and knowledge (Klein et al., 2005).

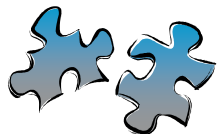
**Tabulating data** - Colleges routinely report various types of actuarial data, such as graduation rates, endowment level, student / faculty ratio, average admissions test scores, and the racial / ethnic composition of the student body. The advantages of such indices are that the data for them are relatively straightforward to collect and the resulting statistics can be compared over time and across institutions. Although not intrinsic to the data themselves, the way in which the analyses are conducted typically assumes that a better quality educational institution or a better quality educational experience is associated with more and better resources, such as better faculty (which is defined as a higher percentage of any given cadre holding Ph.D.s) and better students as reflected by higher admissions selectivity (Astin, 1968, 1977, 1991, 1993). Actuarial data are utilized by some

### Measures of Institutional Quality Currently Utilized

1. Tabulating actuarial data
2. Obtaining ratings of institutional quality
3. Conducting student surveys
4. Directly measuring student skills and knowledge

states to measure institutional effectiveness (Gates et al., 2001). They also have been used by the National Center for Education Statistics (NCES) and the Integrated Postsecondary Education Data System (IPEDS), which include data on student enrollment, faculty ranks, and institutional expenditures. These national databases are large in scope, with some of the data coming from secondary sources, such as census counts and transcripts (NCHEMS, 1994). Reviews of national data systems suggest that they yield little information about an institution's effectiveness in promoting student cognitive outcomes (Dey et al.,





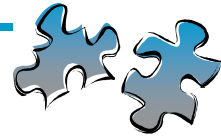
1997; National Postsecondary Education Cooperative, 2000a, 2000b).

**Ratings** - Ratings of institutional quality are generated annually from surveys of college faculty and administrators. The ratings may include actuarial data such as selectivity, faculty resources, and financial resources. Using multiple indicators and measures is consistent with good assessment practice (Astin, 1991; Ewell, 1984, 1988; Gentemann, Fletcher & Potter 1994; Halpern, 1987; Jacobi, Austin & Ayala, 1987; Ratcliff et al., 1997; Riggs & Worthley, 1992; Terenzini, 1989; Vandament, 1987); however, college rankings such as those produced by the *U.S. News and World Report* have come under scrutiny given the subjective content of some of the criteria.

**Student Surveys** - Large-scale questionnaire surveys have been used to ask students about their collegiate experiences, satisfaction with their course work and school, self-assessments of improvement in their academic abilities, and educational and employment plans (Astin, 1991; Ewell, 1987; Gill, 1993;

Johnson et al., 1993; Lenning, 1988; Muffo & Bunda, 1993). Interviews of individuals or groups also have been used (Johnson et al., 1993; Lenning, 1988; Smith et al., 1993). The main advantage of these surveys is that they can gather a large amount of data economically about an institution (NCHEMS, 1994). Student survey results have been used to assess and compare institutional effectiveness (Astin, 1993; Pace, 1990; Terenzini & Wright, 1987).

**Direct Measurement** - A fourth approach to assessing the quality of an institution's educational programs measures student learning directly (Winter, McClelland, & Stewart, 1981). Direct assessments may involve collecting data on course grades, evaluating student work products, and administering various types of tests. An institution's faculty and staff typically conduct these efforts on their own students, although some institutions have collaborated in using the same measures to assess learning outcomes. The latter strategy allows institutions and policymakers to compare institutions (Bohr et al., 1994; Obler, Slark, &



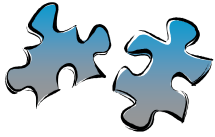
Umbdenstock, 1993; Pascarella et al., 1996). A few states have required that all institutions use the same standardized multiple-choice tests to assess student knowledge, skills, and abilities (Cole, Nettles, & Sharp, 1997; NCHEMS, 1996; Naughton, Suen, & Shavelson, 2003; Steele & Lutz, 1995). These methods have been used to collect data on individual students and on groups of students, at the program and at the institutional level (Ratcliff et al., 1991).

In addition to the more commonly used paper and pencil examinations, direct assessments of students include portfolios and on-demand performances, such as presentations, debates, dances, and musical recitals (Banta et al., 1996; Black, 1993; Fong, 1988; Forrest, 1990; Hutchings, 1989; Johnson et al., 1993; Palomba & Banta, 1999; Suen & Parkes, 1996; Waluconis, 1993). Researchers disagree about the validity of such approaches. One such concern is the lack of standardization across these assessments. Course grades are an obvious choice as an outcome measure, but they are specific to individual professors.

Course grades, then, are difficult to compare even across faculty within a school. They are even more difficult to compare across colleges because of large differences in admissions and grading standards.

### *Variability of U.S. Higher Education System*

There is great variability within the U.S. postsecondary education system. As an example, a college education is possible for all citizens, ranging from the traditional high school graduate to the senior citizen and all points of entry and reentry for great numbers of students in between, who wish to earn a college degree. Another important dimension of U.S. higher education is the relatively large degree of autonomy given to institutions of higher education. Similarly, faculty often enjoy tremendous autonomy in setting the curriculum, establishing degree requirements, and other important academic matters. These aspects of U.S. higher education represent important contextual features to consider when setting policies regarding accountability



measures, especially for student-learning outcomes. In addition to broad access and institutional autonomy, other important institutional dimensions are useful to understand. Some examples illustrating the underlying complexity of postsecondary education are the institutional, student, and learning environment perspectives. These dimensions are important for accountability considerations because they relate directly to approaches used to assess student learning for the purposes of monitoring and improving institutional effectiveness in the teaching and learning domains. Examples of variability within these three perspectives are summarized below:

### *Institutional Variability*

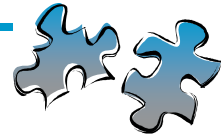
- Postsecondary institutions differ in their histories and institutional missions (Rudolph & Thelin, 1990).
- There are several sectors within the postsecondary level (e.g., public vs. private, and nonprofit vs. for-profit).
- Institutions range from being highly centralized to highly decentralized (Birnbaum, 1988).
- In 2002, the 4,071 U.S. postsecondary

institutions ranged in size from those enrolling fewer than 200 students to those that enrolled 40,000 or more (NCES, 2002a).

- In 2001, nearly 16 million students were enrolled in U.S. degree-granting institutions. Public institutions enrolled 77% of all students; private nonprofit institutions enrolled 20% of students; and private for-profits enrolled 3% of students (NCES, 2002b).

### *Student Variability*

- Students range from traditional age (recent high school graduates) to older adults. In 2001, 37% of students enrolled in four-year and two-year institutions were 25 or older (NCES, 2002b).
- The number of institutions that a student attends can range from one to four or more. A majority (59%) of all of the 1999–2000 college graduates (first-time bachelor's degree recipients) attended more than one institution (Peter & Forrest, 2005).
- Looking only at traditional-age students, between 54% and 58% of those who started in a four-year college earned a bachelor's degree from the same school



within six years of entry. For those who earned a degree from a different four-year college than the one in which they began, the six-year completion rate is between 62% and 67% (Adelman, 2006).

### ***Learning Environment Variability***

- Selection criteria for admitting first-year students are highly variable. For example, 83% of public four-year and 72% of private nonprofit four-year institutions review admissions test scores, compared with only 4% of two-year public institutions (*Chronicle of Higher Education*, 2005).
- More than a quarter of entering first-year students in fall 2000 enrolled in at least one remedial reading, writing, or mathematics course (Parsad & Lewis, 2003).
- Institutions differ in their perspectives on what every student should know. At one end of the spectrum is Brown University, which has no core requirements; a general-education requirement is in the middle; and the great-books-style curriculum of Columbia University and the University of Chicago is at the other end of the spectrum (McGrath, 2006).

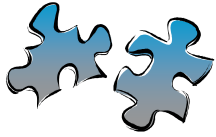
- The most popular disciplines for associate's and bachelor's degrees combined are business (20%); liberal arts, sciences, general studies, and humanities (13%); health professions and related clinical sciences (8%); and social sciences and history (8%) (NCES, 2002c).

The variability within dimensions of institutional characteristics, the nature of the students who apply to and enroll in colleges and universities, and the learning environments created in these institutions are all critical aspects of the postsecondary education system. As such, they must be accounted for when implementing a system of accountability for student learning.

### **Desired Outcomes and Post-College**

#### **Indicators of Student Learning**

Both of the guiding questions for this study focus on student learning and outcome assessment. Defining and measuring desired student outcomes is imperative and policymakers are paying more attention to matters such as student matriculation and how much students learn



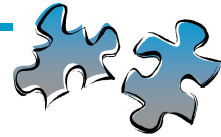
(outcomes) in college rather than input measures such as enrollment data and faculty credentials. New definitions of student learning and outcome expectations often require measures of multidimensional constructs. In part, their emergence is due to the increased complexity of the knowledge-based economy and the need for institutions to be more inclusive of a much more diverse

student population. Greater attention to diversity—race / ethnicity, socioeconomic status, and age—has led to more nuanced, alternative understandings of student learning. In addition, student learning indicators must be expanded so that they pertain to different types of students, such as adult learners and transfer students, and acknowledge different patterns of participation. As an example, adult

### Figure 2: Outcome Domains Associated with College Attendance

- *Cognitive complexity*: cognitive skills including reflective thought, critical thinking (e.g., ability to summarize information accurately and perceiving logical coherences and discernable themes and patterns across different sources of information), quantitative reasoning, and intellectual flexibility (i.e., openness to new ideas and different points of view).
- *Knowledge acquisition and application*: understanding knowledge from a range of disciplines and physical, geographic, economic, political, religious, and cultural realities, and the ability to relate knowledge to daily life including using information presented in one class in other classes or other areas of life.
- *Humanitarianism*: an understanding and appreciation of human differences including an increased sensitivity to the needs of others.
- *Interpersonal and intrapersonal competence*: a coherent, integrated constellation of personal attributes (e.g., identity, self-esteem, confidence, integrity, appreciation for the aesthetic and spiritual qualities of life and the natural world, sense of civic responsibility) and skills (e.g., how to work with people different from oneself).
- *Practical competence*: skills reflecting an enhanced capacity to manage one's personal affairs (e.g., time management, decision-making), to be economically self-sufficient, and to be vocationally competent.

SOURCE: Kuh (1993).



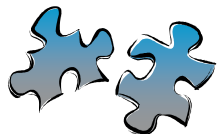
learners pursue postsecondary education for a range of reasons, such as wanting to be better-educated, informed citizens (49%), enhancing personal happiness and satisfaction (47 percent), obtaining a higher degree (43%), making more money (33%), and meeting job requirements (33%) (Bradburn & Hurst, 2001; The Education Resources Institute and Institute for Higher Education Policy, 1996).

Among the many functions of postsecondary education in a knowledge-based economy is preparing students to live productive, satisfying, responsible, and economically self-sufficient lives. Given the massive investments of public and private resources in building and sustaining postsecondary educational institutions, knowing how individual students and the larger society benefit is, perhaps, the most important barometer of the degree to which students succeed in college. As shown in Figure 2, Kuh (1993) identifies outcome domains associated with college attendance.

At the state and national levels, there are common themes in student learning at the

postsecondary level. Dywer et al. (2006) summarize three major dimensions of student learning that could be assessed across two- and four-year postsecondary institutions and a fourth dimension, student engagement, that is important to students' learning and should be monitored but is not in itself a student-learning outcome.

The first of these three dimensions is workplace readiness and general education skills. To succeed in the workforce or to proceed to higher levels of academic or professional performance, learners must acquire a set of basic minimum skills and abilities. Academic and business leaders have identified a set of abilities for which there is wide agreement about importance. These include: (a) verbal reasoning; (b) quantitative reasoning, including basic mathematic concepts such as arithmetic, statistics, and algebra; (c) critical thinking and problem-solving; and (d) communication skills, including writing. These skill sets may have somewhat different labels in different contexts, but at their core they reflect the skills and habits that are necessary to succeed in both



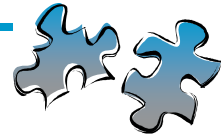
academic and workplace settings (Dwyer et al., 2006). As such, they merit close attention in any system of accountability for student learning.

The next dimension is content knowledge / discipline-specific knowledge and skills. To become a member of most professions, there is a set of knowledge and skills that one must acquire in order to be considered competent within that domain. As state and federal leaders continue to ask increasingly urgent questions regarding the return on investment in higher education, it is critical that they consider more than just the broad classes of learning typically identified with general education requirements. By asking to what extent students become proficient and knowledgeable in their chosen fields, one can further the understanding on education quality and improvement. As with the other dimensions of student learning, it is essential to have a system of assessment that allows comparisons across various benchmark groups, including national, state, regional, and peer groups (Dwyer et al., 2006).

### Aspects of Student Learning Domains

- General Education
- Discipline Specific
- Soft Skills
- Student Engagement

The third dimension encompasses “soft” or noncognitive skills. In today’s knowledge economy, it is not sufficient for a worker to possess adequate basic cognitive skills and discipline-specific competencies. The nature of work also requires that the person be able to work in teams, be a creative problem solver, and communicate with a diverse set of colleagues and clients. Employers, colleges, and universities have become more cognizant of the role that such so-called “soft” or noncognitive skills play in successful performance in both academic and nonacademic arenas. The importance of noncognitive skills is well established within academic settings, but there are fewer widely adapted approaches to measuring these skills in education settings than there are in the industrial,



governmental, and nongovernmental domains (Dwyer et al., 2006).

The final dimension emphasized by Dwyer et al., (2006) that is important to student learning, but not itself a student-learning outcome, is student engagement. In addition to assessing the three dimensions of student learning, it is also appropriate to ask questions regarding the extent to which best education practices reflect in the education system, and the extent to which students actively engage in their own learning. It is important to understand that student engagement is not, in itself, an index of student learning. Rather, student engagement is an index of the nature and extent of the student's active participation in the learning process. Student engagement is, however, considered by many to be both a valuable aspect of postsecondary education for the individual and the institution and an indicator of motivation and habits that carry over into other settings.

In summary, there are several critical dimensions for consideration when designing assessment of student learning

and the learning process. Those identified by Kuh (1993) and shown in Figure 2 can be included within the framework given by Dwyer et al. (2006). Dwyer et al. identify three aspects of student-learning domains—general education, discipline specific, and soft skills, along with self-reported survey information about student engagement. Three types of measurement, including input, output, and a derivative change measure, could be used to index the impact of learning attributable to the educational institution.

### Student Achievement Perspectives at the National Level

The 1992 reauthorization of the Higher Education Act required accrediting agencies to take student achievement into account. In 1998, in another edition of the Higher Education Act, Congress made student achievement the most important factor for accreditors to consider. Secretary of Education Margaret Spellings believes that the process of accreditation is still

Largely focused on inputs, more on how many books are in a college library, than whether





students can actually understand them. Institutions are asked, “Are you measuring student learning?” And they check yes or no. That must change. Whether students are learning is not a yes-or-no question. It’s how? How much? And to what effect? (Bollag, 2006, p. A 1)

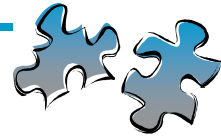
The federal Commission on the Future of Higher Education and Secretary Spellings believe that accreditors focus on quality input measures such as faculty credentials rather than on meaningful assessment of student outcomes. Belle Wheelan, president of the Commission on Colleges at the Southern Association of Colleges and Schools (SACS), believes that regional accrediting agencies have been doing more to measure student achievement than Secretary Spellings and others give them credit for. Wheelan defends, “We’ve done an awful job letting

“Institutions are asked, ‘Are you measuring student learning?’ And they check yes or no. That must change. Whether students are learning is not a yes-or-no question. It’s how? How much? And to what effect?”

—Secretary Spellings

people know what we do. We’ve been looking at outcomes for some time” (Robinson, 2006, p. 38). Steve Crow, Director of the Higher Learning Commission, North Central Association of Colleges and Schools (NCA), likewise challenges the stereotype that accrediting agencies are not focused on student achievement. He declares, “We have been after student assessment since 1989. We have programs embedded in our standards. We are focused on it as a means of improving educational quality” (Robinson, 2006, p. 38).

According to both Wheelan and Crow, “the fixation with faculty credentialing over student performance is attributable to the conservative element of the full-time faculty itself, not the accreditors” (Robinson, 2006, p. 38). Crow further states that “I have less interest in going over every faculty member’s credentials



than I do knowing that the institution has an effective way to evaluate whether teaching effectiveness works for the students” (Robinson, 2006, p. 38).

Secretary Spellings suggested that the National Advisory Committee on Institutional Quality and Integrity, the Education Department panel that recognizes accrediting agencies, could play a role in reforming the system. Secretary Spellings stated that the panel may work with accrediting agencies to create a uniform “template” that accreditors could use publicly to report information about colleges “inputs,” such as curricula, faculty qualifications, and library holdings; “outputs,” such as graduation and employment rates; and student-learning “outcomes,” which measure what students have learned. The secretary stressed that she would not require all colleges to use the same test to measure student learning, emphasizing that “one size fits all approaches are neither desirable or feasible” (Field, 2006, p. A 1).

Peter Ewell, vice president of NCHEMS, attended one of the Commission forums in November 2006 and stressed that testing is not the only way to measure student learning. He mentioned capstone courses, which measure what students have learned in their major, and portfolios of students’ work as other alternatives. The Secretary of Education and the regional accrediting agencies will need to be flexible as they work to design a template for identifying student outcomes. As Secretary Spellings mentioned, a single standardized achievement test is not desirable or feasible. The accrediting agencies will have to continue to work with the higher education institutions in their respective regions to identify reasonable standards for measuring student achievement. SACS President Belle Wheelan, with a touch of humor, states that “SACS is not a four letter word. SACS stands for Students Are Central to Success. If schools focus on students all the time, they will always be ready for accreditation” (Robinson, 2006, p. 57).



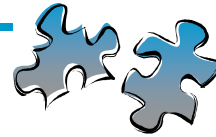
### Information Pertinent to the Two Guiding Questions

To understand the dynamics between the learning model used in *Measuring Up 2006* and the current process for understanding student learning in Tennessee as contained in Standard One of the performance funding matrix, an examination of the documents relating to the two subjects were examined. Included in the study were the technical manual for the *Measuring Up 2006* report, data related to testing instruments used by Tennessee public institutions, and documentation related to Standard One of the performance funding design.

In order to understand the impact that performance funding has on the academic culture related to student learning, the research team conducted a qualitative study. Through the interview process, the research team gained data on the pervasiveness of performance funding within the academic culture and its relationship to decisions made in general education, academic majors/programs, and student learning.

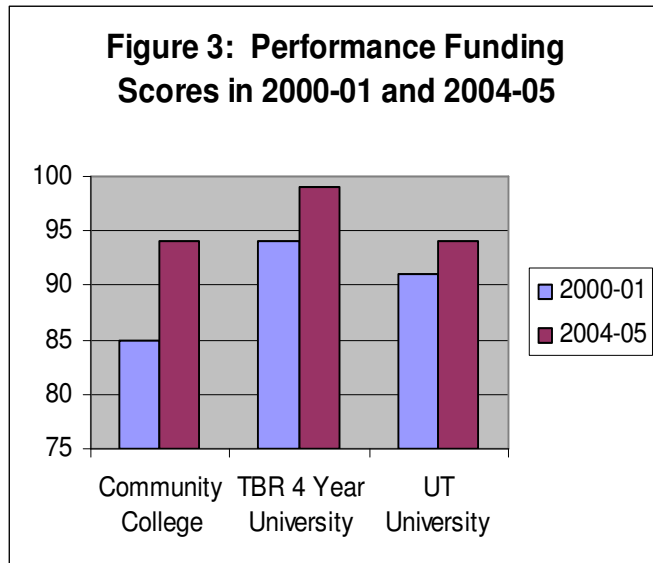
### Location Selection and Description

The research team conducted interviews at three Tennessee-based institutions. Selection of the participating institutions occurred with the direction of the Tennessee Higher Education Commission (THEC) regarding the types of institutions they wanted included in the study and with consideration to the proximity of the institutions to the research team. Three chief academic officers received a letter from Dr. Rich Rhoda, executive director of THEC, requesting their participation in the study, and all accepted. Dr. Betty Dandridge-Johnson, assistant executive director of policy, planning, and research with THEC, provided the research team contact information for the institutional effectiveness officer serving as the primary liaison relating to THEC on performance funding.



All three institutions received performance funding scores in the high 1980s to high 1990s since the 2000–01 reporting cycle. Every five years a committee of academicians from across the public institutions in Tennessee evaluates and alters the performance funding standards. With the institutions under study, at each five-year increment, there is a slight to moderate drop in performance funding scoring with the adoption of the new standards (see Figure 3). The community college in this study received 85 points in 2000–01 and 94 points in 2004–05 for a total in 2004–05 of over \$930,000. Within Standard One of the performance funding guidelines, the community college received all available points in 2004–05. The Tennessee Board of Regents university received 94 points in 2000–01 and a nearly perfect score of 99 in 2004–05. The 99 translated to over \$2.6 million in additional revenue. The only point that went unearned in 2004–05 fell within Standard One as it relates to graduate-level program review. The third tertiary institution in the study is affiliated with the University of Tennessee system and received a 91 in 2000–01 and a 94 in

**Figure 3: Performance Funding Scores in 2000-01 and 2004-05**

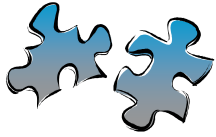


2004–05 for a total of over \$2.3 million. Within Standard

One for 2004–05, this urban university failed to earn all available points related to general education and major-field testing (THEC).

### Protocols

Upon completion of the literature review, the research team developed an interview protocol (see Appendix A) around the themes of undergraduate education, major field of study, program review/accreditation, institutional commitment/student engagement, and knowledge of performance funding.



Interview participants were chosen by the institutional effectiveness officer based on the research team's request to speak with the chief academic officer and other key academic faculty/administrators. At the request of two of the institutional effectiveness officers, the interview protocols were electronically sent in advance of the interview.

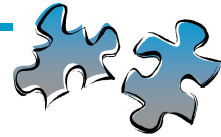
Although the research design specified a 40-minute minimum, one-on-one interview format, institutional circumstances forced a slight alteration in design. The semistructured interviews occurred on-campus and lasted between 20 and 50 minutes, depending on the availability of the interviewee. Several of the interview sessions had two interviewees—a supervisor and subordinate. Each interview was recorded, and participants were assured anonymity in the final report. Whenever schedules permitted, two researchers participated in the interviews. Eleven interviews were conducted at a community college in the Tennessee Board of Regents system located in an urban setting. Eight interviews occurred at a large, urban

University of Tennessee–affiliated institution and 14 at a Tennessee Board of Regents university located in a mid-sized city. Among the 33 college personnel interviewed were three chief academic officers, three institutional researchers, and two academic program administrators, and the remaining interviews were with faculty serving as either department chairs or deans.

The research team furthered their understanding of the institutions progress related to performance funding by reviewing five years of performance funding report summaries provided by THEC. The evaluation of reports including information on point attainment by standards, general education testing outcomes, and the schedule of program review/accreditation for each major across the three institutions occurred.

### *Data Analysis Plan*

As previously stated, the protocol centers around five major areas: 1) general education, 2) major field of study, 3) program review/accreditation, 4)



institutional commitment to student learning and engagement, and 5) knowledge of performance funding. “Undergraduate education” relates to the extent to which an institution measures and evaluates its general education requirements as it relates to performance

funding. “Major field of study” references the role performance funding plays in discussions and practices related to major field curriculum and assessment.

“Program review/accreditation” was designed to understand the extent

### Figure 4: Emerging Themes

- Prevalence of efforts to improve curriculum at the general and major field level
- Progress toward tying learning outcomes to assessment instruments is being made
- Difficulty arises when trying to measure learning gain related to general education or major-field education with some disciplinary variation
- Performance funding compliments the SACS accreditation/program review process
- Performance funding is perceived as a useful tool
- Institutions committed to student learning and engagement
- The data generated through the various processes associated with Standard One are not uniformly utilized to improve student learning
- Opportunities to improve pedagogy abound
- Across the board agreement that accountability movement is necessary and does not infringe on academic freedom
- Institutional effectiveness officers and chief academic officers have a more thorough understanding of performance funding than faculty
- In environments where performance funding language is discussed and supported at upper-administrative levels, performance funding knowledge is greater
- Performance funding is embedded within many campus processes



performance funding plays in academic planning and review. “Institutional commitment to student learning and engagement” references the level of dedication faculty and administrators have toward student learning through the exhibition of knowledge of student support services and practices to improve pedagogy. The final theme, “knowledge of performance funding,” refers to the faculty member’s direct knowledge of the institution’s performance funding

outcomes, use of the money, and the frequency and degree in which performance funding impacts academic decision-making.

Upon completion of the interviews, the research team devised a data analysis matrix where themes in Figure 4 emerged from the data. The emerging themes focused the research team to better understand the dynamics behind and within the emerging themes.

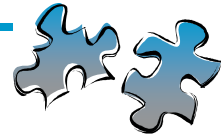
### Findings

#### [Guiding Question One: \*Measuring Up Learning Model\*](#)

The Tennessee Higher Education Commission (THEC) asked the consultants to gain an understanding as to why Tennessee received an “incomplete” in *Measuring Up 2006*. Additionally, THEC expressed interest in understanding how they could perhaps challenge the learning assessment model or work to shape performance funding procedures to better align with *Measuring Up*.

#### *Learning Model Background*

The National Center for Higher Education Management Systems (NCHEMS) developed the learning model used in *Measuring Up 2006* by the report authors, The National Center for Public Policy and Higher Education (NCPPE, 2006b, p. 50). The thrust for developing a methodology to measure student learning became manifest at the conclusion of the



first *Measuring Up* report. Margaret A. Miller (2002), the project director of the National Forum on College-Level Learning, writes:

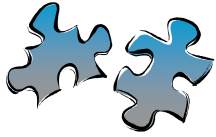
Highest on their list [of priorities] was the Incomplete that the national report card had given to all states for student learning. The leaders present . . . were astonished at and disturbed by how little *Measuring Up* could report about the skills and knowledge of college students. (p. 1)

She notes that a number of organizations, including regional accrediting bodies, were attempting to understand how a college education affects student learning; the efforts “have been too piecemeal to yield a coherent picture. . .” (p. 1). Initiatives in the 1990s included the Equipped for the Future (EFF) project and learning objectives (National Education Goals) for Americans approved by governors and passed by Congress—all targeting increased literacy and/or critical thinking skills (Miller, 2002, p. 2). These efforts coincided with state funding increases in higher education of \$43 billion from 1980 to 2001. With the increased funding, several states sought to

institute assessment programs in their public systems to focus on individual student certification, institutional improvement, and/or accountability (Miller, 2002, p. 2). These efforts, however, are limited, as they do not provide an avenue for states to compare student-learning performance across state borders.

After the *Measuring Up 2000* release, The Pew Charitable Trusts funded a study “to investigate how to address the issue of college-level learning” (Miller, 2002, p. 2). The Pew study resulted in a group of business, civic, and educational leaders agreeing at the National Forum on College-Level Learning that implementing a system to measure student learning in order to compare state performance warranted immediate attention (Miller, 2002, p. 3). The first place the leaders looked to compare learning was within existing data sets that included graduate and professional school admissions examinations and licensure tests. Miller (2002) explains:





While recognizing the limitations of such an approach (the unrepresentative nature of the test-taker groups being the most important problem), the participants concluded that, given the credibility of these tests with both those who take and those who rely on them, they were a good place to start. (p. 3)

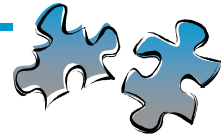
The committee also identified that the national administration of the National Assessment of Adult Literacy (NAAL) and the National Survey of Student Engagement (NSSE) could improve understanding of student learning (Miller, 2002, p. 3). To better understand the critical thinking/problem-solving component of student learning, the leaders believed that industry and higher education would work together to produce an appropriate instrument (p. 3).

In 2001, the advisory committee, created from the group of leaders gathered at the National Forum on College-Level Learning, began working with The National Center for Public Policy and Higher Education to develop a prototype to measure student learning. Utilizing NAAL and NSSE data from Kentucky, they tested the prototype (Miller, 2002, p.

3; NCPPHE, 2006b, p. 50). With additional grant funding from The Pew Charitable Trusts, a pilot study was made possible for five states—Illinois, Kentucky, Nevada, Oklahoma, and South Carolina (*Technical guide*, p. 50), with the goal of printing results in *Measuring Up 2004* for these states in lieu of the previous “Incomplete” (Miller, 2002, p. 4).

### *Learning Model: Literacy Levels of the State’s Residents*

Since the pilot study, NCHEMS worked to create index scores to measure student learning based on the previous work of the advisory committee. The model developed from NCHEMS’s work and utilized in *Measuring Up 2006* divides learning into three categories (see Figure 5). The first category, “Literacy Levels of the State’s Residents,” accounts for 25% of the total score and is designed to answer the question, “What are the abilities of the state’s college-educated population?” Data from the state-level over-sample of the NAAL assisted with answering this specific guiding question. The state-level over-sample of the NAAL (SAAL)



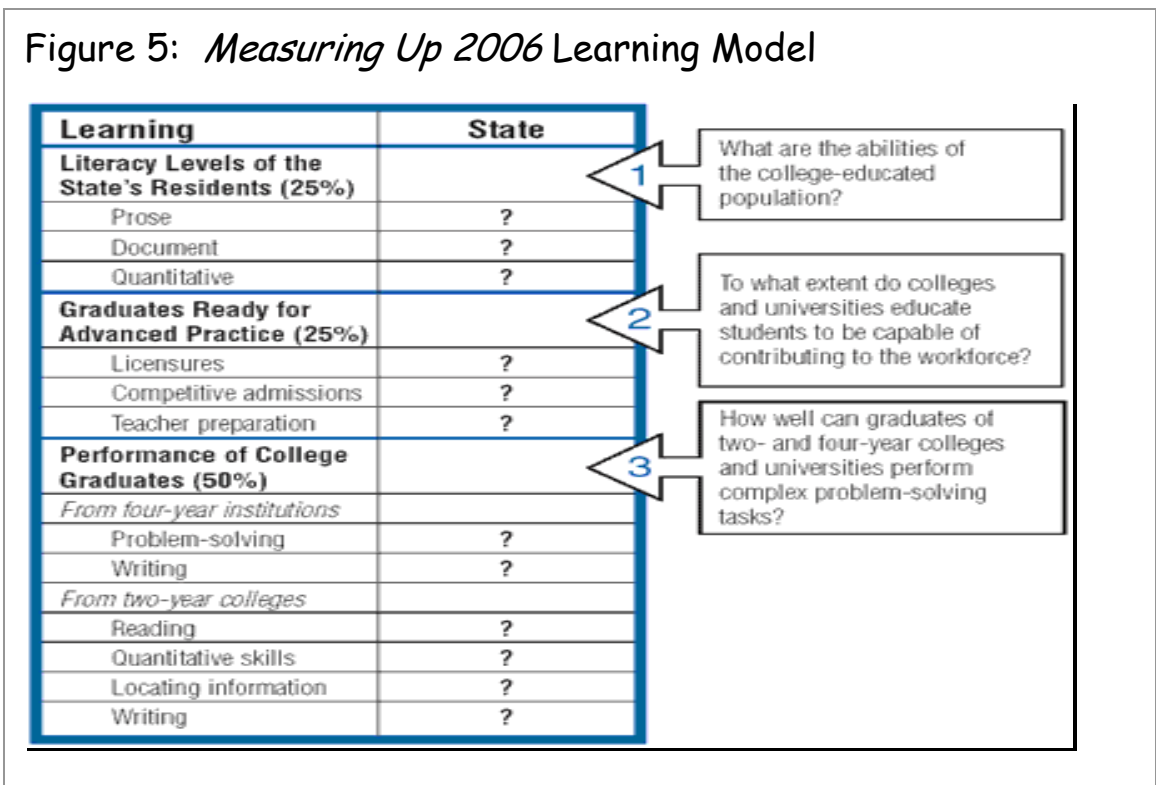
occurred in six states in 2003 (retrieved from <http://nces.ed.gov/naal/>), but only the data from five of the states (Kentucky, Maryland, Massachusetts, Missouri, and New York) was used in the *Measuring Up 2006* report (NCPPE, 2006a, 2006b).

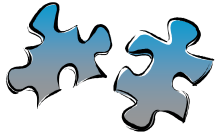
The NAAL is a national study that samples households across 100 cities to understand the degree to which residents can: 1) read and interpret texts (prose), 2) “obtain or act on information contained in tabular or graphic displays” (NCPPE, 2006b, p. 51) (document literacy), and 3)

understand graphs and numbers and execute calculations (quantitative literacy) (NCPPE, 2006b, p. 51). The experimental design of the NAAL allows it to be representative of the United States population, but it does not provide a means for states to compare counties. Therefore, the SAAL is available for states that desire to understand their particular county-level literacy dynamics.

Invitations to participate in the SAAL are sent either to a state’s governor, to the department of labor, or to the department

Figure 5: *Measuring Up 2006* Learning Model





of education. The NAAL/SAAL was administered in both 1992 and 2003. The cost to participate in the over-sample in 2003 was \$675,000 per state (retrieved from <http://nces.ed.gov/naal/>).

### *Literacy Levels of the State's Residents: Tennessee*

Tennessee did not volunteer to participate in the SAAL; therefore, The National Center for Public Policy and Higher Education had no data to use to understand the literacy level of the state. As stated previously, this portion of the study represents 25% of the learning model used in *Measuring Up 2006*.

### *Learning Model: Graduates Ready for Advanced Practice*

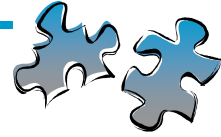
The second category in the learning model is "Graduates Ready for Advanced Practice," and it also accounts for 25% of the model. The *Measuring Up 2006* report states:

The indicators in this theme reflect the contributions higher education makes to a state's stock of "educational capital" by examining the proportion of the

state's two-year and four-year college graduates who are ready for advanced practice in the form of professional licensure or graduate study. (p. 24)

Essentially, this second category seeks to determine whether or not college graduates are ready to contribute to the workforce (NCPPE, 2006a, p. 24).

The measures for the second category derive from the existing graduate admissions tests and 14 licensure tests within each state. NCHEMS defined a certain level of performance necessary to indicate that the student is ready for advanced practice for benchmarking purposes (NCPPE, 2006b, p. 51). For the licensure tests, the benchmark was passage of the exam and subsequent licensing. With the vast differences among states regarding teacher licensure programs and the requirements for passage, NCHEMS opted to pull teacher licensure scores from Title II reports and keep them separate and apart from the other licensure tests (p. 52). For the graduate admissions tests (including GRE, GMAT, MCAT, LSAT, and PCAT), the



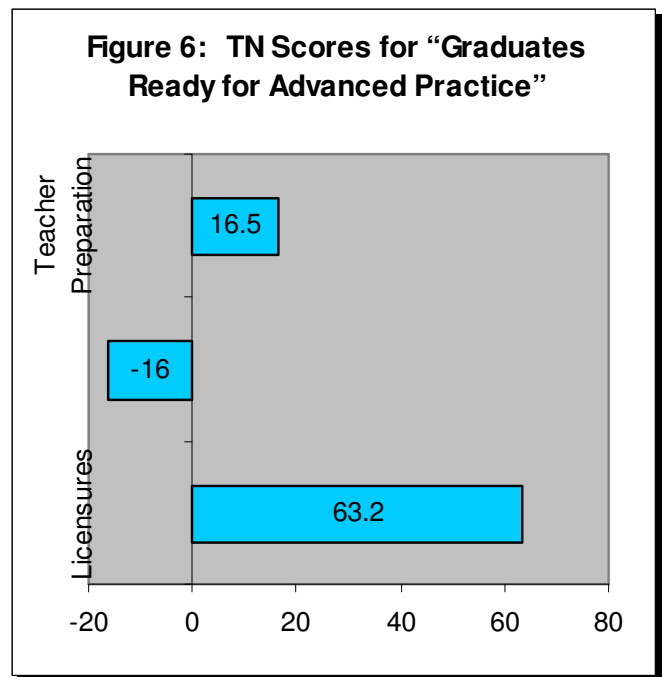
benchmark selected was “a criterion score . . . set at a level generally accepted as ‘competitive’ with respect to gaining admission to a graduate program” (p. 51).

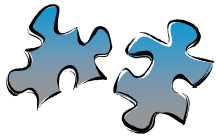
### *Graduates Ready for Advanced Practice: Tennessee*

Like the other 49 states, Tennessee did not have data to report for the second component of the learning model utilized in *Measuring Up 2006* (see Figure 6). Tennessee college graduates passed their licensure exams at a rate of over 63% higher than the national benchmark. This high score places Tennessee among the top five nationally for this indicator. Regarding competitive admissions on graduate examinations, Tennesseans performed 16% less than the national benchmark. Within the teaching licensure program, Tennessee scored 16.5% higher than the national benchmark (NCPPE, 2006a).

### *Learning Model: Performance of College Graduates*

“Performance of College Graduates,” the third component, accounts for 50% of the learning model and measures how effectively college graduates can communicate and solve real-world problems (NCPPE, 2006a, p. 12). This component, designed to assess the quality of the education product, utilizes two different tests. In the five states participating in the National Forum on College-Level Learning Pew Charitable Trusts project (Illinois, Kentucky, Nevada, Oklahoma, and South Carolina), the four-





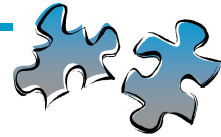
year colleges and universities utilized the College Learning Assessment (CLA), a product of the Council on Aid to Education (NCPPE, 2006b, p. 52). “It [CLA] goes beyond typical multiple-choice testing by posing multi-faceted tasks—anchored in an academic discipline—that a student is asked to understand and solve” (p. 52). For example, students are asked to articulate why a provided argument is false or to review historical, quantitative, and other documents in order to formulate a persuasive argument (p. 52). The battery used in the five states using CLA included four distinct tasks and “a set of two writing prompts drawn from the Graduate Record Examination (GRE). Because they are different kinds of assessments examining essentially different skills, performance was reported separately—“‘Problem-Solving’ for the Tasks and ‘Writing’ for the GRE Prompts” (p. 52).

For the community colleges within the five states participating in the study, the two-year institutions utilized the ACT WorkKeys exam to understand what skills students know and can perform.

Specifically, ACT WorkKeys measures reading, quantitative skills, locating information, and writing. Test-takers are asked to “extract information from complex documents and instructions, while items on applied mathematics test students’ ability to use mathematical concepts like probability or estimation in real-world settings” (NCPPE, 2006b, p. 52). “Locating information,” which is a unique measurement compared to the other general education tests, “measures the skill people use when they work with workplace graphics. Examinees are asked to find information in a graphic or insert information into a graphic. They also must compare, summarize, and analyze information found in related graphics” (retrieved from <http://www.act.org/workkeys/assess/locate/index.html>).

### *Sampling Techniques*

Limited funding made it necessary to sample the institutions in each of the five states. Although a more rigorous experimental design was desirable, the consultant team compromised in order to



provide enough data to make surveying at the local level enticing. “The basic sampling plan that emerged in each state thus envisioned about 75 to 100 test-takers at 12 to 15 four-year institutions, and an equivalent number of two-year institutions” (NCPPE, 2006b, p. 53). One state altered the sampling plan because the number of two-year and four-year institutions in the state was too low to follow the design. Additionally, in two states, all public institutions were invited to participate, and the sampling plan was only applied to the private institutions (p. 53). Once the survey sites were selected among all institutions (including independent tertiary schools), the groups were divided into groupings of “roughly comparable” institutions. The groups resulted in most participating states having five to seven groups of colleges and universities among public four-year, private four-year, and two-year schools (p. 53).

Within each selected institution, students scheduled to graduate in spring 2004 were randomly invited to take either the CLA or ACT WorkKeys in the fall of 2003,

depending on whether they were enrolled in a two- or four-year institution (NCPPE, 2006b, pp. 53-54). The CLA took students slightly more than two hours to complete, and students taking the ACT WorkKeys needed one and a half hours to complete the test. Actual test-takers of the ACT WorkKeys accounted for 47.1% of the target sample and CLA accounted for 34.8% for their respective sectors (p. 54). Only in one state did the low sample rate skew the results of the CLA and preclude their inclusion in *Measuring Up 2006* (NCPPE, 2006b, p. 54). Indexing examination scores allowed for comparing different measures. The national average for the test, or in some cases the five-state average, was used as a benchmark (p. 55).

### *Performance of College Graduates: Tennessee*

Through performance funding, Tennessee public institutions are required to assess their general education courses through the implementation of an approved testing instrument. The performance funding guidelines read, “This standard [1A. Student Learning-General Education] is



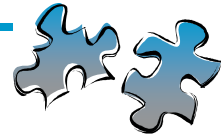
designed to provide incentives to institutions for improvements in the quality of their undergraduate general education program as measured by the performance of graduates on an approved standardized test of general education” (THEC, 2005, p. 7). In order for Standard 1A not to be completely prescriptive, THEC permits institutions to propose a

testing instrument for approval. Each institution selects the test by the beginning of the cycle and then may switch tests again on the third year of each five-year cycle, if desired. Approval of any change in testing instruments must occur in advance by THEC and governing board staffs (p. 7).

Figure 7: General Education Tests Used by Public TN Institutions

#		Four-Year Institutions		Two-Year Institutions			
		Problem-Solving	Writing	Reading	Quantitative Skills	Locating Information	Writing
0	APT (ended in 6/2006)	X	X	X	X		
0	ACT WorkKeys			X	X	X	X
3	College-BASE		X	X	X		X
0	CLA	X	X				
9	California Critical Thinking Skills Test						
2	CAAP (6 modules)		X	X	X		X
8	MAPP (long/short forms)		X	X	X		X
1	University CAT (homegrown)	X	X		X		

\* Shading indicates the tests used by the study participants.



Utilization of a variety of tests amid the institutions under performance funding occurs (see Figure 7). Among the most popular is the California Critical Thinking Skills Test (CCTST), which measures critical thinking (retrieved from <http://www.insightassessment.com/>).

Nine public universities or community colleges in Tennessee implement this test in order to meet their performance funding requirements (THEC). CCTST, however, does not measure writing, reading, quantitative skills, or locating information, which is required in one combination or another to meet either the four- or two-year *Measuring Up* learning model requirements.

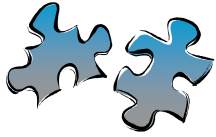
An almost equally popular test is the Measure of Academic Proficiency and Progress (MAPP) test (THEC). The precursor instrument to MAPP was the Academic Profile test owned jointly by Educational Testing Service and College Board. MAPP offers both a long (two-hour) and short (40-minute) form test and is used at both two- and four-year institutions. The instrument measures critical thinking, writing, reading, and

quantitative skills (retrieved from <http://www.ets.org>). Of the skills required to be measured in the *Measuring Up 2006* learning model, all skills at the four-year level except problem-solving are measured. For two-year institutions, the learning model requires “locating information” as a measurable skill, but MAPP does not assess this skill.

Three Tennessee community colleges use the College Basic Academic Subjects Examination (College-BASE) created by the Assessment Resource Center of the University of Missouri-Columbia. This testing instrument has a long and short form and tests four subject areas—mathematics, science, English, and social studies (retrieved from <http://arc.missouri.edu/collebase>).

College-BASE does not satisfy the requirements of *Measuring Up 2006* at the four- or two-year levels. Similarly to MAPP at the four-year level, College-BASE does not measure problem-solving; rather it measures interpretative, strategic, and adaptive reasoning. Unlike the ACT WorkKeys instrument, College-Base fails





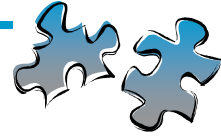
to measure “locating information,” a two-year-level requirement. Although only three institutions use the test currently, College-BASE was more popular in the 2000–05 performance funding cycle, as seven institutions used it (THEC).

The Collegiate Assessment of Academic Proficiency (CAAP) is an ACT product that offers both a long and short form. CAAP assesses six different areas, and an institution may include all or only a portion of the 40-minute tests when administering to students. Subject matter tests include reading, writing skills, writing essays, science, mathematics, and critical thinking (retrieved from <http://www.act.org/caap/>). One Tennessee community college and one university use all or a portion of the six components found in CAAP (THEC). For the four-year institution, CAAP measures only one skill necessary for the *Measuring Up* learning model. The two-year requirements are also unmet, as it does not measure “locating information.”

One university uses two different tests to measure student general education

knowledge. For the performance funding requirements, this institution uses one of the above approved tests, but also uses a university-developed test. The “CAT,” as referred to on campus, measures problem-solving, writing, and quantitative skills. Since this test has not been nationally normed, it could not provide meaningful comparisons at either the state or the national level.

Finally, the sampling technique used for administering CLA and ACT WorkKeys in the learning model included the independent institutions in the state. Obviously, performance funding affects only the Tennessee public institutions, so the private institutions do not have to conduct the same type of general education testing or report the findings to THEC. There are a number of independent institutions in the state that utilize the same tests used by the public institutions, however (see Figure 8). There may be a possibility for the private institutions to agree to provide their aggregate student-learning data to a non-Tennessee-based third party in order to assist The National Center for Public



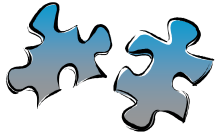
Policy and Higher Education in determining a grade for this measure.

## Summary

Across the entire *Measuring Up 2006* learning model, Tennessee only had data to fulfill 25% of the model, thus Tennessee received a grade of “incomplete.” In the areas of state literacy and performance of college graduates, Tennessee did not participate in the various studies that would have netted a grade. Tennessee was, however, able to provide data to demonstrate whether college graduates are ready for advanced practice.

Figure 8: Tennessee Independent Institutions Self-Reporting Use of General Education Testing Instrument

	CAAP	CLA	MAPP
Institutions using instrument	6	1	3



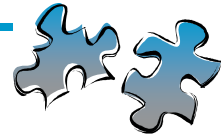
### Guiding Question Two: Performance Funding Impact on Academic Culture

The impact a performance funding policy has on institutional culture as it relates to student learning is the basis of the second guiding question. THEC asked the consultant team to explore the ways in which performance funding influences academic culture at one Tennessee Board of Regents (TBR) university, at one community college, and at one of the four-year universities in the University of Tennessee system. As previously stated, the consultants conducted 33 interviews in order to better understand the impact of performance funding at the campus level. Of the 33 interviewees, three are chief academic officers/provosts, three are institutional effectiveness officers, 22 hold faculty status, five are department chairs, 12 are currently deans/interim deans, three are department directors, and three serve as staff to an academic area. Fourteen of the persons interviewed are male, and 19 are female. Combined they represent over 685 years of higher education employment, with an average of 21 years in the field. The overwhelming majority of study participants have spent the bulk of

their careers at an institution headquartered in Tennessee. Four major themes emerged from these interviews: undergraduate education and major field of study, program review, and accreditation, institutional commitment to student learning and engagement, and knowledge of performance funding. Within each of these four themes, sub-categories emerged.

#### *Theme I: Undergraduate General Education and Major Field of Study*

The interview team asked a series of questions to understand the extent to which performance funding influences decisions made at both the general education and major field of study levels. Institutional anonymity and confidentiality of subjects was given, therefore pseudonyms are used in this report. Questions centered on discussions and decisions related to Standards 1A and 1B of the Tennessee performance funding matrix. “This standard [1A] is designed to provide incentives to institutions for



improvements in the quality of their undergraduate general education program as measured by the performance of graduates on an approved standardized test of general education” (THEC, p. 7). Standard 1B “is designed to provide incentives for institutions to improve the quality of major field programs as evaluated by the performance of graduates on approved examinations” (THEC, p. 9). Several sub-categories emerged from the theme of undergraduate general education and major field of study: improved curriculum, aligning outcomes with assessment and measurement challenges.

***Improved Curriculum.*** Institutions have diligently worked to refine their general education and major-field programs. Pressure from THEC and TBR sparked the institutions to re-evaluate the courses related to the general education curriculum. Dr. Jones, an institutional researcher, asserted,

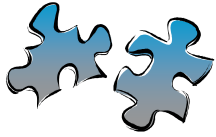
THEC put the general education question on the front burner in the mid 90s and more institutions invested time and energy in reviewing the components of the general education curriculum. However, the THEC structure of

mandating the use of certain standardized tests was not very effective—the attention and emphasis brought about some changes—the structured direction of specified tests did not.

Dr. Rozkoszny, a faculty member and acting dean at the same institution, admitted,

[The university] has invested a lot of time fine-tuning the general education program; not as much time dealing with assessment. . . . Course details are reviewed by the general education committee to see if desired standards are established in the courses. To a certain extent, desired outcomes are identified in course syllabi distributed to students.

Several of the institutions had recently completed a major review and overhaul of the general education program and were subsequently looking at the campus- and individual course-level assessments to better align campus-wide learning outcomes with individual courses and related assessments.



### *Aligning Outcomes with Assessment.*

Institutions appear to be making efforts to align learning objectives to assessment instruments. The three institutions involved in the study articulated that recent departmental or campus-wide initiatives targeting alignment of learning objectives with assessments were aimed at improving what had been a poorly or loosely aligned system. Undergirding the push for assessments targeted to measure learning objectives is *not* the threat of performance funding. Most respondents assert that performance funding was not the impetus for examining learning outcomes and assessment. Dr. Smith, a dean at the community college emphatically stated,

Only with the recent push from academic audit and SACS were we concerned with assessment of learning outcomes. Faculty in the last year have taken it upon themselves to work with some grading criteria, look at what we're doing and why we're doing it and how we can improve what we're doing. I think the academic audit and SACS were catalysts, probably more so than performance funding by a long shot.

Across several departments at the community college and University of Tennessee, school faculty and department chairs/deans lamented the weak alignment of learning outcomes to assessment. Dr. Vaughan, a dean at the community college, noted that through reviewing programs for the academic audit process, they discovered the misalignment between outcomes and assessment. She admitted,

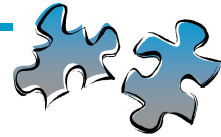
Through the audit we found out we weren't completely in line with the current test [major field exam]. Meaning we aren't measuring what we're teaching.

Dr. Glatt, a chief academic officer, pensively stated,

The challenge [assessment of learning outcomes] of the whole process is finding some things that you can measure with some confidence that you have learned something. Are the outcomes being measured the right ones? Are there peripheral influences affecting

**"Only with the recent push from academic audit and SACS were we concerned with assessment of learning outcomes."**

**—Dr. Smith, Dean**



the outcome? Are the outcomes due to instruction and the college process?

Other faculty members at the same institution where Dr. Glatt serves highlighted the challenge:

Dr. Rozkoszny : Courses must incorporate demonstrable learning. . . . What are the best ways to measure what students are learning? Paradigms run out and new paradigm shifts evolve.

Dr. Weaver: There is a set of criteria [for general education outcomes], but there is no quality control on the general education delivery and assessment of learning. They do not know what an outcome is at this school.

Dr. Black: The general education committee might go back to the academic department chairs and ask them to formalize the methods of measurement they will use for the individual courses.

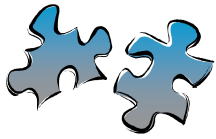
Still others recognized that explicitly stating learning outcomes was emphasized by the institution, but explaining how the outcomes are to be measured is not. The good news, however, is that some individual departments are taking it upon

themselves to better connect teaching and assessment to specific learning outcomes.

**Measurement Challenges.** The institutions involved in this study all admitted to having difficulty measuring student learning net gain within the general education and major-field programs. Faculty expressed a desire to have students take a pre-test of some sort and then to use another test to measure how much the student learned through the educational experience. Interviewees stated that while they desired to measure the impact their specific programs/courses had on students, to measure student learning net gain was too resource-dependent to work. Dr. Rogers, a chief academic officer stated the struggle best,

In performance funding we tried diligently to find out how to measure value-added. We ran into a lot of resistance and abandoned it. The cost-benefit of tracking individual students, unless you're going to get a really rigorous, valid, reliable measure, it simply doesn't work.

Resources force many departments, deans, and institutions simply to take a snapshot of student progress without any ability to



understand the extent to which the student learned.

Administration of the tests presents problems for some departments.

Traditionally, students take a standardized test at the end of their sophomore year and/or at the end of their major-field studies.

Depending on the instrument, the tests used may last from 40 minutes to three hours and are often administered during non-classroom hours.

Several departments admitted that this structure produced less than positive results as students lacked motivation to give the test the necessary focus. Faculty remarked:

Dr. Rozkoszny: [Department] began to assess individually with a cohort of students every five years. Students were not giving their best effort—there was not a carrot to encourage the cohort group to do their best. Now they give the test annually to every [subject] major student as a graduation requirement. The culture of testing permeates the department now.

Dr. Vaughan: Students were

blowing the test off and were not taking it seriously. So, we made the test the final exam for the senior seminar course. That got their attention and helped our scores.

THEC does not prescribe which instrument to use for major-field programs

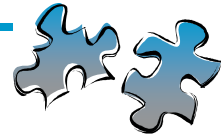
that do not have a required licensure test. For the non-licensure programs, this means that departments either use a nationally normed test or an institutionally created exam. Budgets and interdepartmental disputes regarding the test banks used in the nationally normed instruments led most departments to create their own instrument. Academic

administrators and faculty expressed concerns regarding institutionally created tests:

Dr. Young: All of our programs are building their own exit exams because we have not been able to find nationally normed standards that are useable. They are either way too expensive—that we can't charge it all back to the students or we don't have the budget for it.

"In performance funding we tried diligently to find out how to measure value-added. We ran into a lot of resistance and abandoned it."

—Dr. Rogers,  
Provost



Dr. McInturff: I can't say I'm truly happy with it [major-field exam] because when you're writing the assessment and then reviewing it—there is something about someone from the outside who should be involved.

A number of faculty expressed a desire to conduct their testing differently, but limited resources prohibit what they perceive as better alternatives.

### *Theme II: Program Review/Accreditation*

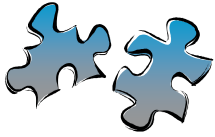
Standard 1C of the performance funding matrix states, “This assessment indicator is designed to provide incentives for institutions to achieve and maintain program excellence and accreditation” (THEC, p. 11). This standard has two components—accreditable and nonaccreditable programs. When accreditation is possible, the institutional performance funding score is “based on the percentage of eligible programs which are accredited” (p. 11). For any nonaccreditable program, institutions must evaluate the program using objective standards every five years (except for UT Knoxville and University of Memphis).

For TBR-affiliated schools, the set of objective standards and process is called “academic audit.” The University of Tennessee system refers to this process as “program review.” For the purposes of this report, the process of evaluating nonaccreditable programs in both systems is referred to as “program review.”

The consultant asked a series of questions related to both accreditation and program review as they relate to performance funding. Consultants were interested in the perceived role of performance funding within SACS and program reviews. Specifically, the consultants wanted to better understand the influence performance funding has not only in institutional evaluation, but also in the academic planning process as it relates to student learning. Several themes emerged from this line of questioning: complementary role and perceived benefit.

**Complementary Role.** Performance funding is most closely associated with institutional function within the areas of program review and accreditation. Several of the faculty interviewed did not fully





understand that performance funding utilizes SACS and program review as a part of its scoring. However, they were aware that going through an academic audit or SACS self-study is easier because of the data reported annually to THEC for performance funding. Dr. Jones, a university researcher who understands the connection of performance funding with the pursuit of excellence, proclaimed,

The single biggest accomplishment of the nearly 30 years of performance funding in Tennessee is program review of nonaccredited programs and the pursuit of accreditation for programs that are eligible for accreditation but have not yet met the standards.

***Perceived Benefit.*** Overwhelmingly, faculty and administrators expressed appreciation for the program review process. Faculty believe that the program forces institutions to review what occurs within a given program and to address any deficits. Dr. Weiss, a dean heavily involved in an upcoming SACS visit and knowledgeable of program reviews, assuredly stated,

It [program review] gives the institution some muscle to say, “We need to do these things.”

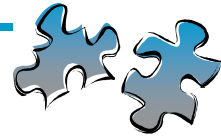
Because faculty tend to be— “What goes on in the classroom is my world.” Academic audit helps the institution say, “No, we *have* to go in and show results and that we are doing what we are saying we are doing.”

Other faculty discussed the benefit of program review as it prodded faculty members that perhaps lacked motivation to address their weaknesses. One dean whispered while leaning in,

Instructors kind of went in and you know, tailored their course sometimes to their needs. Sometimes it was great and other times it wasn't. So this move toward standardization, toward accountability, is good.

Faculty remarked that during the review, everyone worked together to make sure the objectives were met and they experienced this as a positive occurrence. Dr. Sheppard, an administratively savvy dean from a TBR university proclaimed,

We like the idea of everyone rowing in the same direction and performance funding [specifically Standard 1C] has helped. We work in a university-wide unit. It's really benefited our unit. We're working toward the same goals.



Several faculty acknowledged that the value of the program review end product equates to the amount of work invested in the process. Faculty recognized that with the current system, it is too easy to steer a program review process to the desired outcome. Dr. Weaver, an experienced faculty member and SACS team member for her institution, said about departmental differences in program review tactics,

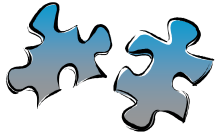
Other departments do not use the external process in a legitimate or challenging way. [Dept. name], for example, got crap out of their program review. They call external friends and ask them to come in and review the program knowing in advance that the external reviewer will give them a good review. The departments can make of the process what they want. Academic programs can seek a meaningful review or a rubber stamp process.

"We like the idea of everyone rowing in the same direction and performance funding [specifically Standard 1C] has helped."  
--Dr. Sheppard, Dean

Overall, however, faculty and deans felt as if the process of performance review was necessary to ensure quality.

### *Theme III: Institutional Commitment to Student Learning and Engagement*

A major premise of the consultant team is that if the institutions participating in performance funding are serious about performance funding as it relates to Standard One, they will engage in activities to improve learning. Therefore, the consultants asked probing questions to better understand the types of programs offered on campus to help students struggling with a given subject matter. Consultants asked questions related to workshops and other types of professional development opportunities designed to improve pedagogy. Finally, interviewees were asked questions about their knowledge level and use of the data gathered concerning student learning. Three themes emerged: commitment to student learning, data usage and improving pedagogy.



*Commitment to Student Learning.* The academic culture at each of the participating institutions varied, but the overall commitment to student learning did not. Two of the institutions exuded a passion and concern for student learning. The faculty at these institutions were deeply committed to their students learning, and most were quick to identify that performance funding was not the driver for their behavior. One impassioned faculty member stated:

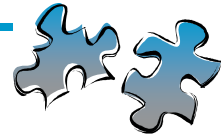
The faculty are so committed to figuring out students, to enhancing what we do, to figuring how to do what we do better, that that [improving pedagogy] is a natural option.

When asked about the ways the institution supports student learning, faculty readily offered examples including student-learning centers, tutoring programs, study abroad opportunities, problem-based learning, and academic advising. Dr. McInturff captures the sentiment of many of the faculty interviewed regarding the commitment to high student-learning standards when she said,

Performance funding says, “Here’s what we should be doing.” We should be focused on student learning standards. If we’re doing our jobs then performance funding is an extra benefit to the university. The dollars are not what is driving us; it’s the *standards themselves* that we want to attain.

The third institution involved in the study failed to communicate as passionately with the interviewers their zeal for student learning that the other two institutions communicated. While there were pockets of enthusiasm for student learning, it did not favorably compare to the other participating institutions. The enthusiasm and verbal commitment to student learning that was expressed at the other two campuses, however, did not always translate into the implementation of best practices.

**Data Usage.** The process of completing the requirements for performance funding generates data that institutions can use to improve practice. It is traditionally considered good practice to use data to drive decision-making. The data generated through the various processes associated with Standard One are not



uniformly utilized to improve student learning. Among the institutions, the extent to which the data is analyzed and used varies. Some academic faculty leaders and faculty reported data being helpful in understanding key issues that needed addressing, while others confessed not to looking at the results. To the latter, Dr. Gover, a dean of a more technical, data-dependent field than most, surprisingly confessed,

We don't give a whole lot of weight to the national results. We use data, but not in a formal way.

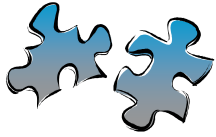
Another dean, Dr. Cruise, acknowledged that in her role she uses data to help her understand in what areas students needed greater assistance. For example, she said she learned that her students were not good critical thinkers and that the faculty in her area were not providing adequate advising services. However, Dr. Cruise recognized,

I think as a faculty member I saw it [data] and thought, "Ooh, that's nice," but had no context for it. I imagine that is still the same now. We don't do a division in-service to study the data.

Dr. Black, an education faculty member at a different institution, said that data regarding student learning is readily available; however, she was unaware of anytime when there was a departmental change as a result of the data.

Other faculty members stated that they use data from major-field tests to identify if the curriculum needs alteration. One particular faculty member recounted a change within his department. Because of scheduling pressures, a required class was dropped; and then they noticed that over the years student scores plummeted on the major-field standardized test section tied to the knowledge that had been a part of the nonexistent course. The premise that students would gain the knowledge in other classes did not come to fruition, so the department added the course.

Several academic administrators, however, expressed that faculty did not use the data that is available to them through the performance funding process effectively. One administrator stated that data is available when a faculty member asks for it, but the institution does not take pro-



active measures to share the data with faculty. When asked to elaborate, she said,

Most faculty do not value the current assessment data and therefore they give it little attention. The faculty's interest level peaks during their program review every five years, but the review of the data and engagement of interest is not sustained. The data stays on the shelf.

Nonetheless, the faculty, in general, self-reported, using data as necessary, to make decisions about improving student learning and with strategic planning processes.

***Improving Pedagogy.*** When asked about opportunities to improve pedagogy, faculty readily rattled off lists of opportunities available to them. Faculty discussed in-services, conferences, centers for teaching, and other professional development opportunities available to them. Most of the offerings related to teaching faculty how to utilize technology. There was appreciation for this at the community college, but there was recognition by several deans and faculty that greater focus on actual pedagogy

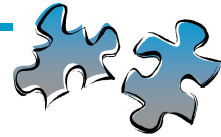
would be beneficial. One department chair said critically,

We get a tremendous amount on technology and how to enhance courses, but less on real pedagogy, even designing a good course.

From faculty in-services to conference attendance, the three institutions in this study provided opportunities for faculty to improve their teaching techniques to in turn improve student learning.

### ***Theme IV: Knowledge of Performance Funding***

In order to understand the role of performance funding within the culture of the institution, the consulting team sought to learn the level of interviewee knowledge about performance funding. Interview participants were asked questions relating to their thoughts on how the institution scores, prevalence of discussions involving performance funding, and the influence of performance funding on institutional decision-making processes. Several themes emerged from this line of inquiry: attitudinal response, extent of knowledge, prevalence of



funding dialogue, and embedded.

**Attitudinal Response.** There was almost unanimous agreement that the accountability movement is necessary and does not infringe on academic freedom. Persons interviewed see performance funding as a responsible process that asks little if anything of the institution that it would not want to do on its own. While everyone said the processes associated with performance funding (SACS, program review, etc.) are time-consuming, no one expressed frustration with the bureaucracy associated with the governmental/association reporting schemes. Dr. Greene, a faculty member and interim dean, captured the majority sentiment when he admitted,

"I started out thinking it [performance funding] was an imposition, but I have grown to appreciate it, and it serves as a unifying thing to keep us focused on those things identified as being important."

—Dr. Greene, Faculty

I started out thinking it [performance funding] was an imposition, but I have grown to appreciate it, and it serves as a unifying thing to keep us focused on those things identified as being important.

**Extent of Knowledge.** As anticipated, all the institutional effectiveness and chief academic officers know about performance funding. They could accurately report the score for the previous year, areas that need improvement, and components of performance funding Standard One. The faculty, however, were not as knowledgeable. At the community college and University of Tennessee–affiliated institution, faculty did not readily know the components of performance funding. Often, the opening phrase of each answer during the interviews was something to the effect of, "I don't know if it relates to performance funding, but . . ." Dr. Cruise, a dean with ten years of employment at the institution, admitted to never thinking about performance funding. When asked about the score, however, with a fair degree of certainty, she said she had seen a report and that they had scored a 73. Dr. Cruise is more than 20 points below the actual



points earned. While other faculty either knew or were close to the institutional score, most could not tell how performance funding money is spent or whether they have a voice in funding allocation.

***Prevalence of Performance Funding Dialogue.*** At the TBR, university faculty were able more accurately to answer questions related to performance funding. They also stated that the president and other senior administrators actively incorporate performance funding criteria and goals into both verbal and written communications. At the other two institutions, messages related to the goals of performance funding did not come from the president or chancellor. The community college faculty, however, were quick to assert that it is not the president's role to concern himself with decisions related to academic affairs. Interviewees at two of the three institutions appeared to be happy with the level of support provided to performance funding and to the components therein. At one institution that had experienced instability among the upper administrative ranks over the last

decade, the absence of dialogue and other outward signs of support for performance funding initiatives was palpable. One faculty member, reflecting on the only dialogue she could remember regarding performance funding coming from the departmental level, stated:

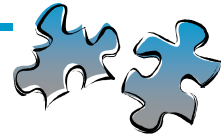
The flavor of those conversations is to rejoice if we have done well and bemoan if we have not done well.

Still another pointedly spoke regarding support for student-learning initiatives,

A little bit of leadership might have motivated the gray backs to join some of the more motivated faculty and staff to consider some of the recommended initiatives.

On campuses where senior-level support for student-learning initiatives as related to performance funding was prevalent, institutional knowledge of performance funding was higher. Where there was a dearth of support, faculty were not as knowledgeable of performance funding and their contributions to the yearly score.

***Embedded.*** In 1979, performance funding began. With its implementation, faculty, staff, and senior-level administrators



"A lot of the times we do things that are for performance funding, but we may not necessarily equate them."

—Dr. Andrews, Faculty

began to do business differently. To do otherwise means less money was earned by the institution to support the institution's strategic plan. The Tennessee Legislature had a carrot and a stick it was using to improve public higher education. The "carrot and stick" approach did not permeate throughout the interviews. This leads the consultant team to conclude that since performance funding has been a part of the institutional process for 28 years, it has become embedded into the culture of the campus. Only in one interview was anyone able to share a decision that had been made with the intent of improving a performance funding measure. A few said that performance funding may be mentioned in committee meetings but did not indicate that it affected specific decisions.

Faculty and administrators shared stories of decisions that had been made to improve their understanding of student learning and practice, but the reasoning undergirding the action was rarely performance funding. Dr. Andrews, a faculty member at a community college for more than 25 years, stated,

A lot of the times we do things that are for performance funding, but we may not necessarily equate them. While we are doing it, we are

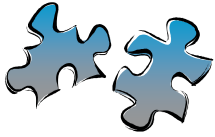
not thinking that it is for performance funding.

Dr. Walker, who has worked at multiple public Tennessee-based institutions since before 1979, voiced,

We often talk about performance funding matters without even mentioning the performance funding program. . . . Performance funding is not a part of our thought process.

Since performance funding is embedded within the culture of the institution, the majority of those interviewed experienced difficulty identifying when they are involved in discussions related to performance funding. For example, many spoke of program review, but most did not





know the connection to performance funding. Student learning as it relates to performance funding is simply a part of the institutional fabric without the faculty necessarily knowing. The best example of this phenomenon rests with one of the chief academic officers interviewed. A majority of the faculty and deans interviewed throughout the day believed they could recall a presentation the chief academic officer had given at a faculty assembly. Curious as to the contents of this presentation, the interviewer asked the chief academic officer about the presentation. Looking puzzled, and then bursting into laughter, she said her presentation was not at all on performance funding. In reality, she had given a presentation on data, but not on data related to performance funding. She also admitted that her phone had been ringing periodically all day with people who had completed an interview and called to see how much they had differed from reality on their knowledge of performance funding. Regaining her composure, she said,

They aren't clear about it [performance funding] and it really doesn't matter for them to

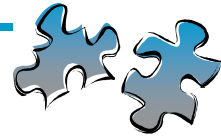
know whether it was [standardized test] or performance funding.

What matters, the chief academic officer concluded, is that they understand what is working and what is not and consistently work to improve.

### *Summary*

The exploration of the second guiding question related to the impact of performance funding on academic decision making led to several conclusions:

- Influenced changes made to curriculum to improve learning
- Improved alignment between assessment instruments and desired outcomes
- Measuring student learning remains challenging
- Complementary relationship to SACS and program review
- Institutions committed to student learning through using data and improving pedagogy
- Accountability movement perceived positive



- Knowledge of performance funding by faculty low
- Prevalence of performance funding dialogue varied

### Recommendations

Effective in 2007, the grant funding that made the National Center for Public Policy and Higher Education possible ended. The future of their body of work, including the *Measuring Up* series, is in question. Unless another organization chooses to continue the work contained

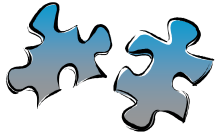
in *Measuring Up*, there will be no 2008 report. Therefore, THEC should monitor national higher education organizations and research groups for possible adoption of *Measuring Up*. The recommendations pertaining to the *Measuring Up* report build from the premise that the next organization that adopts the series will use the same grading criteria.

The following recommendations are categorized to correspond to the guiding questions explored by the research team.

#### *Guiding Question One: Compliance to Meet NCHEMS' Learning Model*

- 1) Contact the Tennessee Department of Labor and Workforce Development to encourage involvement in SAAL.

Approximately every 10 years, requests are sent to Tennessee Governors' office, department of labor, or to the department of education requesting participation in the NAAL over-sample (SAAL). In 2003, the SAAL cost each participating state \$675,000. THEC needs to evaluate the possibilities of not only providing encouragement to participate through



illustrating the benefits of participating within the higher education segment, but also of being prepared to help offset the expenses associated with administering the SAAL.

This step is needed in order for Tennessee to receive a grade for “Literacy of the State’s Residents” (25% of the student learning formula).

- 2) Collaborate with private colleges and universities to meet requirement for “performance of college graduates.”

The sampling requirements for scoring “performance of college graduates” included a sampling scheme that included both two- and four-year independent colleges. The consulting team recommends working with the private colleges to establish a relationship and understanding of the benefits of participating in the random study. Additionally, assurance of anonymity of the data would need to be established. Using a third party, such as the Tennessee Independent Colleges and Universities Association, to assist in reporting the data to THEC for inclusion in the study may

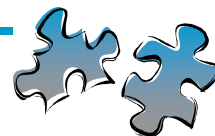
serve to assure institutions that their CLA or ACT WorkKeys scores remain anonymous.

The rationale for working with the private colleges is that 50% of the learning model used in *Measuring Up 2006* utilized student testing data from both public and private institutions.

- 3) Require all or a portion of two-year institutions to administer the ACT WorkKeys test.

The simplest, yet most politically challenging method to reach compliance within this measure is to require that all public institutions administer the ACT WorkKeys. The consultants realize that to do so defies the desired attitude of institutional autonomy permitted in the current system. Therefore, a less threatening approach would be to require only the two-year institutions randomly selected to participate. The ACT WorkKeys could be an additional required test at each selected institution.

The sampling plan included in *Measuring Up 2006* should be utilized among the



two-year institutions. This means that out of Tennessee's 15 public and private regionally accredited two-year colleges, 12 institutions would be randomly selected to participate in the study. At each institution, administrators would test between 75 and 100 students for a minimum aggregate total of 900 ACT WorkKeys test-takers.

In order to fulfill the requirements for "Performance of College Graduates" (50% of learning model), the two-year institutions participating in the random sample must utilize ACT WorkKeys.

4) Require all or a portion of four-year institutions to administer the CLA

The same sampling procedures used for two-year institutions should be used for the four-year institutions. Therefore, out of the 10 public four-year and 33 private, regionally accredited, four-year institutions, 12 to 15 institutions would be randomly selected to participate in the test. Again, each institution would test between 75 and 100 students resulting in no more than 1,200 test-takers.

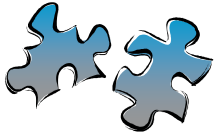
In order to fulfill the requirements for "Performance of College Graduates" (50% of learning model), the four-year institutions participating in the random sample must utilize CLA.

*Guiding Question Two: Measuring Student Learning as a Component of Performance Funding*

1) Continue weighting mechanisms for program review/academic audit and accreditation.

Interviewees perceived both SACS and program review to be of great assistance in the quest for quality. Several faculty expressed the sentiment that the program review cycle was too long. They noted that the types of activities included in the review should be conducted with greater regularity than the five-year cycle allows. Perhaps performance funding could encourage utilization of the principles behind program review on an ongoing basis.

Persons interviewed expressed appreciation for the program review/academic audit and accreditation



process, therefore, THEC should continue giving weight for these components.

- 2) Change weighting values for program review/academic audit and accreditation.

Specifically, change the weighting for standard (1C) to a total of 20 points, with

10 points each allocated to accreditation and program review respectively. Interviewees identified great value associated with this standard (1C). Currently, total weighting is 15 points, with five points allocated to accreditation and 10 points allocated to program review/academic audit. This current

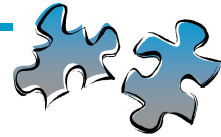
### Recommendations

#### Compliance to meet NCHEMS learning model

- 1) Contact the Tennessee Department of Labor and Workforce Development to encourage involvement in SAAL.
- 2) Collaborate with private colleges and universities to meet requirement for "performance of college graduates."
- 3) Require all or a portion of two-year institutions to administer the ACT WorkKeys test.
- 4) Require all or a portion of four-year institutions to administer the CLA

#### Measuring student learning as a component of performance funding

- 1) Continue weighting mechanisms for program review/academic audit and accreditation.
- 2) Change weighting values for program review/academic audit and accreditation.
- 3) Encourage institutions to provide more pedagogical training and incentives for participation.



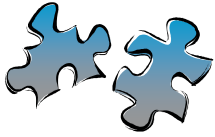
weighting generates a bias that program review/academic audit is more “important” than accreditation. Implementation of this recommendation would remove the current bias toward program review/academic audit and be more aligned with goals associated with standard (1C) and the equal value placed upon accreditation and program review expressed by each institution.

3) Encourage institutions to provide more pedagogical training and incentives for participation.

Among the pedagogical training activities described by faculty through either in-services or programs provided through the center for teaching, true pedagogical training was absent. Faculty spoke of learning how to incorporate various forms of technology into lectures, but not appropriate syllabus components, assessment training, or cooperative learning techniques. Several faculty longed for opportunities to learn how to improve a student’s educational experience beyond simply introducing

technology to the classroom. If performance funding could be structured in such a way as to encourage the provision of these types of faculty educational opportunities, it may prove beneficial to student learning. Additionally, the consultants noticed that while faculty interviewed seemed to know what was available to them, at the two four-year institutions, no one stated that they participated in the opportunities. Perhaps encouraging faculty to participate through an individual or institutional incentive plan (ex. points earned if 40% of faculty participate in training each year) would increase participation.

The rationale for this recommendation is that improved pedagogical practice will likely increase student learning and improve the scores received for 75% of the learning model (Graduates Ready for Advanced Practice and Performance of College Graduates).



### Discussion and Conclusion

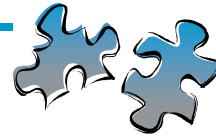
The current level of knowledge and understanding about the effectiveness of a college education in the United States is limited. Federal and state officials have not identified a common metric to determine the effectiveness — *defined in terms of student learning*—of higher education. The lack of a culture oriented toward evidence of specific student outcomes challenges informed decision-making by institutions, by students and their families, and by the future employers of college graduates.

Currently, at both the state and national levels, there are attempts to adopt a systematic, data-driven, comprehensive approach to understanding the quality of postsecondary education using direct, valid, and reliable measures of student learning. Most institutional information that we have access to today typically consists of either input characteristics (e.g., student grades and test scores and faculty credentials) or output characteristics (e.g., institutional counts of

degrees granted or students employed), with little attention to the intervening college-learning period.

In order to achieve higher levels of academic or professional performance, college students must acquire a set of basic skills and abilities. Academic and business leaders have agreed that the most important abilities that students need to acquire include verbal reasoning, quantitative reasoning, critical thinking, problem-solving, and communication skills. Higher education institutions must continue to focus on student development in these key areas and find ways to measure these desired outcomes.

The diversity of higher education institutions and learning environments in the U.S. will not enable a single standardized test to measure these higher levels of student achievement. The variability within dimensions of institutional characteristics and the diversity of the students that apply to and



enroll in colleges and universities are critical aspects of the postsecondary education system. As such, they must be taken into account when implementing a system of accountability for student learning. Current efforts such as the *Measuring Up* series of reports suggest a comprehensive national system for determining the nature and extent of college learning.

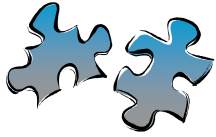
A series of *Measuring Up* national reports have identified six primary areas of concern in the U.S. higher education system: the need to expand access, improve affordability, reduce costs,

restructure existing financial aid programs, raise the quality of teaching and learning, and increase accountability. One of the priorities identified in the first *Measuring Up 2000* report was the need to develop better methods of measuring student learning at the higher education level. Public officials and business leaders were disappointed in that *Measuring Up 2000* had very little to report about the level of student learning and skills development that college students acquire while attending college. The National Center for Higher Education Management Systems (NCHEMS) developed a national learning model used in *Measuring Up 2006*, but only five states that had participated in a previous pilot study funded by the Pew Charitable Trusts were able to provide standardized test data for the “Performance of College Graduates” component of the three-part NCHEMS learning model. The five states participating in the pilot study utilized common direct assessments to measure the level of learning for two-year and four-year college graduates. The question of standardized assessments at the higher

### Target Areas for Concern in U.S. Tertiary System Identified by *Measuring Up*:

- Access
- Affordability
- Costs
- Financial Aid
- Quality
- Accountability

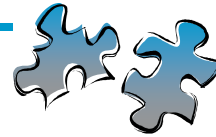




education level continues to be a topic of debate.

In a meeting with higher education officials and accrediting agency representatives in November of 2006, Secretary of Education Margaret Spellings stressed that she would not require all colleges to use the same test to measure student learning, emphasizing that “one size fits all approaches are neither desirable or feasible.” Secretary Spellings convened an accreditation forum specifically to discuss the goal of aligning the current system of accreditation with proof of student learning. She believes that regional accrediting agencies are more focused on quality input measures such as faculty credentials than on meaningful assessment of student outcomes. The Office of Postsecondary Education is reviewing how accreditation can place more emphasis on student learning and measured outcomes. As part of the Higher Education Reauthorization Act of 1998, Congress made student achievement the most important factor for accrediting agencies to consider when re-accrediting higher education institutions. At the state

level, many states like Tennessee continue to explore ways to influence higher education policies as they relate to measures of student learning. Tennessee, through its state-wide performance funding incentives for public institutions, continues to prioritize demonstrable learning and student assessment within the performance funding standards. The Tennessee Higher Education Commission (THEC), works with State officials and institutional representatives to evaluate the learning standards and methods of assessment. Tennessee continues to focus significant attention on undergraduate education and its measurable outcomes (e.g., tested reading, writing, computing, and critical-thinking skills). The fact that Tennessee did not receive a grade for the “Performance of College Graduates” section of the *Measuring Up 2006* report is more indicative of the limitation of the national report, not of Tennessee’s efforts to measure student learning. For more than two decades, public colleges and universities in Tennessee have been required to select a meaningful sample size of students and require those students to take standardized tests that measure



student learning at these institutions.

The consultants for this study interviewed faculty and administrative representatives at three public higher education institutions in Tennessee. Explicit values of defining student outcomes and aligning

assessment methods to measure the desired outcomes were evident at all three institutions.

In addition to identifying and supporting efforts to improve teaching and learning driven by values within the organizations, the representatives interviewed generally endorsed the student-

learning standards identified within the state-wide Performance Funding Program.

The interviewees understood and supported the accountability issues being raised by the program standards. However, one of the institutions has not been able to establish the same level of communication and consensus building

that has allowed more cohesive planning and assessment of student-learning initiatives at the other two institutions.

Two of the institutions have developed a broader institutional consensus regarding strategies to improve and measure student

learning on their respective campuses. The student-learning standards identified in Tennessee's Performance Funding Standards and the Quality Enhancement Plans (QEPs) required by the regional accrediting agency (SACS) are integrated into the strategic plans of two of the institutions. There is a culture of evidence regarding student learning

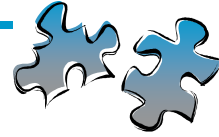
that is implicit and embedded at these two institutions. The third institution, while investing significant time and energy into identifying and assessing student learning on their campus, has not been able to build consensus within and among the various academic departments at the institution. Effective and stable leadership will be

*The fact that Tennessee did not receive a grade for the "Performance of College Graduates" section of the 2006 Measuring Up report is more indicative of the limitation of the national report, not Tennessee's efforts to measure student learning.*



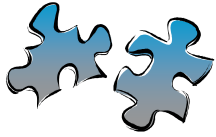
needed to integrate the various voices on campus to identify strategic plans that will be endorsed by the faculty. “Significant change will never occur in any institution until the forces for change are greater in combination than the forces preserving the status quo” (Diamond, 2006).

The combination of forces coming from *Measuring Up*, Secretary Spellings and THEC’s desire for quality higher education will stretch institutions and higher education systems to reach beyond conventional thinking and practice to improve student learning and demonstrate its value.

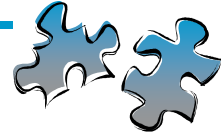


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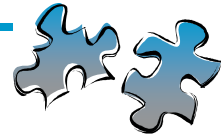
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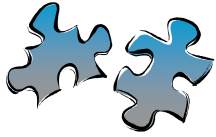


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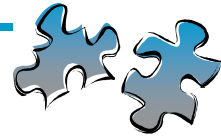


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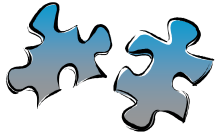




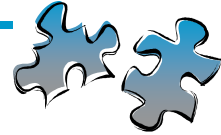
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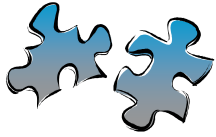
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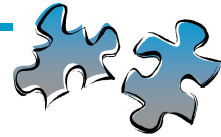
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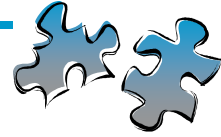


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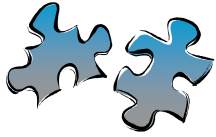
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### Appendix A: Methodology

#### Reliability

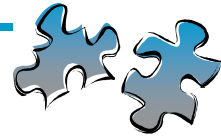
The institutions selected to participate in this study were chosen because they were conveniently located near the research team. The selection process was designed only to make sure that one TBR university, UT system, and community college were selected. The participating institutions are not necessarily representative of the other institutions in their sector. The anonymity of the institution and of the interview subjects was provided. Therefore, pseudonyms were used throughout the printed study.

The research team asked for the institutional effectiveness officer to select faculty and academic administrators for interviewing. The consultant team had very little influence in the interview session details, leaving them to the discretion of the institutional effectiveness officer regarding the date, time, and location of each interview. Institutional contacts were asked to select

representative academic administrators and faculty of the population. The consultants suggested that faculty serving on general education or QEP committees be considered for participation as those committees connect most closely with Standard One.

When conducting the interviews, consultants informed interviewees that they are Vanderbilt University graduate students. To minimize any status-position influence on the study, team members informed the interviewee that the researchers were not employees of the Tennessee Higher Education Commission (THEC) and that the project served to meet a graduation requirement. During analysis, the research team noted their years of administrative higher education experience and worked to balance each other's preconceived notions to limit bias.

The team developed interview protocols after conducting a thorough examination of the student-learning literature. The



consultants carefully selected appropriate terminology, framing the questions in ways that were appropriate to the background characteristics of the interviewees. Had time permitted, the consultants would have liked to have administered the protocols to a sample group prior to launching the research study. This would have helped to refine further the questions and perhaps shorten the protocol.

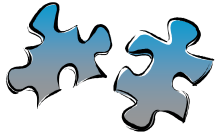
Although the consulting team requested one-on-one interviews, two of the three institutional effectiveness officers did not accommodate the request. A total of 25 interviews occurred—one quad interview, one triad interview, six dyads, and 14 single interviews. By not having all one-on-one interviews, a threat to internal validity was introduced. For example, in some of these groupings, there was a superior/subordinate relationship that, as a possible confounding factor, could decrease the internal validity. Although the consulting team did not openly observe that such a relationship prohibited a candid answer, the possibility remains that respondents may have been reluctant to

answer a question honestly if the answer contradicted a superior's opinion. The interview participants appeared, however, at ease and fully participatory.

To improve internal reliability and minimize the zone of inference, the team used the same general protocol questions for each interview. After the first 11 interviews, the consultants removed four questions from the protocols and slightly re-ordered the protocols to remove duplication and to allow improved flow. The researchers listened to all audio-taped interviews and selected key ideas, concepts, and quotes from sections of interviews for analysis and reporting. At several points in the interpretation process, the research team gathered to discuss emerging themes and concepts to check interpretations, impressions, and assumptions. Where there were differences of opinion, the team further examined the interviews to reach consensus.

### Validity

A study limitation is the narrow scope of the project. Only three institutions were



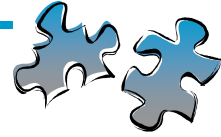
included in the study and only 33 faculty/academic administrators were interviewed. A longitudinal qualitative study of the impact of performance funding since its inception is a stronger research model. To counter the obvious limitations of this study, consultants took several measures to increase both internal and external validity.

In order to improve understanding and minimize misinterpretations, when a consultant did not understand something, the consultant asked for clarification or examples. Frequent examples of “clarification seeking” centered on the use of acronyms to describe tests, processes, and systems.

To corroborate the findings from the faculty interviews, the team communicated with key personnel consisting of institutional effectiveness and chief academic officers. This allowed the team

to balance faculty perceptions with the administrators’ broader institutional perspective.

The consulting team’s diverse composition allowed for a range of viewpoints during the analysis phase of the project. Further triangulation occurred through the examination of pertinent THEC-provided documentation regarding institutional performance funding progress. The conceptual framework of the study, emerging from a strong literature review, strengthened the validity of the study. When a discrepancy manifested itself in the analysis of the data, and to reduce the likelihood of a spurious conclusion, the team relied on the conceptual framework and literature review to make well-defined and systematic, theoretically based decisions.



## Appendix B: Interview Protocol

### Interview Protocol

**Study Introduction:** You have agreed to participate in a study to examine performance funding and its relationship to institutional efforts toward improving student learning. You were selected as a possible participant because you responded to an invitation to participate in an individual interview.

I am a doctoral student at Vanderbilt University and this research study is being conducted to fulfill a course requirement at the request of the Tennessee Higher Education Commission. This research project has been approved by the Vanderbilt University internal review board. Signed consent forms have been waived in order to protect your anonymity. Your name and those of everyone interviewed will be given pseudonyms. Your comments will remain anonymous.

The purposes of this study are: 1) How does the student learning component in Tennessee's performance funding standards compare to the *2006 Measuring Up Learning* model?; and 2) How does Performance Funding impact institutional culture relating to student learning? The questions in this survey will focus on question two.

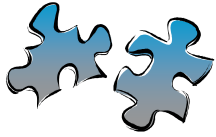
Please understand that you may choose not to answer any question asked and/or to end the interview at any time. Do you have any questions before we begin?

#### BACKGROUND

1. How long have you been with this institution?
2. How long have you been working in higher education and in what capacities?
3. In general terms, what are your current job responsibilities?
4. On which institutional committees do you serve?

#### TENNESSEE PERFORMANCE FUNDING PROGRAM

5. How did your institution do in meeting the Performance Funding Standards for last year? Are you pleased with the overall score and related funding allocations?
6. How frequently do you discuss the contents of your Performance Funding report with your supervisor? Your colleagues?



7. Does the President of your institution incorporate Performance Funding criteria into campus wide communications and messages? Are there campus publications that cover the Performance Funding incentives and institutional score?
8. What is the process for deciding how Performance Funding allocations are distributed at your institution?
9. Do you have any influence or vote in how the money is spent?
10. How often does your supervisor discuss Performance Funding and related Student Learning standards in your presence (individually and in group meetings)?
11. Can you think of a time when the desire to meet Performance Funding measures positively influenced an academic decision? Explain.

### **PERFORMANCE FUNDING STANDARD ONE – STUDENT LEARNING ENVIRONMENT AND OUTCOMES**

Standard One A of the Performance Funding criteria is designed to provide financial incentives to institutions to improve the quality of their undergraduate general education program.

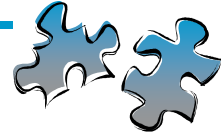
12. How often does your supervisor or colleagues discuss the assessment of your general education program in the context of this Standard?
13. What recent changes in program content and / or outcome assessment, if any, have been implemented in your general education program as a result of this funding incentive?

Standard One B of the Performance Funding criteria is designed to provide financial incentives to institutions to improve the quality of their major field programs as evaluated by the performance of graduates on approved examinations.

14. How often does your supervisor or colleagues review assessment, both methods and results, of your major field programs in the context of this Standard?

Standard One C of the Performance Funding criteria is designed to provide financial incentives for institutions to achieve and maintain program excellence and accreditation.

15. How much influence do you think Performance Funding plays into academic planning and program review at this institution?
16. Are milestone assessments that are tied to key learning outcomes, completed as students progress in their general education and major field of study?



17. Can you recall a time when a decision impacting student learning and assessment was altered because of a desire to score higher within the Performance Funding matrix?
18. Do you feel that your institution is simply assessing student learning in order to meet the Standard One requirements and qualify for performance funding? Explain.

### **INSTITUTIONAL COMMITMENT & ENGAGEMENT**

19. Are there institutional programs and policies in place that promote improved pedagogical practices on your campus that were influenced by performance funding criteria and related discussions on your campus? If the answer is yes, are any of these initiatives directly funded by your institution's performance funding allocation?
20. Are faculty members encouraged to try different teaching techniques, such as active and collaborative learning approaches and interactive lectures, to try and improve student learning?
21. Have you personally participated in workshops and / or academic conferences with the intent of improving your pedagogical practice? If the answer is yes, why did you participate in such a workshop and what was the source of funding?
22. What type of learning-centered resources are available at your institution (ie learning labs that assist students outside the classroom; teaching centers for faculty; etc.)? Are any of these programs a direct result of performance funding initiatives and, if yes, do you use performance funding allocations to financially support these programs?
23. Performance Funding standards encourage the use of national benchmarking tools such as the National Survey of Student Engagement (NSSE). Does your institution utilize such surveys in order to learn more about student engagement and the learning process on your campus? If you conduct student engagement surveys like NSSE, what have you learned from the data?
24. Does improvement of learning outcomes figure significantly (or at all) in the institution's strategic plan? If so, how? If not, why not?



### **CURRICULUM DESIGN AND STUDENT LEARNING MEASURES**

25. What process do you utilize to evaluate the general education curriculum at your institution? Is the design of the curriculum and system of assessment embedded in the individual courses (are the expected outcomes and methods of measure identified formally in individual course syllabi)?
26. What are the current learning goals and expected outcomes of the general education curriculum at your institution? What standard measures do you use for assessing student learning given the desired outcomes of your general education requirements?
27. Do you participate in studies which allow you to compare your student learning data with peer institutions? If yes, please provide an example.
28. Given the current public demands for accountability and the emphasis on measuring student learning, do you feel that State programs such as the Performance Funding Program infringe upon your autonomy and alter your preferred methods of teaching?
29. If resources were not an issue, would you change the way you gather information on student learning? If so, how?
30. If you could change any part of the student learning standards in the Performance Funding Program, what changes would you recommend?