

2007

A Study of the Value of "Measuring Up" as a Tool for State Policymakers in Developing Postsecondary Education Policy for Three Eastern States

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A Study of the Value of “Measuring Up” as a Tool for State Policymakers in Developing
Postsecondary Education Policy for Three Eastern States

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University

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June, 2007

Acknowledgments

I want to thank God for always catching me when I fall and giving me all that I need to press forward.

A special thanks to my daughter, Dominique Maddux-Jackson, for your patience, support and that beautiful smile, I love you.

An undertaking such as this is never done alone, without the love and support of others it is empty and there is no success without those you love and who love you! Thank you mom for your unending and unflinching support. Rachel you are more than an aunt and I am proud to be your namesake. Zachary and Michael, my brothers, thank you for your support and encouragement. Jackie, you don't get to choose your family as you do your friends I am glad you are both. Bern, my sister from first grade, you have been there at the best and worst times thank you - look at the little girls from Blackstone. Deion, thank you for listening to me go on about higher education policy. Ronald, thank you for listening to me, for being there during my meltdown, and for not allowing me to give up.

Dr. Jon Wergin, if not for you I may never have even attempted this journey. Thank you for your encouragement and belief that I could do this.

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ABSTRACT

This qualitative research study determined the effectiveness of Measuring Up, the National Center for Public Policy and Higher Education's national state based higher education report card, as a tool for state leaders in developing postsecondary educational policy. The researcher interviewed state postsecondary leaders in Maryland, North Carolina and Virginia, including state government leaders and administrative officials. Interviews were conducted with nine participants.

The participants in this study collectively identified the most pressing issues impacting higher education access. Affordability was identified as the predominant factor impacting access to postsecondary education; the preparation of secondary students was also identified as an issue of concern for policymakers and leaders. In addition, the participants cited policies and initiatives undertaken to address these as well as other areas of concern.

Measuring Up was identified as helpful as a data resource in developing policy; however, participants expressed concerns over the methodology used in report development. The methodology used in developing affordability measures was of particular concern and interviewees felt the metrics did not accurately reflect state attempts to address the issue.

Recommendations include implications for the National Center for Public Policy and Higher Education (NCPPE) and state governing/coordinating bodies. The NCPPE should conduct conversations with state higher education leaders or representatives prior to the issuance of subsequent reports to enhance effectiveness and

utilization by policymakers. State coordinating bodies need to be assertive in addressing the interests of its student constituents and aggressive in developing state data through assessments and research.

Chapter 1

Introduction

The need of an educated citizenry for the advancement of a democratic society has been a concept held in the United States since its beginnings as an independent country. Imbedded in this concept is the belief that an educated citizen not only advances his/her own status and well-being in life, but also benefits the community in which she lives and thereby American society as a whole. Although the definition of an educated citizenry has continued to evolve, the foundational concept remains.

As a result of advancements in the global society, the definition of what it means to be educated has moved beyond the K-12 years and now, out of necessity, incorporates postsecondary education. Postsecondary education is no longer considered just for the financial or academic elite, but it is a requirement for anyone who wants to progress above the lower income level. This requirement has resulted in increased national, state and individual attention on higher education. Education is viewed as the means by which a nation ascends to or maintains world leadership, making it of national concern. As a result of this concern it is also a focus of politicians and business leaders, as well as concerned parents.

Statement of the Problem

Although educational progress is of national concern, the responsibility for the development and implementation of educational policy at all levels (elementary, secondary and postsecondary) rests with the individual states, while the federal government's role is considered secondary. Although not regarded as the primary influence on state decision making, the federal role in the shaping of state educational policy through funding practices is extremely important. Agreement between the states and federal government regarding the purposes of and national agenda for postsecondary education has grown further apart as the demand for and enrollment in postsecondary education has increased.

It is now more important than ever that higher education is accessible to all those who wish to pursue an education beyond high school. Postsecondary education is no longer for those who can most afford a college degree or those who are considered the best and the brightest. A college degree does not guarantee a good job or a place in the middle class, but it at least gives the holder the additional education required to take advantage of the limited opportunities available. In the current global, information-technology-based economy, those without formal education or training beyond high school are not considered to even be in line for acquiring either a good job or a place in the middle class (NCPPE, 1998).

The nation's high school graduating class has grown dramatically from the late 1990's. This growth is expected to continue at least until 2010. Over 17 million students were enrolled in postsecondary education in the fall 2002 reporting year; this number is

expected to continue to rise with over 3 million students graduating from high school in the spring of 2008, contrasted with 2.5 million in 1992 (NCES, 2004). The last major increase in enrollment occurred as a result of the baby boom cohort, during a time when public funding for higher education was increasing. The current enrollment increase is occurring during a time when many states are facing economic crises. State revenue collections are decreasing, requiring many states to reduce funding allocations. As a result, budgets for postsecondary institutions have seen large reductions in state allocations.

It is estimated that at least 250,000 prospective students were shut out from pursuing higher education because of rising tuition costs or reductions in course offerings in fall 2003. Many states reduced higher education funding disproportionately to overall cuts (NCPPE, 2004). During this time of economic downturn federal funding for higher education has decreased as well, resulting in higher tuition and greater debt loads for those who continue on in postsecondary education (NCPPE, 1998).

As a result of the current and future financial implications associated with the pursuit of postsecondary education, the students and their families are requiring demonstrated returns on their higher education investment. The public's confidence in higher education has decreased over the last three years. There is greater concern regarding access, affordability, quality and the resulting benefits associated with higher education (NCPPE, 2004).

Rationale for the Study

Postsecondary education requires a substantial investment of funding and resources by individual students, their families, and the American society (the greater societal investment is generally through taxation). The returns parents and students desire are 1) an explanation of the benefits to be derived from various curricula, 2) a set of expected outcomes, and 3) demonstrated evidence on how those outcomes have been achieved. Policy decisions regarding higher education are made at the state level with limited information regarding the direct impact of decisions or policies upon students' concerns. Generally, these decisions are made with little follow-up as to how the decisions have impacted postsecondary education. Limited research is done to review various states' methodologies or to look at the diversity in individual state needs to determine what may be appropriate in certain areas and not in others. Very little research has been done in the last decade on higher education policy.

In a capitalist society such as the United States, where "being the best" can result in new and additional funding, analysis is constantly being done to identify the state that has the best educational system. Traditionally, however, these types of comparisons are done on the elementary and secondary levels, where high stakes tests, funding priorities and learning outcomes are frequently used as measures of policy effectiveness. Measuring Up is an analysis of the influence of state education policies upon postsecondary education participation and outcomes, conveyed in a report card format. Each state receives a grade in six categories: participation, affordability, preparation,

completion, benefits and learning. Measuring Up can be seen as the first attempt at addressing the public's return on investment concern in a nationally comparative report.

The success of an educational concept or undertaking is not necessarily related to its utility; it is oftentimes directly related to how it is perceived by the educational community. The Measuring Up endeavor is no exception. Although legislators are thought of as state policy decision makers, greater knowledge of the process as it relates to higher education policy decision making is needed to determine if the report is a useful tool in shaping or influencing state policy decisions regarding postsecondary education.

Statement of Purpose

The purpose of this research is twofold. The first goal is to determine if "Measuring Up" has been perceived by policy makers in Maryland, North Carolina, and Virginia as a useful tool for higher education policy processes. The second objective is to provide a deeper understanding of these processes in North Carolina, Virginia, and Maryland.

A foundational goal of the National Center for Public Policy and Higher Education's "Measuring Up" report card is to provide information on the impact of each state's higher education policy in such a way as to influence policy makers and create a national dialog on what states are doing. Since Measuring Up has now published three reports (2000, 2002 and 2004) at this point it would be prudent to determine whether: 1) Measuring Up meets the needs of its target population, namely state legislators and state education officials; 2) What would the target population find useful that has not been

incorporated into “Measuring Up?; and 3) What would the target population done differently in developing a higher education report card such as “Measuring Up?”

Research Background

A study of higher education finance in the 1990s by the California Higher Education Policy Center included national trends and case studies of five states. The study found a practice of shifting funding by the federal and state governments. The federal government had moved toward a national financial aid system dominated by student loans, and the states had shifted costs from the public to students and their families. These systemic changes in the public financing of higher education were occurring in response to budgetary and political circumstances without analysis or consideration of the cumulative effects of these changes on the state of higher education and the subsequent societal impact (Callan, 1998, p. 6). As a result of these findings a national roundtable on the financing of higher education was convened by the Pew Higher Education Roundtable and the California Higher Education Policy Center in 1996. Its major purpose was to work out a national policy agenda on higher education finance (Callan, 1998).

The roundtable discussions highlighted the need for continuing research in higher education policy, leading to the establishment of the National Center for Public Policy and Higher Education (NCPPE) in 1998. In March 1998, Governor James B. Hunt, Jr., of North Carolina announced the creation of NCPPE. Patrick Callan and Joni Finney, editors of the report on the California study, were appointed president and vice president of the National Center. Founding grants from the Pew Charitable Trusts and the Atlantic

Philanthropies supported the NCPPHE and its programs. The National Center, an independent, nonprofit, nonpartisan organization, was charged with ensuring educational opportunity, affordability, and quality in American higher education. Three themes were identified as sources for continuing research and public discussion: 1) the costs and benefits of higher education; 2) statewide governance of higher education; 3) and the public purposes of higher education (Jones, Ewell & McGuiness, 1998).

A National Report Card was identified almost immediately as an endeavor to be pursued. The Report Card Feasibility Study Panel, led by David Breneman, met in July 1998 in Charlottesville, Virginia. The general outline for the report card and the six performance categories were defined by the participants of the feasibility study. The panel resolved to “focus on opportunity and achievement, to limit the initial effort to undergraduate education, to concentrate on performance, and to make the states the units of analysis” (NCPPHE, 2000). The six areas of evaluation included: 1) affordability, 2) preparation, 3) participation, 4) completion, 5) benefits, and 6) learning.

Affordability of higher education within a state is based upon “three concepts: 1) student’s capacity to pay for college; 2) amount of need-based grant assistance received to offset expenses; and 3) loan burden associated with higher education expenses” (National Center for Public Policy and Higher Education, 2002, p. 17). The weighted categories are based upon best estimates of the affordability of colleges for state residents of varying income levels as well as institutional prices and adequacy of state assistance (NCPPHE, p.17).

The preparation category identifies 12 related factors contributing to the preparation of students for higher education. These indicators are grouped into three clusters: 1) high school completion rate of 18-24 year olds; 2) K-12 course taking, focusing on math and science courses; and 3) K-12 student achievement. Student achievement is measured using student scores on the National Assessment of Educational Progress exam in math, reading, science and writing; the number of student scores in the 20th percentile nationally on the SAT and ACT college entrance exams per 1,000 high school graduates; and the number of scores that are 3 or higher on an Advanced Placement subject test per 1,000 junior and senior (NCPPE, 2002, pp. 6-14).

Participation assesses the opportunities in each state for residents of varying ages and income levels to enroll in postsecondary education. Full and part-time students, as well as two and four year accredited private and public institutions are included in the analysis (NCPPE, 2002, p.15). The fourth component, completion, is based upon two overall concepts: persistence from the freshman to the sophomore year of college and completion of certificates and degrees in a timely manner (NCPPE, p. 23). "Benefits" considers the "states' investments in human capital in relation to four critical concepts: 1) educational achievement, 2) economic benefits, 3) civic benefits, and 4) adult skill levels" (NCPPE, p. 27). The learning category addresses the academic achievement of students in college-level education and training programs. The degree to which students' knowledge and skills improve as a result of their postsecondary education is considered a key criterion for measuring state performance in higher education (NCPPE, p.3).

Grades in each category are derived by benchmarking all states against those that perform best in that category. The "A" through "F" grades, therefore, evaluate each state against a "real world" standard that has been achieved by the highest performers. This grading methodology was selected over others that were considered, such as setting an arbitrary standard or grading on the curve. Hence, both the methodology and the title of *Measuring Up* were chosen to encourage high, but demonstrably achievable, levels of performance (NCPPE, 2000). The first assessment was completed in 2000 and follow-ups occurred in 2002 and 2004 (current plans are for an additional report in 2006).

Research Questions

As indicated by Goodchild, Lovel, et. al. (1997, p. 87), "any study of policymaking should pay equal attention to broader influences, including the limits of human reasoning, the tension between analysis and power, the special role of business, and the extent of socioeconomic and political inequality in American society. The state of the economy, political power, social demands, and public ideas significantly direct policy choices." Therefore, utility of measurements such as *Measuring Up* can only be determined within the context of the policy process it hopes to influence.

To determine if *Measuring Up* meets the needs of its target population, namely state legislators and state higher education officials, the following questions need to be addressed:

- 1) How does a state's governance structure impact the usefulness of *Measuring Up* in determining higher education policy decisions?
- 2) How has *Measuring Up* helped in addressing the issue of affordability?

- 3) Is Measuring Up a useful tool in developing state higher education policy?

Since the goal of Measuring Up is to influence policy decisions, it is important to know how higher education decisions are made and how the state's history and governance structure impact that process. This information will assist in determining if the NCPPHE identified the appropriate target audience in developing "Measuring Up", and if that audience has been influenced by the report cards. Identification of each state's policy culture as related to higher education will also assist in determining if state legislators and state higher education officials are in a position to effectively impact higher education policy or whether the real policy decisions are made at the institutional level.

During the first three reporting years (2000, 2002 and 2004) incompletes were given in the learning category, which is the category reflective of the public's demand for responsible educational practices. The question is whether the incompletes reflect that states are not addressing the issue, that the measures utilized by the report card are insufficient, or that there is no objective definable measure of individual learning and resultant societal benefits. Understanding a state's revenue structure should be considered in determining where funding to support higher education comes from and what the priorities for usage of state revenue are, which is reflective of postsecondary education's priority within the state.

Methodology

Fieldwork consisted of interviews with those in a higher education policy decision making capacity, such as the Secretary of Education, members of each state's higher education governing/coordinating body and legislative committee members and staff. The three states studied were North Carolina, Virginia, and Maryland. The states are in close proximity to facilitate data collection. Dr. Gordon Davies, a member of the National Center for Public Policy and Higher Education, provided any additional insight on Measuring Up and current issues in higher education policy development.

Summary

Measurements, comparisons and grading systems are an integral part of U.S. society. From the moment a child is born he/she is measured, assigned a percentile ranking and placed in a cohort group. Not only is the measurement and grading of individuals done on a daily basis, but so are the food, neighborhoods, systems, organizations, essentially everything we encounter. Our educational system, at times, appears to be the major focus of such analyses, with an abundance of ways to measure student learning and institutional effectiveness. Traditionally these types of comparisons and measurements are done on the elementary and secondary education levels, where high stakes tests, funding levels and learning outcomes are frequently used as measures of policy effectiveness.

However, higher education is uniquely different in each state with varying degrees of importance and support among states, making it difficult to compare or measure policy effectiveness among states. Measuring Up, a report produced by the

National Center for Public Policy and Higher Education, is the first national comparison of higher education practices by state. The report takes on the theme established by the No Child Left Behind policies instituted by the Bush Administration and applies it to the various states' postsecondary educational systems.

Although Measuring Up has contributed to higher education discussions and has been useful in supporting state assessments and activities, its usefulness would be enhanced by working with state education leaders or representatives. Future research should also look at various programs within the states to address such issues as access, preparation, participation, affordability and others.

Whether policy makers see quality postsecondary education as a privilege for those who are considered academic elite and financially capable or viewed as an investment in the common citizenry is demonstrated in the state's higher education policies and practices. Postsecondary education is seen as a necessity in an increasingly complex global society. Therefore, it is important that an open dialogue between state policy makers, educational institutions, federal legislators and the general public regarding higher education policy is initiated and persists.

Chapter 2

Literature Review

Policy review or analysis in higher education requires an understanding of the issues, the higher education environment, and the interrelationships among the environment, the policymakers and the public. The changing environment of postsecondary education in the United States requires continuous review and analysis of policy effectiveness and intent. Policy research in higher education has been almost abandoned over the last ten years; little work has been done directed toward the policy issues that will confront the U.S. over the next ten years.

A comprehensive understanding of the environment and culture, including values, important current and historical issues, organizational structures and the decision making process is required for effective policy analysis (Gill, 1992). Policy analysis includes a review of everything and everyone that has an interdependent relationship with the issue being discussed. In higher education this includes federal state and local government, faculty, staff, students and parents, public and private institutions, non-profit and profit organizations, and etc. However, time constraints and resources limit the number of factors that can be included in the analysis. This study will focus on the influence of state governance structures and selected higher education policymakers in three eastern states: North Carolina, Virginia, and Maryland. Since each state is impacted by the national environment and educational policies, this review will begin by assessing the national climate of higher education.

Important Federal Policy

The Higher Education Act (HEA) of 1965 was signed by President Lyndon B. Johnson on November 8, 1965. This bill represented the most comprehensive federal legislation impacting higher education institutions since the G.I. Bill of 1944. The HEA, which is administered by the Department of Education, authorizes the federal government's major student aid programs and other postsecondary initiatives. Of all federal, state, and institutional aid awarded to postsecondary students in the 2002-2003 academic year 68% consisted of student aid programs under HEA (The College Board, Trends in Student Aid, 2003).

The HEA authorizes programs that fall into four major categories: student financial aid, institutional aid, support services for secondary students, and K-12 teacher training aid. The 1965 Act consisted of eight Titles:

- Title I – Community Service and Continuing Education Programs
- Title II – College Library Assistance and Library Training and Research
- Title III – Strengthening Developing Institutions
- Title IV – Student Assistance
- Title V – Teacher Programs
- Title VI – Financial Assistance for the Improvement of Undergraduate Instruction
- Title VII – Amendments to the Higher Education Act of 1963, and
- Title VIII – General Provisions (Keppel, 1987)

Major attention was paid to providing access for the poor and the talented in the 1965 act. Titles III and IV were considered part of the Great Society program of the Johnson administration in the mid-sixties aimed at eliminating poverty and discrimination. As the cost of postsecondary education increased the focus shifted from providing equal opportunities for the poor to extending assistance to middle and sometimes upper-middle class families. The cost of higher education increased rapidly

during the late 1970's and early 80's at both public and private institutions. Middle class families found themselves unable to pay for the college education expected by their children. As a result, the federal government extended the qualifications of the Guaranteed Student Loan to help middle-class families pay for higher education. By 1986 the Higher Education Act shifted from a program that primarily supported higher education through institutional support (to include buildings and library acquisitions) to one that chiefly supported the consumer through student aid programs (Keppel, 1987).

The Department of Education's budget for the 2002 fiscal year included \$14 billion for HEA, of which over \$11 billion was to be used for student aid in the form of Pell Grants. During this same period the Federal Family Education Loan (FFEL) and Direct Loan programs were expected to provide \$38 billion in loans to students and their families (Stedman, 2002). Over the past ten years grant aid per full time student equivalent has increased by 67 percent and loans per full time student equivalent has increased by 147% (The College Board, 2003). By 1998 the Higher Education Act contained 12 Titles with Title IV, Student Assistance, containing 8 parts and various subparts. The federal government provided for over \$70 billion in student financial aid during the 2002-2003 academic year (The College Board, 2003).

The HEA also addresses such issues as the quality of post secondary institutions, the rising costs of higher education, program integrity, violence against women on campus, preparing high school students for college and a host of other topics geared toward increasing accessibility. Assisting students financially has been the focus of HEA as a means to support access and will continue to be so with the 2004 reauthorization.

State Policy Considerations

Although the federal government through the Higher Education Authorization Act has a significant impact on higher education policy, the role of the states is far more direct and impacts the daily operations of institutions as well as accessibility. Each state has its own unique structure for developing higher education policy. There are two basic perspectives in the development of state higher education structures: 1) governance – how a state oversees public postsecondary institutions and 2) statewide coordination – how the state provides for the overall coordination of higher education institutions, both public and private.

All state institutions are assigned governing boards to oversee the operation of the institution. The boards, which were modeled after those of private colleges and universities, have responsibilities that are very similar to that of any nonprofit organization. The governing boards typically appoint the president, establish institutional policies, approve faculty appointments, assure fiscal responsibility, and other general management functions (McGuinneas, 1994). There are three types of public governing boards:

1) Consolidated systems – one board represents either all public campuses (including two- and four-year institutions) or one board represents all four-year institutions, with two-year institutions handled separately. Two-year institutions may be operated under a separate board or have different reporting arrangements entirely.

2) Single institution board – each institution has its own independent governing board that does not operate under the authority of a consolidated board or multi-campus

system. Consolidated systems may have individual boards for separate campuses, however the authority of the campus boards are delegated by the consolidated board.

3) Segmental systems – separate boards represent different types of institutions or campuses. Separate boards may be established for research universities, community colleges, comprehensive institutions, or technical institutes (McGuinness, 1994).

The term “statewide coordination bodies” typically refers to the agencies established for the specific purpose of coordinating activities between the state and the higher education institutions. The coordinating board or agency is normally responsible for the following functions:

1) Planning – incorporates strategic planning that addresses the state’s long-term needs and establishes the state’s general higher education goals and objectives. The board or agency recommends higher education policy, taking into consideration institutional and state resources.

2) Setting higher education policy agenda – increasingly coordinating boards are responsible for developing higher education policies that address the current issues most affecting the general public, such as access, participation, costs and measuring performance. Many governors and legislators see this function as an opportunity to affect institutional change and are advocating that coordinating agencies take a more visible and aggressive role in instigating institutional change.

3) Policy analysis and problem resolution – includes preparing special studies on general higher education issues that impact the postsecondary or state community as a whole rather than an individual institution. The research may also include specific in-

state related issues such as the transferability of community college credits to four-year institutions, or the viability of certain programs within specific regions.

4) Mission definition or approval – a number of states define the missions of the public institutions within the state; rather than defining an institution’s mission at the state level, others approve the mission statements and any changes or alterations made to the statements. An institution’s mission statement is intended to be a guiding factor for making decisions regarding issues such as program and degree offerings, administrative reorganizations, and budget development among other comprehensive institutional functions.

5) Academic Program review – states review institutional proposals for the creation or elimination of academic programs. Many states conduct periodic reviews of existing programs as well, to determine the viability as well as the quality of program offerings.

6) Budget development – all states have instituted policies and processes for the review and approval of institutional operating and capital outlay budgets. Policies on fund allocation and fiscal responsibility are also determined at the state level. How a state’s higher education agency is involved in the process varies.

7) Student financial aid and other program administration – administrative responsibility for the oversight of federal and state programs is assigned to one or more agencies. These responsibilities typically involve administration of state grant and loan programs, as well as federal reporting requirements.

8) Information, assessment and accountability systems – data collection and reporting is the most common core function of coordinating bodies. This information is reported by various means and used by a variety of audiences, from state legislators in budget development to families in institution selection. The reports generally consist of information on enrollment, institutional characteristics, revenues and expenditures, and performance indicators.

9) Institutional licensure and authorization – all states have statutes regarding institutional licensure and authorization to operate within the state. Both public and private institutions must adhere to the states' policies. Initially the federal Higher Education Act created Part H which required states to designate a State Postsecondary Review Entity (SPRE) to review institutions for continued eligibility to participate in federal student aid programs. However, the 1998 reauthorization of HEA eliminated the language authorizing the entities because they were unfunded (Association of American Universities, 2002; McGuinness, 1994).

State systems reflect some type of variation or combination of the two perspectives described. The three basic types of state structures are the 1) consolidated governing board states, 2) coordinating board states or 3) planning agency states. Beyond these three basic distinctions differences in state history and political culture is important in assessing differences among states.

Many states have a history of commitment to higher education either through private institutions or state initiatives. A number of northeastern and Midwestern states have a long history of highly respected private institutions that serve a large number of

the state's population. As indicated by McGuinness, (1994) some states have long-standing traditions of recognizing, and many times chartering, private entities to serve public purposes. Other states have strong traditions for carrying out public purposes only through publicly owned and controlled entities. These cultural differences are based in the extent to which higher education is seen as a societal or individual benefit. This difference also impacts issues regarding access and affordability, the setting of tuition and fees in public institutions, the level of student institutional funding, and state student financial aid support (McGuinneas, 1994).

Access

Beginning with the passage of the G.E. Bill in 1944 and the National Defense Education Act of 1958 and culminating in the Higher Education Act of 1965, access has been central to federal higher education policy development. The concept that postsecondary education needs to be increasingly available to citizens has been embedded in federal legislation (Eaton, 1992). Initially, the commitment to access was to provide opportunity for returning World War II veterans to make up for time spent in the military by obtaining a college education. Policies were aimed at overcoming the financial barriers to college attendance. The HEA of 1965, as previously indicated, expanded this concept beyond veterans to the general population.

The increase in the number of community colleges and open enrollment policies in the 1960's and 1970's impacted the notion of access tremendously. The problem of access was no longer limited to the academically qualified but financially unqualified. It was expanded to mean overcoming a lack of academic preparation as well as financial

barriers. During the 1970's enrollments grew exponentially in post secondary institutions. Along with the substantial increase in enrollment came an increased interest in the status of women and minorities in higher education attainment. The definition of access was expanded again to include relieving the historical barriers of racism and sexism (Eaton, 1992).

By the close of the 1980's access policy involved the aspect of choice. The extent to which "educational segregation" impacted college attendance was of growing concern. "Educational segregation refers to the confinement of students of specific race, gender, or socioeconomic status confined to specific sectors of higher education with limited opportunity for them to participate in other sectors" (Eaton, p.2, 1992). Private liberal arts colleges and doctoral-granting research institutions served the fewest number of women and minorities while the less prestigious institutions had the greatest presence (Eaton, 1992).

Although the definition for equal access has expanded over the course of the four decades, the notion of financial assistance has remained fundamental to access policy. As indicated by Immerwahr in *Public Attitudes on Higher Education*, (2004) the public has a growing concern about access to higher education. This concern relates very strongly to the availability of financial aid. Immerwhar's survey results revealed that 58% of the parents of high school students responding indicated that there are many who are qualified to attend college but do not have the opportunity. Only 46% of the parents felt that "almost anyone who needs financial help to go to college can get loans or financial aid" (Immerwahr, p. 5, 2004). It is also notable that a majority of African

American and Hispanic respondents feel that many qualified people in their state do not have an opportunity go to college (Immerwahr, 2004).

Affordability

Increases in tuition, fees and other costs of postsecondary attendance have become an issue of concern for parents, student and policymakers. The average cost of undergraduate tuition, fees, and room and board rose from \$5,206 for the 1987 academic year to \$12,925 for the academic year ending 2004. Between academic years 1987 and 2004 costs for an undergraduate education by 160% for both 4-year public and private institutions while those for 2-year institutions increased by 103% (National Center for Education Statistics, 2004).

College costs have increased at twice the rate of inflation in the 1980's and 1990's. Various explanations have been given for these increases:

- 1) Increases in the costs of goods and services purchased.
- 2) Tuition increases are needed to support expanded or improved services.
- 3) Revenue from other sources has decreased.
- 4) Competitive pressures for faculty and students have forced an increase in tuition and fees.
- 5) Increased availability of student aid has made it easier to increase costs
- 6) State economic crises have reduced funding support.

The balance between federal, family and state financing of postsecondary education has been a debatable topic since the institution of the Higher Education Act in 1965. State

and federal policies have tried to address this issue in varying ways. Unfortunately, until recently little direct attention has been given to affordability over the last decade.

A study of higher education finance conducted in the 1990's by the California Higher Education Policy Center found a pattern of "policy drift" at the state and federal levels. The lack of specific debate regarding affordability has resulted in the federal government utilizing a financial aid system dominated by student borrowing and states shifting educational costs to the student and families. Changes in the public finance of higher education are occurring based upon short-term budgetary constraints and political circumstances. Long term analysis of the cumulative effects of these cost increases on the ability of postsecondary education to meet state and national needs have not been completed.

As indicated by Trombley (2003) in *The Rising Price of Higher Education*, tuition and mandatory fee charges at four-year public institutions rose in every state while community college tuition and fees rose in all but two states, California and Maine. The following chart illustrates percentage increases for tuition and mandatory fees in the three states selected as well as per capita income and state appropriation increases.

<u>State</u>	<u>Tuition & Fees</u>		<u>Per Capita Income</u>	<u>State Appropriations</u>
	<u>2-yr</u>	<u>4-yr</u>		
Maryland	9%	8%	3%	1%
North Carolina	10%	19%	1%	no change
Virginia (Trombley, 2003)	13%	9%	<1%	-5%

According to the College Board, during the ten-year period ending in the 2002-2003 academic year, after adjusting for inflation, average tuition and fees at both public and private four-year colleges and universities rose 38 percent. Tuition has run more than 100 percent ahead of the Consumer Price Index (CPI) since 1981, while the median family income has risen only 27 percent in real terms (Boehner, 2004). As a result of this trend Representative Howard P. McKeon (R-CA) authored the *Affordability in Higher Education Act*. The bill establishes a “College Affordability Index.” The College Affordability Index (CAI) is determined by comparing tuition and fee increases over a three year period to increases in the rate of inflation over the same time period. The Index will be made publicly available by the U.S. Department of Education via the internet by 2008 (Boehner, 2004).

The bill adds an accountability provision for dramatic cost increases, beginning in 2008 colleges and universities will be held accountable for College Affordability Index scores above 2.0. If an institution increases its tuition and fees more than twice the CPI for an interval of three years the institution must provide the following information to the U.S. Department of Education: 1) an explanation of the factors contributing to the increase in the institution’s costs in tuition and fees charged to students; 2) a management plan stating the steps the institution is and will be taking to reduce its CAI; and , 3) an action plan, with a schedule, by which the institution will maintain or reduce increases in costs and tuition and fees. In instances where the institution does not control the tuition and fees charged, the state or other responsible body that does set tuition must be involved in addressing the requirements as well. Institutions failing to comply with their

own management plans after two academic years will be required to submit a detailed accounting of all costs and expenditures and be placed on “cost affordability alert” status (Boehner, 2004).

Lost cost institutions will be provided an exemption from participation in the requirements of the bill other than determination of the Affordability Index. The General Accounting Office will publish a list of institutions that reduce their CAI score and conduct a study of the policies and procedures implemented by those institutions. The information will be used to assist in the determination of best practices in extending affordable education to students across the country (Boehner, 2004). The bill was passed as part of the *College Access and Opportunity Act of 2005* on July 22, 2005.

National Assessments

Although educational progress is of national concern, the responsibility for the development and implementation of educational policy at all levels (elementary, secondary and postsecondary) rests with the individual states, while the federal government’s role is considered secondary. Although not regarded as the primary influencer of state decision making, the federal role in the shaping of state educational policy through funding practices is extremely influential. Traditionally, state comparisons or assessments of educational progress are done on the elementary and secondary levels, where high stakes tests, funding priorities and learning outcomes are frequently used as measures of policy effectiveness.

High stakes testing is considered one of the most controversial forms of measuring student learning outcomes. High stakes tests are those in which the results

have important and direct consequences for the individual student test taker and educators. Consequences include the denial of a high school diploma, removal of school accreditation, financial rewards, and licensure among others. Examples of high stakes tests include the SAT, Virginia's SOL tests, the bar exam, and so forth. Conversely, low stakes tests are those for which the consequences are only indirect or of little importance for test takers or sponsors. The National Assessment of Educational Progress (NAEP), also known as the Nation's Report Card, is the most widely known low stakes test.

The NAEP is a national assessment exam of what U.S. American students know and can do in various subject areas. The tests are conducted periodically in reading, mathematics, science, writing, the arts, civics, geography and U.S. history. It offers results in subject matter achievement, instructional experiences, and school environment for populations of students and various subgroups; individual results for students or schools are not given. Three evaluations are done as part of the NAEP assessment process: the National NAEP, State NAEP and the NAEP long term trend. What makes the NAEP important to national and state policy makers is that it is used as an indicator of how well we are educating our citizenry and to determine if we are keeping up with or are ahead of other nations in our educational endeavors.

The National Assessment of Educational Progress measures student achievement for elementary and secondary education; "Measuring Up," however, is the first national comparison of higher education practices by state. Measuring Up, which has been characterized as the Nation's Higher Education Report Card, incorporates all postsecondary institutions in its analysis. Each state is evaluated in six different

categories; each area produces a grade ranging from the traditional A to F. Measuring Up is seen as the first real attempt to measure higher education policy nationally.

History of the NAEP

The National Assessment of Educational Progress has been in operation for over 30 years. Its roots are founded, however, in the 1830's. "After the American Revolution interest in education rose even more as political leaders and educators stressed the need for an educated citizenry in the new republic" (Vinovskis, 1998, p.3). However, continued fear of centralized governmental power prohibited the collection of data from school districts, by state superintendents even, making it difficult, if not impossible, to assess the country's needs and bring about educational reform. The Civil War led to additional neglect in schooling. After the South was defeated and the nation began the rebuilding process the continuing neglect of education became even more apparent, creating the opportunity and support for educational reform. "The ascendancy of Republicans in Congress and the White House who favored more government assistance also helped" in the creation of the Department of Education in 1867 (Vinovskis, 1998, p. 4). The bill introduced by Representative James Garfield of Ohio stated:

Be it enacted by the Senate and House of Representative of the United States of America in Congress assembled, That there shall be established, at the city of Washington, a Department of Education, for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several States and Territories, and of diffusing such information respecting the organization and management of school and school systems, and methods of teaching, as shall aid the people of the United States in the establishment and maintenance of efficient school systems, and otherwise promote the cause of education throughout the country. (Cohen, 1974, p. 1406)

Although the original backers of the Department of Education hoped for a more extensive role for the agency, the poor administrative practices of the first Commissioner, Henry Barnard, led to the narrow interpretation and acquiescence of the department's activities to data collection and dissemination. During this time the Department was also demoted to the Bureau of Education within the Department of Interior (Vinovskis, 1998). Educational statistics continued to be collected and utilized during the early 1900s, although by this time it was evident that the compilation and distribution of data by itself was of little help in furthering educational reform. Attempts to increase federal involvement in education in the 1930s and '40s failed (Jones, 1996). Two events, beginning in the mid 1950s, helped to yet again stimulate federal awareness and involvement in education.

Though normally only cited for its impact upon the Civil Rights Movement of the 1950s and '60s, *Brown v Board of Education* brought federal attention to the disparity in public education as a result of segregation. It also reemphasized the importance of education to American life. In delivering the 1954 opinion of the Supreme Court rejecting public school segregation, Chief Justice Warren indicated that "...education is perhaps the most important function of state and local governments...it is required in the performance of our most basic public responsibilities, even service in the armed forces. It is the very foundation of good citizenship" (*Brown v. Board of Education, 1954*).

In October of 1957, just three years after the *Brown* decision, attention was again drawn to the condition of education in the United States as a result of the launching of Sputnik by the then Soviet Union. The Soviets were able to orbit Sputnik 1 and Sputnik

2 before the United States was able to attempt its first launch. After two failed attempts, in December 1957 and February 1958, the American public lamented the superiority in technological advancement (or educational gains in science and technology) of the Soviet Union over the United States. This very public embarrassment led to the ouster of the Republican Party in the White House and the inauguration of the Kennedy presidency (Launius, n.d.).

As a result of his assassination in 1963, public sympathy for Kennedy led to a landslide victory for Democratic President Lyndon B. Johnson and the election of a more Democratic Congress in 1964. President Johnson was able to pass the Elementary and Secondary Education Act (ESEA) of 1965, which increased funding for federal educational research and development, among other education initiatives. A part of the new directive involving educational research was the planning and development of a national student assessment system. The inclusion of ways to assess students learning reflected the growing interest in governmental accountability initiated during the Kennedy administration (Vinovskis, 1998).

The driving force behind the creation of the national assessment was Francis Keppel, the Commissioner of Education from 1962 to 1965. Keppel bemoaned the fact that the U.S. “had no satisfactory way of assessing whether the time spent in school was effective” (Keppel, 1996, p. 108) and called for the assessment of students as a part of the department’s responsibilities to report on the condition and progress of education as designated in the establishment of the Department of Education in 1867. In 1963 Keppel enlisted the help of Ralph Tyler, charter director of the Center for Advanced Study in the

Behavioral Sciences, a psychologist and prominent educational evaluator, and John Gardner, then president of the Carnegie Foundation, an independent policy and research center. Tyler was considered to have played a crucial role in the development of NAEP; his understanding of item construction and test administration was seen as paramount to the organization and development of the test instrument (Vinovskis).

The Carnegie Foundation funded two conferences in 1963 to plan an assessment program. In the summer of 1964 the Carnegie Foundation sponsored the Exploratory Committee on Assessing the Progress of Education (ECAPE) with additional funding from the Ford Foundation. With Tyler as chair, ECAPE was formed to design a system to monitor trends in the nation's educational progress. Gordon, Tyler and Keppel originally envisioned that the data obtained would be reported at the state level, allowing state and local officials to compare results and reform their schools and or educational policies to remain competitive. It was also anticipated that the data could be used in the allocation of federal education dollars (Jones, 1996).

State-level reporting received opposition from many, including two major educational associations, the American Association of School Administrators (AASA) and the National Council of English Teachers. As a result, ECAPE altered its plans for reporting from the state level to the regional level. In 1968, with the support of federal funding the word "exploratory" was dropped from its name and ECAPE became the Committee on Assessing the Progress of Education (CAPE). In 1969 under the leadership of George Bain, an AASA official, the administration of the student assessments was transferred to the Education Commission of the States (ECS) in Denver,

Colorado. ECS, an interstate compact, was created in 1965 to improve public education by facilitating the exchange of information, ideas and experiences among state policymakers and education leaders. Created as a nonprofit, nonpartisan organization involving key leaders from all levels of the education system, ECS was seen as a mechanism for improving and strengthening education policy and policymaking at the state level (Jones, 1996). “CAPE became an advisory committee and ECS set up a Project Policy Board to oversee the undertaking. The entire project was renamed the National Assessment of Educational Progress” (Vinovskis, 1998, p.8).

Prior to 1969 the majority of the funding for the assessment project came from the Carnegie Foundation, however, by 1972 the federal government fully supported NAEP. In the early 1970s the monitoring of NAEP was transferred to the National Center for Educational Statistics (NCES), moving oversight of the program to an agency solely concerned with collecting and analyzing data. By 1973, the now entitled United States Office of Education had considerably more oversight of NAEP (Jones, 1996; Vinovskis, 1998).

It was at this time that questions about the policy relevance of the assessments began to emerge, with the argument that without state and local data the information disseminated was not useful to state or federal officials. In 1976 an analysis by the U.S. General Accounting Office (GAO) indicated that the results should be made more functional for policymakers. This prompted reorganization in 1978 when Public Law 95-561 was enacted by Congress transferring the program to the National Institute of Education (NIE). The legislation required it to be either a grant or contract with a

nonprofit education association. Public Law 95-561 also created an Assessment Policy Committee to be responsible for the design of the NAEP instrument which included the oversight of studies to evaluate the measurement's validity, effectiveness and use. The NAEP continued to report, nevertheless, on national and regional level findings (Vinovskis, 1998).

In the 1980s under the presidency of Ronald Reagan the newly renamed U.S. Department of Education (DOE) came under attack. The Reagan administration sought to eliminate the department and federal involvement in education. Strong bipartisan support of the DOE kept this objective from being realized, however. Though the first Reagan administration showed no real interest in educational reform, the publication of *A Nation at Risk* focused national attention once more on the condition of education in the United States.

A Nation at Risk was developed by the National Commission on Excellence in Education created by Secretary of Education Bell in 1981. The charge of the Commission was to assess the quality of teaching and learning in U.S. schools; compare U.S. educational institutions with those of other advanced nations; study the relationship between college admission requirements and student high school achievement; identify educational programs resulting in college success; assess the degree to which social and educational changes have impacted student achievement; and define problem areas (The National Commission on Excellence in Education, 1983, pp. 1-2). The report lamented the dismal state of education in the United States. It also served as a platform from which Secretary Bell could focus on educational achievements and hold states responsible.

The only state level achievement information available came from ACT or SAT scores, which only represented those students considering a college education. Although used by the Secretary of Education in his famous wall chart comparisons of the states the ACT and SAT data was seen by many as being statistically flawed (Vinovskis, 1998). Although not introduced until 1988, this lack of valid comparable state-by-state data opened the door for the development of state level NAEP assessments.

In 1986 the Alexander-James study group was formed by Secretary of Education William Bennett to investigate the validity and usefulness of the NAEP. The group recognized the value of the current assessment program, but also criticized the lack the useful state level data for policy decision making. The Alexander-James study group report recommended:

- 1) comprehensive state level assessments for each state;
- 2) regular assessments of reading, writing, and literacy; mathematics, science, and technology; and history, geography, and civics;
- 3) the determination of the acquisition of pertinent “higher order” skills as well as basic skills, knowledge, and concepts;
- 4) collection of data in the more important transition grades of 4, 8, and 12; and
- 5) creation of a new Educational Assessment Council to oversee the redesign of the NAEP with permanent staff. (Alexander & James, 1987, pp. 4-5)

Much of the Alexander-James study group’s recommendation was incorporated in the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988, “the largest reauthorization of the Elementary and

Secondary Education Act (ESEA) of 1965” (Vinovskis, 1998, p. 16). Under this legislation the National Assessment Governing Board (NAGB) was established and two trial state assessments authorized. The controversy over expanding the NAEP to state and local levels continued, and the National Academy of Education (NAE) was commissioned to evaluate the trial assessments. After additional trials were completed, the NAE endorsed the state NAEP and asked Congress to reauthorize it on a permanent basis in 1994. The recommendation was incorporated in the ESEA of 1994 with regular review and Congressional oversight (Jones, 1996, p. 17).

Recognizing the growing demand for state NAEP data and limited funding the NAGB initiated a redesign of the NAEP. In 1996 the board adopted a “Policy Statement on Redesigning the National Assessment of Educational Progress;” the document addressed ways to improve national as well as state NAEP. In March of 1997 the NAGB adopted a schedule for national and state tests through the year 2010.

Relevance to Higher Education Policy

At first glance it does not appear that the National Assessment for Educational Progress would have a direct influence on states’ policies regarding higher education. However, the assessments, in their original form, were to serve as indicators of what U.S. students in each generation know and can do, and chart the advancement of education in the United States. Ideally, information obtained for NAEP assessments could give policy makers an opportunity to see and plan for the changes in high school populations, including graduating seniors; allowing state higher education policy makers an opportunity to plan how to meet the needs of new graduates. Policy makers would be

able to consider the diversity in the demographic, intellectual and financial profile of not only current postsecondary students but those of entering populations for the next four to five years in their decision making. On a national level, the assessments would influence funding of educational research and financial assistance to state educational programs (elementary through postsecondary) as well as individual students.

Unfortunately, the assessments have been used to decry the poor state of the public educational system and inabilities of the current generation of students, to support high stakes testing, and the need for more assessments. Measurements such as the NAEP can only influence policy if policy makers take responsibility for the policies themselves and their charge to support the common good of their constituents. As indicated by Goodchild, Lovel, et. al. (1997), “any study of policymaking should pay equal attention to broader influences, including the limits of human reasoning, the tension between analysis and power, the special role of business, and the extent of socioeconomic and political inequality in American society. The state of the economy, political power, social demands, and public ideas significantly direct policy choices.” Therefore, the intents, values, prejudices and goals of policy makers can not be discounted in the evaluation of policy effectiveness.

Measuring Up attempts to focus attention upon educational policies within each state and how those policies impact postsecondary education within the state. The degree to which states value and support higher education varies significantly. Whether policy makers see quality postsecondary education as a privilege for the academic elite and

financially capable or as an investment in the common citizenry is demonstrated in the state's higher education policies and practices.

Measuring Up reports state grades in two year cycles; reports have been issued for 2000, 2002, 2004, and 2006. The general method for scoring and grading individual state performance is based upon a set of relevant indicators for six categories: preparation, participation, affordability, completion, benefits and learning. The indicators represent variables that explain statewide variations in category performance. State performance on different indicators is compared using an indexing method in which raw scores for each indicator are scaled to the median value of the top five performers. This developed median of "best performance" is used as a benchmark for all other states. Each state's raw scores are then divided by the benchmark scores on each indicator in each of the separate categories (NCPPE, 2002, Technical Guide, p.3).

Each state's score is then multiplied by a predetermined weight that accounts for the indicator's relative importance in predicting category performance. The value of each weight was determined by using existing quantitative research that documents the significance of the variables as measures of performance. The sum of all assigned weights total 100%. Once the value of each indexed indicator is multiplied by the appropriate weight, the weighted indexed values are totaled. The single best performer is then identified for each category, its overall score in the category is set to 100, and the overall scores of all other states are indexed to this. The result is the category index score to which alphabetic grades are assigned for each state as follow:

93 & above	A	73 – 76	C
90 – 92	A-	70 – 72	C-

87 – 89	B+	67 – 69	D+
83 – 86	B	63 – 66	D
80 – 82	B-	60 – 62	D-
77 – 79	C+	Below 60	F

(NCPPE, 2002, Technical Guide, p.3).

The raw score grades for North Carolina, Virginia, and Maryland are as follows for each category; all states received an incomplete in learning, as a result of insufficient data (details of the measures may be found in Appendix A):

STATE COMPARISON RESULTS: RAW SCORES				
PREPARATION				
	GRADE			
STATE NAME	2000	2002	2004	2006
Maryland	B+	B+	A-	A-
North Carolina	B	B+	B	B+
Virginia	B	B+	B+	A-

The thirteen indicators for the preparation category are grouped into four clusters:

1) High school performance, 2) K-12 course taking, 3) K-12 student achievement, and 4) Teacher quality (new in 2004).

Preparation: Indicators and Weights*

Indicator	Weight
Cluster 1: High School Completion	20%
18- to 24-year-olds with a high school credential	20%
Cluster 2: K-12 Course Taking	35%
9 th to 12 th graders taking at least one upper-level math course	8.75%
9 th to 12 th graders taking at least one upper-level science course	13.125%
8 th grade students taking algebra	8.75%
12 th grade students taking at least one upper-level math course	4.375%
Cluster 3: K-12 Student Achievement	35%

8 th graders scoring at or above “proficient” on the national assessment exam in math	3.5%
8 th graders scoring at or above “proficient” on the national assessment exam in science	3.5%
8 th graders scoring at or above “proficient” on the national assessment exam in reading	3.5%
8 th graders scoring at or above “proficient” on the national assessment exam in writing	3.5%
Low-income 8 th graders scoring at or above “proficient” on the national exam in math	3.5%
Number of scores in the top 20% nationally on SAT/ACT college entrance exam per 1,000 high school graduates	8.75%
Number of scores that are 3 or higher on an Advanced Placement subject test per 1,000 high school juniors and seniors	8.75%
Cluster 4: Teacher Quality	10%
7 th to 12 th graders taught by teachers with a major in their subject	10%

HIGH SCHOOL COMPLETION:

The high school completion indicator reflects the number of 18 to 24-year-olds in the state that are considered to be minimally certified to participate in postsecondary education. Minimally certified is defined as those who hold a high school diploma or alternative certification such as a GED. The indicator takes the number of eighteen to twenty-four years olds holding a high school diploma or alternative certification divided by the total number of eighteen to twenty four year olds in the state, excluding those currently enrolled in high school or pursuing an alternative certification.

K-12 COURSE TAKING:

The K-12 course taking indicator is designed to measure the percentage of public high school students in the state who took one or more math and/or science courses

during the previous school year. The math courses include geometry, algebra 2, integrated math 3, trigonometry, pre-calculus, calculus, and AP calculus. A separate but similar indicator to math course taking, science course taking, measures the extent to which students in the state were enrolled in one or more of the following science courses during the previous school year: chemistry or physics, second-year biology, AP biology, second-year earth science, or other advanced science courses. Although high school course taking in humanities is also important to students' preparation, neither the Council of Chief State School Office (CCSSO), who track courses taken by high school students, nor any other organization collects this type of comparative data from the states.

The separate indicator for twelfth graders taking at least one upper-level math course was added for the 2002 report. This measurement of the percentage of public high school seniors in the state who took at least one advanced math course during the school year under review was added as a result of the attention that has been paid, in recent years, to the problem of America's high school seniors taking "easy" or non-challenging courses their final year. The indicator provides a current status check on how many high school students maintain academic rigor during their last year. Students tend *not* to take academically demanding courses after their graduation requirements are met or being accepted to a college, thus their preparation for postsecondary education or the workforce may decline.

K-12 STUDENT ACHIEVEMENT:

The student achievement measure is based upon four components: the percentage of eighth graders scoring at a level of proficient or advanced on the National Assessment

of Educational Progress (NAEP), the percentage of low-income eighth graders scoring proficient or better on the NAEP exam in math, the number of scores in the top 20% nationally on the SAT or Act exam, and the number of scores that are three or higher on the advanced placement subject test. The first indicator describes the percentage of 8th graders enrolled in public school whose performance on the NAEP exam in science, reading and writing was “proficient” or “advanced.” Academic proficiency levels are determined by the National Assessment Governing Board, based on judgments about what students should know and be able to do. The state results reported in *Measuring Up 2006* uses the most current data available and is a combination of the 2005 and 2000 assessments. The second indicator also focuses on the achievement of eighth graders, describing the percentage of public school 8th graders who are eligible for free or reduced-price lunch and whose performance on the National Assessment of Educational Progress (NAEP) exam in math was “proficient” or “advanced.”

The number of scores in the top 20% nationally on SAT/ACT college entrance exam per 1,000 high school graduates indicator reflects the prevalence of four-year college entrance exam taking throughout the state as well as the achievement level that student test takers demonstrate. Nationally 22% of student test scores were at or above 1200 on the SAT in 2003. Students attaining a score of 1200 or higher approximate the top quintile (20%) of SAT test scores. ACT exam scores of 26 are the equivalent of a 1200 on the SAT test. The National Educational Longitudinal Study (NELS: 88) indicates that 15% of high school seniors take both the SAT and the ACT, although data are not collected in such a way as to provide an unduplicated count of test takers. This

indicator measures not the number of test takers in each state, but the number of test scores for each state that are among the top 20% nationally. Constructed this way, the measure estimates the number of high school graduates demonstrating a high performance on the college preparatory exams.

The number of scores that are 3 or higher on an Advanced Placement subject test per 1,000 high school juniors and seniors measures the number of Advanced Placement subject tests taken by 11th and 12th grade students with scores of 3 or higher per 1,000 11th and 12th grade students enrolled in public and private schools. This ratio does not provide information on the number of students in each state who take an Advanced Placement test; instead, the numerator measures the *total number of scores* at or above 3 allowing the measure to account for individual students who perform proficiently on more than one AP subject test. Scores at or above 3 are generally recognized for college credit. Although opportunities other than AP exist for high school students to take college-level courses, including the International Baccalaureate (IB) program and college concurrent enrollment programs, the Advanced Placement program offered by the College Board is the most prevalent in U.S. high schools and the most widely recognized for credit by policymakers and colleges and universities.

The new teacher quality indicator measures the percentage of secondary school students taught by teachers who have an undergraduate or graduate major in the field they taught during the 1999-2000 academic year. The completion of a college degree in the subject field is indicative of possessing minimum subject knowledge required to be a qualified teacher.

STATE COMPARISON RESULTS: RAW SCORES				
PARTICIPATION				
	GRADE			
STATE NAME	2000	2002	2004	2006
Maryland	A	B+	A	A
North Carolina	D	C+	C+	B-
Virginia	B-	B+	B-	B

The participation category assesses the opportunities in each state for residents of varying ages and income levels to enroll in postsecondary education. Various enrollment patterns and institution types were considered; including full- and part-time enrollment at two- and four-year institutions, and public and private colleges. However, as a result of the insufficiency of nationally comparable data, participation in non-accredited institutions, corporate or employer-sponsored education or training programs was not included. The three indicators in participation are divided into two clusters: young adults and working-age adults.

Participation: Indicators and Weights

Indicator	Weight
Cluster 1: Young Adults	60%
Chance for college by age 19	40%
18- to 24-year-olds enrolled in college	20%
Cluster 2: Working-Age Adults	40%
25- to 49-year-olds enrolled part-time in some type of postsecondary education	40%

YOUNG ADULTS:

The chance for college by age 19 indicator measures the *probability* that 9th grade students will finish high school within four years and go on to college immediately after high school (when most students are approximately age 19). No nationally comparable longitudinal data exist that precisely measure the college-going rate of 9th grade students in each state. The second indicator in this category reports the percentage of all 18- to 24-year-old young adults who are currently enrolled in education and training programs beyond high school; including both full-time and part-time enrollment.

WORKING-AGE ADULTS:

This indicator measures the percentage of 25- to 49-year-old adults with a high school credential who are currently enrolled part-time in a postsecondary institution. The indicator focuses on part-time enrollment to assess the opportunities for working-age adults in each state to participate in some form of higher education, including both undergraduate- and graduate-level enrollments.

STATE COMPARISON RESULTS: RAW SCORES				
AFFORDABILITY				
	GRADE			
STATE NAME	2000	2002	2004	2006
Maryland	D	D-	F	F
North Carolina	A	C	D-	F
Virginia	C	B-	D-	F

Affordability of post secondary education within each state is based on three concepts: 1) the students' and families' ability to pay for college given the type of

institution they attend, the financial aid they receive and their income constraints; 2) the amount of need-based grant assistance they receive to offset expenses; and 3) the loan burden associated with higher education expenses. The NCPPHE uses six indicators that combine data from a variety of sources. These indicators are then used to calculate what is considered by NCPPHE to be a reasonable estimate of the net costs students and their families in a state pay for higher education as well as the extent to which states employ policies to make college education more affordable for students and families in the state. Currently there is no comprehensive, student-level, comparable state data depicting cost of attendance for higher education. The category uses best estimates to assess the extent to which college is affordable for residents of varying income levels in each state.

Indicator and Weights

Indicator	Weight
Family ability to pay	50%
Family ability to pay at community colleges	Weighted by student enrollment in sector
Family ability to pay at public 4-year colleges	Weighted by student enrollment in sector
Family ability to pay at private 4-year colleges	Weighted by student enrollment in sector
Strategies for affordability	40%
State investment in need-based financial aid as compared to the federal investment	20%
At lowest-priced colleges, the share of income that the poorest families need to pay for tuition	20%
Reliance on loans	10%
Average loan amount that undergraduate students borrow each year	10%

For Measuring Up 2004 two changes were introduced in the affordability category. Economic conditions can change considerably over a two year period; therefore NCPPHE attempted to make the grades more responsive to changes in state conditions. As cited previously major changes in tuition, state appropriations and financial aid occurred in the last two years, directly impacting a family's ability to pay for

college. To measure current state performance Measuring Up 2004 began using data from the most recent two years available, therefore some data refers to the past year, rather than two years ago (NCPPE).

As a result, the data are more updated but may not be entirely comparable with that used in the previous two report cards. Specifically, the data for tuition and room and board, state grant aid, and full-time equivalent enrollment were drawn from a different source in order to be made more current. Each state's performance for the affordability indicators is now calculated in relation to the performance of top states for 1992. For all other graded categories, state performance is benchmarked against the best performance for the current year. The weighted sum of indicator index scores is used as the overall category score that determines the grades for the category. Using a historical benchmark enables states to be measured on a reliable standard, resulting in grades that reflect actual performance (Appendix A illustrates the differences in previous and current benchmarking methods.).

FAMILY ABILITY TO PAY:

The family ability to pay measures looks at three sectors of postsecondary education, community colleges, public 4-year institutions and private 4-year institutions. College affordability is based upon three general categories: institutional cost, efforts to meet students' financial need and students' personal/family income. The average net cost of attendance in each sector of higher education is determined by subtracting total average financial aid received (federal, state and institutional) from average expenses (tuition, fees, room and board). While students and their families incur the same level of

expenses regardless of their income, they received differing amounts of financial aid based upon their income level. Therefore, the net college costs for each family income group differs.

The Role of Family Income

Paying for college is based both on the net cost and the resources available to pay the cost. Calculations of the amount of family contribution required by low-, middle- and high-income families to attend college in each of a state's three higher education sectors is based upon the average family income in each group. This calculation measures the ability of all state residents to pay for college, regardless of whether or not they enroll in a postsecondary institution.

STRATEGIES FOR AFFORDABILITY:

This indicator measures states' commitment to provide aid for low-income students as compared to the federal contribution. Without having data to measure precisely the expected family contribution and amount of unmet need for students in each state, this indicator is a proxy measure for (1) how well the state targets aid to families with the greatest need, and (2) how much need-based aid is made available to all students. It is assumed that the state's methodology for awarding state need-based aid is similar enough to the federal methodology that the students awarded need-based aid in the state are the same students covered by the federal Pell grant program.

Tuition levels have been shown to affect whether low-income students choose to go to college. Decisions about overall tuition levels are an important part of the concept of affordability. Creating and preserving low-price option for college is an important state

strategy to ensure access for low-income students and families who would otherwise be priced out of higher education. The share of income that poorest families need to pay for tuition at lowest-priced colleges indicator averages three years of family income data from the most current data available (2003-05) to estimate family contribution. The lowest-priced colleges normally refer to the community colleges.

RELIANCE ON LOANS:

As institutional costs increase and the amount of financial aid available decrease a growing number of post secondary students utilize loans to finance their college education. Federal loans comprise more than 90% of the funds students and their families borrow to attend college. Therefore, this indicator uses the federal student loan data to estimate of the average loan amount undergraduate students borrow each year.

STATE COMPARISON RESULTS: RAW SCORES				
COMPLETION				
	GRADE			
STATE NAME	2000	2002	2004	2006
Maryland	B-	B-	B-	B
North Carolina	B+	B	B	B+
Virginia	B	B	B	B+

The completion category consists of four indicators based upon two concepts: 1) *persistence* from the first to the second year of college, and 2) *completion* of certificates and degrees in a timely manner. The percentage of students completing a bachelor's degree within five years is no longer used as a result of the discontinuation of a national survey collecting the data. However, the 6-year completion rate continues to be used in

measuring state performance; the weight for the indicator was increased from 15% to 30%.

Indicators and Weights

Indicator	Weight
Persistence	20%
1 st year community college students returning their 2 nd year	10%
Freshmen at 4-year colleges/universities returning their sophomore year	10%
Completion	80%
First-time, full-time students completing a bachelor's degree within 6 years of college entrance	30%
Certificates, degrees and diplomas awarded at all colleges and universities per 100 undergraduate students	50%

PERSISTENCE:

Using data from the ACT's *Institutional Data Questionnaires 2003, 1990 and 2004* annual surveys of postsecondary institutions, data from the National Center for Higher Education Management Systems' special analysis, the mean rate of first year community college students returning their second year is calculated as the first indicator of student persistence. The data is also used to calculate the average rate of first to second year persistence for first-time full-time and part-time students enrolled in a public or private four-year institution. Prior to Measuring Up 2006 the indicator only reported for first-time full-time students because of data limitations. Therefore indicator results between the 2006 report card and previous years may not be entirely comparable.

COMPLETION:

Older and full-time working adults consist of a larger proportion of the college student body today than the traditional 18 to 22 year old student, and more students now than in previous years take longer to complete the baccalaureate degree. By looking at a prolonged time period within which students' progress toward the bachelor's degree, this

measure intends to capture the behavior of the broader student population. Using preliminary data from the NCES *Graduation Rate Survey (GRS)*, it measures the percent of first-time full-time students enrolled in a public or private four-year institution who obtain the bachelor's degree at the institution they entered within 6 years of enrolling. Part-time students, returning students, and students who transfer to another campus are not captured in this measure. The completion rate may be underestimated for the states where such students are a large part of the student body.

Using data from the NCES Completion Surveys and Fall Enrollment Surveys for 1991-1992, 2003-2004 and state-level data provided for 2003-2004 the percent of certificates, degrees and diplomas awarded at all colleges and universities per 100 undergraduate students, including both full- and part-time students within each state is measured. The associate's and bachelor's degrees are totaled in this indicator, capturing the degree completion of students transferring from one institution to another.

STATE COMPARISON RESULTS: RAW SCORES				
BENEFITS				
	GRADE			
STATE NAME	2000	2002	2004	2006
Maryland	A	A	A	A
North Carolina	D+	D+	C	B
Virginia	B+	B	A-	A

Postsecondary education requires an investment of funding and time by the individual students, their families, individual states and the American society (the greater societal investment is generally through taxation). The returns generally desired are 1) an explanation of the benefits to be derived from various curriculums, 2) a set of expected

outcomes, and 3) demonstrated evidence on how those outcomes have been achieved.

“In return for its investment in higher education, a state expects a more productive workforce, a more informed electorate and a more literate citizenry. In addition to these public benefits, the state can expect that more highly educated residents reap private benefits such as higher lifetime earnings” (NCCPHE, 2004, p. 44). This category consists of four main areas that demonstrate economic and civic benefits received by the states as a result of having a highly educated population: 1) Educational Achievement, 2) Economic Benefits, 3) Civic Benefits, and 4) Adult Skill Levels. As a result of data limitations, interstate migrations are not represented in this category. States receive credit for having an educated population in the state since the state reaps the economic and societal rewards whether or not residents received their education in that state (NCCPHE, 2004).

Benefits: Indicators and Weights

Figure 10

Indicator	Weight
Educational Achievement	37.5%
Population aged 25 to 65 with bachelor's degree or higher	37.5%
Economic Benefits	31.25%
Increase in total personal income as a result of the percentage of the population holding a bachelor's degree	18.75%
Increase in total personal income as a result of the percentage of the population with some college (including an associate's degree), but not a bachelor's degree	12.5%
Civic Benefits	31.25%
Residents voting in 2002 and 2004 national elections	10.50%
Those declaring charitable contributions	10.375%
Increase in volunteering rate as a result of college education	10.375%
Adult Skill Levels	0%
Quantitative literacy	0%
Prose literacy	0%
Document literacy	0%

Indicator weights have been proportionately adjusted to their original weights due to changes in the category: the addition of the volunteering indicator and the discontinuance of usage of the adult skill indicators in grade calculation.

EDUCATIONAL ACHIEVEMENT:

The educational achievement indicator measures the educational attainment of the working age population. The number of adults aged 25 to 65 with at least a bachelor's degree within each state is compared to the total adult population aged 25 to 65. This indicator averages three years of the most current data, 2002-2004, to account for aberrations in any single year of data. This indicator does not control for interstate migration.

ECONOMIC BENEFITS:

This indicator measures the economic benefit of obtaining a post secondary degree. The first measurement utilizes the increase in total personal income of baccalaureate degree holders as compared with those aged 25 to 65 whose highest educational credential is a high school diploma. The same measurement is used to determine the percentage increase in total personal income as a result of the percentage of those with some college. The statewide economic benefits indicator is based upon the average net contribution of degree holders relative to total personal income.

CIVIC BENEFITS:

The civic benefit of higher education within each state is determined based upon three indicators. The first indicator calculates the number of residents within each state voting in 2002 and 2004 local, state and national elections. Data for 2002 elections were

not available for the 2004 report; therefore averages of the 1998 and 2000 results were used. Voting rates of residents by educational level were not available; the measure is used as a proxy for the civic returns a state enjoys as a result of a more highly educated population (NCPPE).

The charitable giving rate is based upon the percentage of tax filers declaring charitable contributions or gifts on their itemized federal income tax returns. The number of donors is reported rather than the value of the donations. The number of donors serves as a proxy for the citizenry's commitment to public welfare (NCPPE).

The new indicator for 2004 suggests a state's civic benefits as a result of an educated populace as measured in the area of volunteerism. "Nationally, the volunteering rate increases with the level of education, according to the Census: 21% of high school graduates volunteer nationally, while 39% of bachelor's degree holders do so. Similarly, those with some college volunteer at a higher rate than high school graduates." (NCPPE) The difference in volunteering rates between high school graduates and those with some college is measured.

ADULT SKILL LEVELS:

The adult skill level indices represent the percentage of adults demonstrating high level quantitative, prose and document literacy skills based upon an estimate of how each state has fared over the past decade in increasing its literate population. These state estimates come from a commissioned study by Stephen Reder (Portland State University). The estimates are provided for illustrative purposes and not used to calculate the state grades. Each of the three measures is described below:

Quantitative literacy measures the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials. Adults with the highest measured level of quantitative literacy, level 5, can perform multiple arithmetic operations sequentially, and can make inferences about the appropriate operation to perform without prompting from the text.

Prose literacy measures the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and fiction. Adults with the highest measured level of prose literacy, level 5, can find information in dense text with considerable distracting information that might seem plausible but is incorrect.

Document literacy measures the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables, and graphs. Adults with the highest measured level of document literacy, level 5, can use complex documents containing distracting information and make high-level inferences. (NCPPE, 2004)

LEARNING: Creating and Learning Index Scores for *Measuring Up 2006*

In the National Center for Public Policy and Higher Education's first report, *Measuring Up 2000*, all fifty states received a grade of incomplete in the "Learning" category. NCPPE indicated no data existed to compare student learning across states. A template for creating a graded category in student learning was developed and included in *Measuring Up 2002*, with data for Kentucky, all other states received an incomplete in 2002 as well. At the same time, a demonstration project was launched to collect comparable college-level testing data in five states—Illinois, Kentucky, Nevada, Oklahoma, and South Carolina. These data were collected in the fall of 2003 and are the basis for the results reported in *Measuring Up 2004* for these five states, all other states continued to receive an incomplete (NCPPE, 2004). With the availability of updated literacy data for a number of states through the National Assessment of Adult Literacy

(NAAL) and licensure and graduated admissions test data from all 50 states, partial learning measures using the 2004 methodology were reported in *Measuring Up 2006* (NCCPHE, 2006)

The Learning category was created in a similar manner to the five regular graded categories included in *Measuring Up*. Like its counterparts, the category consists of several weighted subcategories that can ultimately be combined to yield an overall grade. The Learning category contains three distinct subcategories (subcategory weights are included in parentheses):

1. Abilities of the College-Educated Population (25%): This subcategory reflects a state's overall "stock" of "educational capital" by examining the proportion of college-educated citizens who achieve high levels of literacy.
2. College and University Contributions to Educational Capital (25%): This subcategory is intended to reflect the contributions to a given state's "stock" of "educational capital" by examining the proportion of the state's college graduates (two- and four-year) ready for "advanced practice" in the form of professional licensure or graduate study.
3. Performance of College Graduates (50%): This category is intended to reflect how well the graduates of the state's two and four-year graduates can perform complex tasks related to both academic and real-world problem-solving situations. (NCPHHE 2004)

The 2006 *Measuring Up* report introduced three changes. The data behind the persistence indicators in the Completion category have improved since 2004. The measures previously relied on data from ACT, Inc., however data from the Integrated Postsecondary Education Data System (IPEDS) enrollment survey by the U.S. Department of Education became available that reported state-level persistence rates by nearly all higher education institutions in the nation and therefore was considered more

reliable. Persistence rates now also include both part-time and full-time students, making state assessments more comprehensive.

Measuring Up 2006 is the first edition that provides international comparisons for the nation as a whole and for all 50 states. The report highlights how the United States compares with other countries in providing educational opportunity and on degrees awarded. Individual state report cards compare each state's performance with international data on college participation, degree or certificate completion, and the level of adult educational attainment.

As with the 2004 edition, most states receive an "Incomplete" in Learning due to the lack of reported information; however in the 2006 report nine states receive a "Plus": Illinois, Kentucky, Maryland, Massachusetts, Missouri, Nevada, New York, Oklahoma, and South Carolina. These nine states reported adequate data in more than one of the indicator groups either through their participation in a pilot project, or by collecting additional state data for the state version of the National Assessment of Adult Literacy (NAAL) conducted in 2003.

The number of people pursuing postsecondary education in the United States has increased exponentially. Postsecondary training has become a necessity in the current global society. As the importance of higher education has increased over the last decade so has the number of high school graduates, increasing the demand on states to provide higher education opportunities for the general public. This increase in demand has necessitated that policy makers assess higher education policies and practices. As a tool to help in the assessment process the NCPPHE, in its national report card, has provided

for the measurement of postsecondary policy outcomes by state. Measuring Up provides for state by state comparison in six categories: preparation, participation, affordability, completion, benefits and learning. In order to effectively influence state policy and support the growth in demand for post secondary education, it is important to determine the individual policy environment within each state to provide what policymakers and influencers consider to be useful and relevant information.

Chapter 3

Methodology

The purpose of this study is to determine if Measuring Up has been a useful tool for policy makers and influencers in North Carolina, Virginia, and Maryland in developing higher education policy. This chapter describes the research methodology and design that was used to investigate this topic and provide the rationale for its use. Descriptions of the qualitative methodology, data collection, interview procedures, purposive sampling, participant profiles, instrumentation, data analysis and limitations of the study are included.

Higher Education policy analysis is frequently conducted to assist in the decision making process of policy makers as is the purpose of Measuring Up. Policy analysis is not, however, a linear process, each step does not automatically follow from a previous one. There are two types of objectives that must be understood in policy analysis: the objective of the student and the objective of the policymaker (Gill, 1992). Reasons for conducting policy analysis may include policy clarification, evaluation of policy impact or identification and analysis of practices that have an impact on policy. This study falls into the later category the goal of which is to determine if and/or how Measuring Up impacts state higher education policy. Policy analysis requires a comprehensive understanding of the environment and culture impacted by the policy being examined (Gill, 1992, p. 228).

Understanding the environment requires an understanding of the important current and historical issues that have impacted higher education in the states as well as understanding how the states value education. The organizational structures and decision making process impacting higher education and higher education policy in each of the three states must be researched and understood (Gill, 1992).

A basic list of environmental factors includes key individuals who are currently identified with the issue or who may become involved (for example...staff, governing board members, community leaders, and elected officials) and the responsibilities and influence of these individuals in the operation and decision-making structure of the organization” (p. 228).

Research Design

According to Bogdan & Biklen (1982, p. xiii) the emphasis of qualitative research is placed on “inductive analysis, description, and the study of people’s perceptions” (p. xiii). The researcher gained information on the higher education policy development process for each state and a variety of perspectives on the usefulness of Measuring Up as a tool in the policy process; as well as the higher education policy environment and historical context in the states’ culture. The perspectives of the participants were then used to determine important issues and how Measuring Up can be more impactful in the higher education policy process. McMillan and Schumacher (2001) in their draft papers for Research in Education: A Conceptual Introduction described this type of methodology as comparative case study design:

The initial data collection is done to gain a variety of perspectives on the phenomena; then, the inquirer uses constant comparison to analyze across categories of information. After the categories of information collected is considered saturated, the researcher selects the central phenomenon, develops a story line and suggests a conditional matrix that specifies the social and historical conditions and consequences influencing the phenomenon.

The process, also known as analytic induction, is used when a specific problem, question, or issue is the focus of the research, again in this case the usefulness of Measuring Up in impacting educational policy (Bogdan, 2003). The study used in depth, open-ended interviewing and written documentation review as methods of data collection.

Data Collection

Participants

Participation from those within state governments with responsibilities in the higher education process was the focus of this study. The National Center for Public Policy and Higher Education has identified its ultimate audience as state and federal policy makers. Public opinion leaders, major business and civic leaders, higher education leaders, and senior administrators are identified as an essential audience, as a result of their ability to influence policy decisions. Members of the higher education administration community were interviewed within each state: legislative representatives, a secretary of education, a secretary of higher education and representatives from the coordinating or governing body of each state. All were chosen based upon their involvement in the higher education policy development process within their states. The interviewees were asked to share their perspective on the issues facing higher education policy makers, and the soundness and usefulness of the Measuring Up report as a policy tool. Personal interviews were conducted with the following participants:

North Carolina

- Associate Vice President, Planning, Accountability, Research and Evaluation; North Carolina Community College System
- Chief of Staff, University of North Carolina General Administration
- Executive Director, North Carolina State Education Assistance Authority

Virginia

- Executive Director, State Council of Higher Education for Virginia
- State Senator, Education and Health Committee
- Former Secretary of Education

Maryland

- Director, Maryland Higher Education Commission and Secretary Higher Education
- State Senator, Vice-Chair Budget and Taxation Committee, Chair Education, Business and Administration Sub-committee, Chair State Planning Commission for Higher Education

Two respondents from North Carolina were unable to do personal interviews. The Past President of the University of North Carolina System expressed her perception of Measuring Up's role in state policy development in North Carolina via email in response to the initial interview request. The legislative staffer for the University of North Carolina System was interviewed over the telephone.

As indicated in Bogdan and Biklen's (2003) Qualitative Research for Education, purposeful sampling is used in this analytic induction approach. The specific participants were chosen based upon their direct knowledge of their state's higher education system, educational policy development, and higher education administration in general. The researcher chose the secretaries of (higher) education for Virginia and Maryland because of their direct involvement and influence in higher education policies and initiatives for their individual states. The current secretary of education for Virginia had been in office less than six months at the onset of the interview process, therefore the former secretary of education was interviewed for Virginia. The executive director of Virginia's coordinating body was chosen as a result of his role in Virginia's higher education system and impact upon higher education policies and initiatives. The representatives of the

University of North Carolina System; the North Carolina Community College System and the North Carolina State Education Assistance Authority were chosen based upon referrals from the presidents of UNC and NCCCS. The presidents indicated that the participants would have direct knowledge of the state's policy process and usage of Measuring Up. The legislative representatives for each state were chosen as a result of their participation on or support of education committees that influenced higher education policy development. Having knowledge in each of these fields was considered to be desirable in order to facilitate the development of emergent theory(ies).

Participants were contacted by email for an interview request; at the time of initial contact the scope of the interview was explained, indicating subject matter and approximate duration. Prior approval was also obtained from the participants to audiotape the interviews. Each participant was interviewed separately. Notes were taken during each interview; additional notes were also completed after each interview indicating participant's mood and other nonverbal cues as well as ideas of interest to follow up on in subsequent interviews.

The interviews were semi-structured with open ended questions to allow for a free flow of thoughts and information from the participants and lasted from 30 to 60 minutes. Participants were asked nine open-ended questions; open-ended questions were used to gain a full perspective on the interviewees' perceptions, thoughts and allow for the introduction of issues, policies and procedures by the participants not specifically introduced by the researcher. Participant names have been kept confidential and all proper names deleted from transcript notes.

Role of Researcher

The researcher's role was that of objective interviewer. The researcher entered each interview with an open mind and no preconceptions of participants' responses. It was the researcher's responsibility to set a relaxed conversational tone with the participants to ensure a free flow of ideas and thoughts. The researcher served as timekeeper to insure that the participants' time restraints were respected and that the interviews did not last more than 60 minutes.

Document Review

Document analysis was also used in this study. According to Patton (1990), "document analysis yields excerpts, quotations, or entire passages from organizational, clinical, or program records; memoranda and correspondence; official publications and reports; personal diaries; and open-ended written responses to questionnaires and surveys" (p.10). These documents are tangible manifestations of the beliefs and behaviors that form a culture, and they describe people's experience, knowledge, actions and values (McMillan & Schumacher, 1993). State policy documents, legislative documents and other written materials were reviewed to gather information on state higher education culture, structures, policies and procedures. The individual state constitutions and legislative codes were chosen to gain an understanding of the state's policy processes and higher education structure. The remaining documents were chosen as a direct result of the interview process; these initiatives were specifically mentioned by the interviewees as examples of state activities to address postsecondary educational concerns and issues. Eight of the thirteen documents mentioned by participants were

handouts given to the researcher by the interviewees. The following documents were reviewed:

- 1) State Constitution of North Carolina
- 2) Legislative Code of North Carolina
- 3) Benchmarks: Measures of College Affordability and Student Aid in North Carolina
- 4) State Constitution of Virginia
- 5) Legislative Code of Virginia
- 6) Study on the Affordability of Virginia's Public and Private Institutions
- 7) State Constitution of Maryland
- 8) Legislative Code of Maryland
- 9) 2004 Maryland State Plan for Postsecondary Education
- 10) Maryland's Report and the Partnership Agreement Between The State of Maryland and U.S. Department of Education, Office for Civil Rights
- 11) Philosophy of Need-Based State Grant Aid in North Carolina
- 12) The Maryland Tuition Affordability Act
- 13) Maryland Regional Higher Education Center Guidelines
- 14) Focused-Growth Institutions of the University of North Carolina A Progress Report
- 15) Meeting Maryland's Postsecondary Challenges A Framework to Guide Maryland's Public Investment in Postsecondary Education in the Coming Decade
- 16) Checks and Balances at Work: The Restructuring of Virginia's Public Higher Education System
- 17) Restructuring Higher Education Financial and Administrative Operations Act of Virginia
- 18) Virginia's P-16 Education Council Report to the Governor and General Assembly
- 19) Report on the Analysis of Education Demand in Southside Virginia

Legislative documents were reviewed to obtain background information on the states established culture and legislative environment regarding higher education. The remaining documents were reviewed as a direct result of conversations with the participants. The data represented policies, issues and initiatives the participants identified as important to the current higher education environment in their representative states.

Data Analysis

Analysis of the data followed the concepts of Marshall and Rossman (1989) and described by Erlandson et al. (1993) as “a progression, not a stage; an ongoing process, not a one-time event” (p.111). The audiotapes from each interview were transcribed verbatim by an independent transcriber. The transcripts were then reviewed by the researcher for accuracy. The transcripts were sent to each participant so that all had the opportunity to clarify or edit their responses. The transcripts from each interview were read and reviewed by the researcher several times to insure that all questions were answered and to identify general concepts or themes. After each interview the researcher reviewed the tapes and interview notes from the preceding interview(s) to determine if there were any overlapping themes or concepts. The transcripts were reviewed after initial transcribing for general comprehension of the participants’ views and ideas. A second review of the transcripts was done to identify participants’ concepts and thoughts independently; a third review was completed to identify themes that transcended beyond individual interviews to establish coding categories. The emergent categories were identified by the perspectives held by the participants on a common topic or concept. Terms or phrases that the researcher identified as being noteworthy were highlighted in each transcript and identified as “coding categories” (Bogdan, 2003, p. 161).

The transcripts were then merged into an Atlas.ti® file; the retrieval process was executed for each identified term or phrase to determine the number of occurrences and the context within which each was stated. Codes were collapsed into four themes, affordability, other access, preparation and K-12 and measurements. Each concept was

categorized and assigned to a separate Microsoft Word file. Text that overlapped categories was assigned to two files. This process is what Bogdan and Biklen (2003) described in the steps of developing a coding system:

As you read through your data, certain words, phrases, patterns of behavior, subjects' ways of thinking and events repeat and stand out. Developing a coding system involves several steps: You search through your data for regularities and patterns as well as for topics your data cover, and then you write down words and phrases to represent these topics and patterns. These words and phrases are coding categories. They are a means of sorting the descriptive data you have collected so that the material bearing on a given topic can be physically separated from other data.

Data analysis in qualitative research is conducted simultaneously and continuously with data collection. Data are collected and tentative working hypotheses emerge from the data, the design is reshaped, the interviews become more focused, and the process begins in an iterative fashion until the data become redundant (Lincoln & Guba, 1985).

Validity

As indicated by Marshall and Rossman (1999) in Designing Qualitative Research "criteria for goodness in qualitative research differ from the criteria developed for experimental and positivist research" (p. 195). The traditional quantitative concepts of internal and external validity, generalizability, and replicability are employed to insure the trustworthiness of the data and conclusions drawn. Given that these two types of research differ significantly, qualitative researchers utilize different concepts in assessing value and trustworthiness. The following criteria were applied to insure rigor and trustworthiness in this study. The research proposal was submitted to the University Institutional Review Board to ensure that the study protocol met compliance with all

policies and regulations. The design and methods utilized are explained in detail for the reviewer to assess the credibility and dependability of the procedures followed and understand the methods employed. To insure confirmability, the data were organized so that information presented could be easily retrieved; personal interviews were mechanically recorded by audiotape recorders; transcripts were page and line numbered; direct quotes by participants were used within the report whenever possible, and a peer de-briefer was utilized to review transcripts and coding categories. Transcripts, field notes and working papers were maintained in a locked fire proof file cabinet.

Member checking was used to ensure accuracy of the data. Each personal interview was transcribed verbatim by the researcher. A copy of the transcript was emailed to each participant along with the researcher's thanks. A summary of the phone conversation was mailed to the phone interviewee. Each participant was asked to review the transcripts (summary) for accuracy, clarity of thought and additions. One of the ten participants responded with a minor comment and requested change. The request did not affect the substance of the statement, but changed one word from "mad" to "annoyed" in describing a third party's reaction to a statement. The responses indicate that the interview data were accurate.

An independent peer de-briefer was given a copy of the each transcript along with the researcher's summary responses to each question. The peer de-briefer is a person, not associated with the study, who served as a critical reviewer. The de-briefer reviewed the transcripts and the summaries to determine if the researcher had accurately depicted the

participant's comments and responses. The reviewer had no additional response comments and agreed with the researcher's summary.

Delimitations

In qualitative research the study is bounded by aspects such as time, guiding theory, values, and resource limitations (Gill, 1992). The boundaries of the study are:

- 1) the research is limited to studying three eastern states, North Carolina, Virginia and Maryland,
- 2) the research was limited to no more than four participants per state,
- 3) the respondents were chosen from the state level (legislators, state Secretary of Education, state governing/coordinating board members), and
- 4) the researcher's assumptions and values served as an informed place from which to begin the study.

The researcher's assumptions were as follows: Postsecondary education's role is comprehensive and involves a wide range of activities to include enhancing the quality of life for individuals and economic growth; and state higher education policies significantly impact postsecondary access and affordability.

Chapter 4

Findings

The States

Maryland, Virginia and North Carolina are three contiguous eastern states represent diverse constituents and industries. The states differ in the governance structure used to provide public postsecondary education.

Maryland's Background

Maryland, the smaller of the three states with a population just over 5.6 million, was chartered on June 20, 1632. The state constitution was ratified on November 8, 1776 and on April 28, 1788 it became the 17th state to ratify the federal Constitution. Maryland was one of ten states identified in 1969 as being in violation of Title VI and its applicable federal law by operating a segregated higher education system. Although the state developed a plan for dismantling its dual system, in 1976 the Office of Civil Rights (OCR) advised Maryland that the office had concerns over the implementation of the desegregation plan. Over the course of the next thirty years OCR has been in partnership with the State of Maryland to develop an effective plan that eliminates the remaining vestiges of its segregated system. Higher education in Maryland is served by 57 postsecondary institutions enrolling over 300,000 students. State and local higher education appropriations average five dollars per \$1,000 of personal income as of fiscal year 2006 and \$224 per capita, 15% of the state's budget.

The Maryland System of Higher Education

In 1988 the Maryland General Assembly outlined the foundation for and the development of a system of higher education in the state of Maryland. Under Division 3, Title 10 of the Education Article of the Code of Maryland, Subtitle 2 outlines the basic principles of higher education in Maryland. Those principles state:

- 1) The people of Maryland expect quality in all aspects of public higher education: teaching, research, and public service;
- 2) Public higher education should be accessible to all those who seek and qualify for admission;
- 3) Public higher education should provide a diversity of quality educational opportunities;
- 4) Adequate funding by the State is critical if public higher education is to achieve its goal;
- 5) The people of Maryland are entitled to efficient and effective management of public higher education; and
- 6) The people of Maryland are entitled to capable and creative leadership in public higher education. (Maryland Code, 2006)

The Maryland Higher Education Commission (MHEC) was created under these guiding principles to serve as the coordinating body for postsecondary education. The 1988 law also requires MHEC to “develop and periodically update a statewide plan for postsecondary education” (Maryland, 2004). The Commission is composed of twelve members appointed by the Governor to coordinate postsecondary education in Maryland. The Secretary of Higher Education serves as the Executive Director of the Commission and is a member of the governor’s cabinet. MHEC’s statutory responsibilities include the following:

- 1) Advising the Governor and General Assembly on statewide higher education policy;
- 2) Conducting statewide planning for higher education;
- 3) Coordinating and arbitrating among different segments of higher education in the State;

- 4) Reviewing, negotiating as necessary, and granting final approval of mission statements for each public institution of higher education and each regional higher education center that requests or receives State funding;
- 5) Assessing the adequacy of operating and capital funding for public higher education and establishing operating funding guidelines based on comparison with peer institutions and on other relevant criteria;
- 6) Establishing and maintaining a higher education information system for planning, coordination, and evaluation purposes;
- 7) Coordinating the State's program of performance accountability reporting for public institutions of higher education; and
- 8) Administering statewide programs of student financial assistance for higher education.

MHEC is also a primary partner along with the Maryland State Board of Education (MSBE) and the University System of Maryland (USM) for implementation of the Maryland Partnership for Teaching and Learning K-16. The partnership is a nationally recognized voluntary collaboration consisting of representatives from MHEC, MSBE, USM, Maryland Association of Community Colleges (MACC), Maryland Independent College and University Association (MICUA), local school districts and businesses. As indicated in the 2002 Memorandum of Understanding the Partnership focuses on providing Maryland students with a seamless transition of quality academics from pre-kindergarten through college.

The higher education system of Maryland is comprised of seven segments: the University of Maryland, Morgan State University, St. Mary's College of Maryland, United States Naval Academy, Community Colleges, Four-Year Independent Colleges and Universities and Two-Year Independent Colleges. In 1999 the governance structure for USM changed to that of a public corporation and an independent unit of state government; although this change allowed for greater flexibility, USM continues to be bound by certain restrictions under MHEC.

The Maryland Independent College and University Association is a voluntary organization representing eighteen independent colleges and universities, whose mission is the collective representation and coordination of independent higher education in Maryland. All of the eighteen member colleges and universities are fully accredited and represent over 46,000 students. MICUA membership ranges from small liberal arts institutions such as St. John's College to large comprehensive institutions such as Johns Hopkins University with an international reputation.

The Maryland Association of Community Colleges was created in 1992; all sixteen of Maryland's public community colleges are members. MACC serves as the colleges' liaison with MHEC. The association is responsible for developing a strategic direction for the colleges and following through on the commitments developed.

North Carolina's Background

North Carolina was chartered in 1663 and became the twelfth state in the union in 1789. North Carolina seceded from the federal union in 1861 and was readmitted in 1868. Education is considered a foundational principle for the progression of the state and is specifically addressed in the state's constitution. Governor Charles B. Aycock is attributed with creating what is considered one of the most important turning points in the state's history by being the driving force behind the construction of approximately 1,100 universal elementary schools across the state beginning in 1901 – one for each day he held office from 1901 through 1905. Governor Aycock is quoted as saying: "Equal! That is the word! On that word I plant myself and my party – the equal right of every child born on earth to have the opportunity to burgeon out all there is within him" a sentiment

that continues to thread much of the conversation regarding education in North Carolina. State appropriation for higher education in North Carolina is approximately \$11 per \$1,000 of personal income as of the 2006 Measuring Up report and \$337 per capita, representing 18% of the state's appropriations. It has the largest total postsecondary enrollment of the three states reviewed at over 470,000 based upon the 2006 Measuring Up report.

The North Carolina System of Higher Education

The Constitution of the State of North Carolina specifically addresses higher education in Article IX, Section 8 indicating:

The General Assembly shall maintain a public system of higher education, comprising The University of North Carolina and such other institutions of higher education as the General Assembly may deem wise. The General Assembly shall provide for the selection of trustees of The University of North Carolina and of the other institutions of higher education, in whom shall be vested all the privileges, rights, franchises, and endowments heretofore granted to or conferred upon the trustees of these institutions. The General Assembly may enact laws necessary and expedient for the maintenance and management of The University of North Carolina and the other public institutions of higher education.

Section 9 provides that the "benefits of The University of North Carolina and other public institutions of higher education, as far as practicable, be extended to the people of the State free of expense." The University of North Carolina (UNC) was chartered in 1789 and opened its doors in 1795. As the nation's oldest public university it was the only institution to graduate students in the eighteenth century. On July 1, 1972 the General Assembly of North Carolina completed the merger of the 16 state constituent institutions into the UNC system, representing all public baccalaureate degree granting institutions in the state. The nation's oldest historically black college in the south, Shaw

University founded in 1865 in Raleigh, is a part of the UNC system. The constitutionally authorized UNC Board of Governors is composed of 32 members elected by the General Assembly, with authority to choose their own chairman and other officers. The board of governors is assigned the following responsibilities:

- Control, supervise, manage and govern all affairs of the member institutions of the university system including approval of any new public senior institutions.
- Maintain liaison with the North Carolina Board of Education and the North Carolina Community College System to develop a coordinated, long-range plan for higher education in the state.
- Administer all state and federal aid programs for post-secondary education, except for those related exclusively to the community colleges.
- Determine the functions, educational activities and academic programs of the member institutions. In particular, the board has the authority to determine the types of degrees awarded through every institution in the system.
- Collect and disseminate data and prescribe uniform reporting practices and policies for member institutions.
- The Board of Governors gives advice and recommendations concerning higher education to the governor, the General Assembly, the Advisory Budget Commission and the boards of trustees at each constituent institution. The board has the power to delegate some of its authority to boards of trustees at member institutions.

The president is responsible for the overall administration of the UNC system and execution of board policy. The president also prepares the system's annual budget, subject to the approval of the Board of Governors, for the General Assembly.

The North Carolina Community College System (NCCCS), the third largest in the nation, is the state's primary agency for providing job training as well as literacy and adult education. The State Board of Community Colleges determines policies and standards for the institutions that comprise the NCCCS and elects the system president. The board has authority for the state's 58 comprehensive public 2-year institutions.

The North Carolina Independent Colleges and Universities (NCICU) is the state level organization representing 36 private colleges and universities, including Duke University, one of the most well known private institutions within the United States. NCICU represents its member institutions in state and federal public policy educational issues. The association also provides research and information to and on independent colleges in North Carolina.

The North Carolina State Education Assistance Authority (NCSEAA) administers the state's program for student financial assistance. The Authority assists UNC, NCCCS and NCICU as well as the general assembly in financial aid matters and developing financial aid policies. NCSEAA was established in 1965 as an independent agency of the state governed by a seven member board appointed by the Governor for four year terms. The agency administers over \$1 billion annually in student aid through grants, loans and scholarships.

Virginia's Background

Virginia is a state that has been noted with many "firsts" from being the first colony to declare itself an independent commonwealth and enact a state constitution to being the first and only state to elect an African American governor. Virginia was founded in 1607 in Jamestown as the first permanent English colony in the new world; on June 29, 1776 it enacted its state constitution. Virginia was the tenth state to ratify the constitution of the United States in 1788; it seceded in 1861 and became the capital of the confederacy. The state was readmitted to the union on January 26, 1870. Its higher education appropriation as noted in the 2006 Measuring Up report approximates \$6 per

\$1,000 of personal income and \$211 per capita, 14% of state appropriations. Virginia's total enrollment in postsecondary education for full- and part-time students as of June 30, 2005 was over 420,000 students.

The Virginia Higher Education System

The State Council of Higher Education for Virginia (SCHEV) was established in 1956. The coordinating body's mission as outlined in Section 23-9.9 of the Code of Virginia is "to promote the development of an educationally and economically sound, vigorous, progressive and coordinated system of higher education." SCHEV makes higher education policy recommendations to the Governor and General Assembly in areas such as capital and operating budget planning and student financial aid; it is also responsible for several higher education programs and higher education studies at the request of the Governor and General Assembly. The Code of Virginia assigns twenty general duties to SCHEV in coordinating Virginia's higher education systems. Those twenty responsibilities include the review and approval of academic programs, the development of guidelines for the assessment of student achievement, the provision of advisory services to certain private accredited nonprofit postsecondary institutions and the facilitation of dual admission and articulation agreements between two- and four-year public and private institutions in Virginia. The Secretary of Education oversees all education executive branch agencies including the State Council of Higher Education for Virginia, The Virginia Community College System, public colleges and universities, the Department of Education, state museums and the Library of Virginia. The Secretary,

who is appointed by the Governor and approved by the General Assembly, advises the Governor on education policy issues.

There are 14 independent governing boards representing Virginia's public colleges and universities. Each of the public four-year institutions is governed by a separate board that is responsible for setting broad policy direction and management oversight of the university, with the exception of the University of Virginia – Wise College which is governed by the University of Virginia Board. Budgets are developed at the institutional level and submitted to the Governor and General Assembly for state appropriations; SCHEV, by state statute, analyzes each request and provides recommendations to the Governor and the Virginia General Assembly regarding the approval or modification of each request. Institutional presidents are selected by the governing boards.

The State Board for the Virginia Community College System (VCCS) was established in 1966 and oversees Virginia's 23 public community colleges spread over 40 campuses. The board is responsible for coordinating workforce training at the postsecondary level as well as the establishment, control, and administration of the Virginia Community College System. The Chancellor of the community college system serves as the chief executive officer of the system responsible for the general administrative oversight and management of the community college system and is appointed by the State Board. A local college board is appointed for each community college with representatives from each political subdivision; the local board is responsible for insuring that the community college is responsive to the needs within its

service region. The community college president is appointed by the system Chancellor. As outlined in the state code community colleges have the responsibility to work directly with employers in designing and offering courses to meet workforce training needs.

The Council of Independent Colleges in Virginia (CICV) was founded in 1971 to promote the interest of non-profit independent post secondary institutions in Virginia. The association is comprised of 25 independent colleges and universities. The institutions' presidents serve as the Board of Directors for CICV and set policy for the association. CICV coordinates the advocacy for increased funding for the Tuition Assistance Grant which provides non-need based assistance for Virginia residents attending private institutions as well as other programs assisting students at independent colleges and universities.

The Impact of Governance Structures

The higher education governance structure differs for each of the three states reviewed. North Carolina's structure reflects what is considered a consolidated system where one board represents all public four-year institutions, The University of North Carolina System, and a separate board represents all public two-year institutions or community colleges, the North Carolina Community College System. Each public four-year institution in Virginia has its own independent governing board and the community colleges are represented by one governing board under the Virginia Community College System; SCHEV serves as the coordinating body for the state and acts as a liaison between the state and the colleges. The Maryland higher education governance structure has commonalities with both of the other states; all of its public four-year institutions

with the exception of two are governed by the University of Maryland System and its community colleges are governed by a single board; MHEC serves as the state's higher education coordinating body. These differences impact the method by which policy recommendations are presented to the general assembly. Consolidated systems approach state legislatures with one voice for its constituent institutions, where as in single institution systems each institution lobbies for approval of specific policies, budgets, and etcetera; state coordinating bodies work directly with the legislature for general state level policy recommendations. It would appear that the greatest impact of Measuring Up would be in consolidated systems where there is generally one voice for each of the system components. In single institution systems statewide policy recommendations are influenced not only by the state's coordinating body but individual institution's perspectives and legislative interactions.

The level of public funding of postsecondary education varies among the states with North Carolina consistently allocating more resources per capita than Maryland or Virginia, with Maryland out performing Virginia in the last two Measuring Up reporting years (2004 and 2006) in per capita appropriations. The differences in resource commitment are connected to cultural differences rather than system governance. North Carolina's constitutional directive regarding the expense of higher education influences the level of state funding support for postsecondary education. The current and previous governors have also been credited with being champions of public education, especially postsecondary education. Ironically Governor Hunt, the Chair of the National Center for Public Policy in Higher Education's board, is the previous governor of North Carolina

and has been considered, as one of the Virginia interviewees stated, “*the education governor.*” North Carolina ranks third and sixth nationally in appropriations per \$1,000 of personal income and appropriations per capita designated for higher education.

Researcher Observations: Each of the respondents from North Carolina was a product of the North Carolina educational system and believed that the concept of access for all North Carolinians was a value deeply held by the system boards and the legislature. During the conversations they were very passionate and animated when talking about the status of higher education in the state. The fact that postsecondary education is specifically addressed in North Carolina’s state constitution indicates that a public postsecondary education open to all of its citizens has been a long held value. None of the Virginia interviewees were original residents; Maryland respondents varied.

In 1988 Maryland’s current postsecondary system was reorganized requiring MHEC to develop and periodically update a statewide plan for postsecondary education based upon specific guiding principles that reflect the state’s commitment to public higher education as outlined in the state code. These principles set the framework for developing a system that seeks to enhance the broadly defined areas of access, quality and effectiveness. The inclusion in the state code of the requirement that each plan specifically address the progress made on previous recommendations creates a level of accountability and is indicative of the value placed upon accessible public higher education by state legislators and endorsed through law. As part of its state plan

appropriations for higher education have increased to be used for improved financial aid programs that lessen student debt loads.

The Interviewees

Pseudonyms were given to each participant by the researcher; therefore names as listed are not those of the interviewees. Two participants were interviewed in Maryland representing the Maryland Higher Education Commission (Fred Miller) and the state legislature (Steve Morris); the 2004 Maryland State Plan for Postsecondary Education (State Plan) was also reviewed. Each participant shared policy considerations they thought were important to Maryland's higher education system and their views on Measuring Up. Both of the interviewees were familiar with the Measuring Up reports which was distributed to commission members, legislators and institutional representatives. Maryland received two As, an A-, a B and an F in the graded categories in the 2006 report; Mr. Morris and Mr. Miller indicated that the overall grades were received well and that it was a "nice recognition of we must be doing the right things in these other areas" (Steve Morris.). However, Mr. Miller shared that "nobody is patting themselves on the back...all the concentration has been on that F" received in affordability. The State plan echoes the sentiment expressed by the interviewees, the plan acknowledges the positive grades received, but spends a significant amount of discussion on affordability and access issues.

In North Carolina three respondents were interviewed in person: the Chief of Staff for UNC Administration (Ronald Neal), the Executive Director of NCSEAA (Zachary Nash) and the Associate Vice President for Planning, Accountability, Research

and Evaluation for NCCS (Michael Nevins). Each respondent was very familiar with the Measuring Up reports which had wide distribution in the UNC administration. Each also pointed out extensive research done within the state on several topics considered high on the education agenda. The former president of the UNC system (Jackie Nichols), who was also very familiar with the report, responded via email regarding her thoughts on Measuring Up and its usefulness and the legislative representative (Jon Nace) responded via a telephone interview, although less familiar with the report than the other participants.

Three participants were interviewed for Virginia: Bernice Via, the former Secretary of Education; James Vaughn, the Executive Director of SCHEV; and Deion Vaughter, a Virginia senator. Ms. Via and Mr. Vaughn were familiar with the Measuring Up report, Ms. Vaughter was not however. Ms. Vaughter, a member and former chair of the state's Education and Health Committee had not encountered the report in her duties as a legislative representative and indicated that as a legislator she relied on the Virginia institutions and SCHEV for higher education data and policy recommendations. Mr. Vaughn indicated that he and Ms. Via "held meetings with college and university presidents talking about the results" for the 2004 report.

The interviews resulted in sixty three pages of single-spaced transcribed text, seven policy documents, and six additional state studies or reports for the researcher's review. Twenty-seven codes were originally identified from the participants' comments and were combined into four themes. Those themes were identified as: affordability (eight codes), access (four codes), preparation and K-12 (seven codes), and

measurements (seven codes). A peer de-briefer was used to review the transcripts and the researcher's summary of participant responses and to indicate areas of interest not covered under the questions to be coded as conversational themes. The de-briefer received his Ph.D. in Psychology, works as a director of counseling services in a higher education institution and is familiar with the methodology of qualitative studies. The de-briefer has no vested interest in the current study on Measuring Up. The de-briefer agreed with the summaries for question responses. The de-briefer indicated two items he felt was significant to mention beyond the summary responses: the grade of "F" to forty-three states (and the resulting conversations regarding affordability initiatives) and Virginia's restructuring act. After reviewing the de-briefer's comments no additional codes were added and all suggestions had been included in the researcher's coded items.

Affordability

The most consistent topic during the interviews was that of affordability and its impact on student access to higher education in the individual states. Mr. James Vaughn articulated an opinion that was consistent among the participants: "I'd almost say these days it's financial aid, taking nothing away from your need to be capable to do the work, but I think that financial aid is far more of a barrier to access than concentration." Each participant indicated that their state's legislature was concerned with the impact of rising tuition and each state had completed its own affordability or related study. North Carolina, through the North Carolina Education Assistance Authority, had completed the most in-depth review of college affordability in the state and its impact upon all residents.

When asked if the report was useful in policy considerations in Maryland, Mr. Fred Miller indicated that the report “has had a profound influence in where we are going” and that it has “very heavily influenced the state of Maryland.” Mr. Steve Morris also indicated that the Measuring Up reports had “been very useful in supporting affordability discussions for higher education” and “has given us the data to help support funding of our public universities and colleges.” Much of this is evidenced in the State Plan as well; in outlining its 2004 goals for higher education the state report specifically utilizes Measuring Up data and report grades in discussions ranging from quality and effectiveness to affordability.

Maryland received F’s in affordability in both the 2004 and 2006 Measuring Up reports. As a result of the economic recession in the years 2002 through 2004 general fund support for colleges and universities in Maryland declined by 11%, further impacting accessibility in a state whose tuition rates were already higher than most of their national counterparts (Maryland, 2004). In its recommendations the State Plan directs MHEC to “initiate a comprehensive process to develop a postsecondary education model that will address the linkage of tuition policy, State support to institutions, and institutional and State financial aid” (Maryland, 2004) a recommendation that was “directly impacted by Measuring Up” (Fred Miller). Measuring Up “has been helpful in providing data and support for the development of the state postsecondary education plan and the information provided...supported the argument that the State needed to look at higher education funding and financial aid” (Steve Morris). Both respondents indicated that Measuring Up had been valuable in discussions on affordability and was the report

card area that stimulated the most discussion. Mr. Miller further indicated that although Measuring Up was not seen as the impetus for the study conducted for a model that would link tuition, appropriations and student financial aid, he indicated that it “had a great impact on the decision to do the study” and that decision had a great impact on the Tuition Affordability Act of 2006. The Act limited tuition increases for the 2006-2007 academic year and called for the creation of a Commission to Develop the Maryland Model for Funding Higher Education.

Ms. Via also indicated that the report card brought to light the affordability issue and prompted discussions at a higher level in Virginia and helped to prompt the affordability study. In 2005 the General Assembly of Virginia charged SCHEV with conducting an affordability study on higher education. The purpose of the study was to analyze the extent to which affordability is a barrier for those desiring to attend college in the Commonwealth. Mr. Vaughn did not want to overstate the impact of the report card; however he felt it was a contributing factor to the study and other higher education topics in Virginia.

Although unable to meet with the researcher Ms. Nichols indicated that in her opinion “Measuring Up has not had significant influence on higher education policy in North Carolina. Nor, [does she] believe that the report accurately or fully assesses affordable access.” In discussing the affordability index for Measuring UP, Mr. Nevins stated “I think that the affordability index, even though I disagree with the way they calculated the community colleges, is an important one.” In discussing the report’s helpfulness in developing policy to address the issue of affordability Mr. Neal stated “I

think there is enough skepticism of the affordability measure among the states that it is was all a kind of eye-rolling exercise when it happened.” North Carolina’s three major system components do a significant amount of assessments and measurements, giving policymakers real data to base decisions upon, which in Mr. Neal’s eyes “trumps the Measuring Up report.” Comments from the other two North Carolina participants also indicated that the affordability measure from Measuring Up was not a resource in developing affordability policy in North Carolina; each agreed that the measurements and reports completed by the agencies within the state generated more useful data and was what was relied upon by policymakers.

As a result of the constitutional mandate to keep higher education as free from expense as practicable, tuition rates and financial aid in North Carolina are assessed routinely as the state tries to balance the net cost of education with the sticker price. The state’s assessments are based upon unit record data and differ significantly from Measuring Up findings. Prior to 1998 tuition for UNC was set by the General Assembly as a part of the budget balancing process in Raleigh, typically at the end of the process. In 1998 the board of UNC passed a new tuition policy; since that time it has been active in setting tuition rates and now allows the campuses to come forward with proposals for tuition increases, according to Mr. Neal. Unfortunately, as a result of lean economic times the state has seen significant percentage increases in tuition rates. Although the UNC system board has struggled with the increases the concept was held that it would be “better to have some tuition increases than to sacrifice quality education. It takes a long, long time to build a great university system and it takes a very short time to erode it” (Mr.

Ronald Neal). Mr. Nevins indicated that for the Community Colleges the state board has never raised tuition; however, increases have come from the legislature as a way of increasing the appropriations to the community colleges.

“The total sticker price of attending a UNC campus increased by 29%, but the net price after scholarships to needy students increased by 13.5%” (NCSEAA, 2006, p. 1) over the five year period between 1999-2000 and 2003-2004. During this same period aid for students with total family incomes below \$58,060 resulted in a net price increase after scholarships of 9.8% (NCESEAA).

The participants from North Carolina were also the most critical of the methodology used to calculate affordability and had contacted representatives from NCPHHE to discuss the reports methodology and resulting grade of F to 43 states. In his discussions with Governor Hunt, Chairman of the Board of Directors for NCPHHE, and Patrick Callan, President of NCPHHE, Mr. Nash shared “Benchmarks: Measure of College Affordability and Student Aid in North Carolina” May 2006 report and contrasted the data with the information and methodology used in the Measuring Up reports. Mr. Nash stated “I think I share their ideological perspective that resources ought to be given to needy students; where I differ from them ideologically, I think is that they are really biased in favor of low tuition as opposed to necessarily high aid.” North Carolina has chosen to meet the needs of their residents by offsetting high tuition with higher aid. Mr. Neal acknowledged that the Board of Regents for the UNC system believed that the constitutional mandate to have postsecondary education be as free as practicable meant both a “low sticker price and a low net price.” Unfortunately during

the 2002/2004 recession the General Assembly of North Carolina was unable to maintain the same level of funding as in prior years, ensuing large tuition increases. The state in response has significantly increased aid, with an additional \$80 million to be added in 2007, for residents resulting in “meeting the needs of a lot of people that five years ago would never have a chance to go to college so the bottom line is...we’re making progress” (Mr. Ronald Neal).

Ms. Bernice Via and Mr. Fred Miller also expressed concern that the gains Virginia and Maryland, respectively, made in increasing the amount of financial aid available was not adequately reflected in the report card grading. In its 2004 State Plan, Maryland identified the achievement of “a system of postsecondary education that promotes accessibility and affordability for all Marylanders” as a goal with specific action recommendations to be completed by year end 2006. Included in the State Plan were recommendations to increase student aid; “within a three year period of time [Maryland] went from \$44 million dollars in need based student financial aid to \$84 million” (Mr. Fred Miller). According to Fred in 2006 the state went from \$94 million dollars in total student financial aid up to \$110 million. The F most states received indicated to the interviewees that the Measuring Up 2006 report was not only flawed in its methodology but that NCPPHE was out of touch, in this instance, with what was happening in the states and their attempts to make higher education more accessible for the needy.

Affordability Policies and Studies

The overall grades from the NCPPHE report were generally accepted well in North Carolina; however, Mr. Neal did concede that receiving “an F in affordability has given us significant heartburn” and therefore is the area that has garnered the most attention. “You know, when 43 states get an F you say: ‘what’s going on here.’” As a result of the constitutional concept “as free as practicable” there has been conversation in the state regarding whether the concept indicated either low tuition price or low net price. Mr. Neal indicated that the majority of legislators and the UNC board believe it to be both. According to Mr. Neal the General Assembly provides the necessary resources needed and is “phenomenally generous to the university.” However, during the economic recession years of the early 2000’s tuition increases were unavoidable. In an attempt to keep the doors of access open to lower income students the North Carolina State Education Assistance Authority established a set of need based grants that addressed the specific needs of students attending UNC, community colleges or private institutions. A subsequent “Philosophy of Need-Based State Grant Aid in North Carolina” was developed. The philosophy is based upon the concept that “need based state grant aid is intended to complement, not merely to supplement, efforts of the federal government and institutions of higher education in meeting the needs of students” (NCSEAA, 2006, p. 1).

The intent of the programs is to serve North Carolinians who would find it difficult – or impossible – to gain access to higher education in our state, even with federal and institutional resources directed toward their costs. State programs frequently utilize data from the federal system and target funds mainly toward students who are also eligible for federal aid. However, there are intended differences between the state’s definitions of “need” and the definition contained within the Federal Methodology. There are also differences in the needs of students within the various sectors of higher education in North Carolina.

Acknowledging these differences, depending upon the program, both broadens the targets for state aid and provides needed assistance for student receiving inadequate federal aid. It is vital to recognize in this regard that the Federal Methodology is not the only definition of “need” and that it is inadequate in many respects. The differences among sectors are designed to serve the populations identified by each sector as most at risk of inability to meet their costs of higher education. Taken together, while the programs differ in their definitions of “need,” the state’s need-based grants are achieving the goal of complementing other efforts. In many cases, the complementary nature of state grants is also supplementary – for example, Pell Grant recipients also receive funds from the state. In other cases, federal eligibility may be lacking but need for aid nevertheless real. The purpose of the state’s efforts is to “fill in gaps” among needy students making adequate total resources available to assure access to higher education in North Carolina. (NCSEAA, p. 1)

Utilizing this philosophy of “filling in the gaps” five major state programs were established to meet the student needs: UNC Need Based Grant, Community College Grant, North Carolina Education Lottery Scholarship (all sectors), North Carolina Student Incentive Grant (all sectors, effective in 2007-2008), and State Contractual Scholarship Fund for Needy North Carolinians (Independent Colleges). Grant specifics can be found in Appendix C. Allocations for these grants total approximately \$183 million for academic year 2007-2008. The total number of grants and scholarships offered increased by 37% between reporting years 2001-2002 and 2005-2006; total award amounts increased by 58% during this same period.

In 2004 NCSEAA initiated its internal benchmarking study on affordability and student aid in North Carolina. The first study provided a longitudinal view of post secondary affordability with subsequent annual updates. The study used three measures of affordability: The College-Going Rate within One Year of High School Graduation, Net Price of College Relative to Family Income, and Average Cumulative Student Education Debt Upon Graduation. Benchmarks were also established for financial aid to

students attending North Carolina Institutions. The study is used as a type of internal scorecard to track accessibility as it relates to affordability and student aid. “By examining measures of affordability and financial aid availability, the Authority is attempting to provide the educators and policy makers a systematic and measurable way to assess affordability issues and to insure that higher education is accessible to all North Carolinians” (NCSEAA, 2006, p. 1). The December 2004 benchmark report resulted in the following findings:

Affordability Measure I: The College-Going Rate Within One Year of High School Graduation

- ◆ North Carolina’s college-going rate had risen to 64% in 2002 from 52% in 1990. It has exceeded that of the nation as a whole since 1997.
- ◆ North Carolina’s college-going rate surpasses that of other southeastern states.
- ◆ North Carolina has the second highest college-going rate of the twelve most populous states.

Affordability Measure II: Net Price of College Relative to Family Income and Financial Aid. This measure considers the net price of attending college at the University of North Carolina, with net price considered to be the total price of college less financial assistance the student receives to defray college expenses. The measure reveals the impact of price increases -- net of changes in family income and student financial aid -- for families at all income levels.

- ◆ Grant aid combined with increasing family ability to pay rose nearly three times more than the price of higher education during the study period.
- ◆ Remaining need after grant aid rose during the study period for all but the highest income families. However, it remained within the capacity of students in all income groups to fund via work and low-interest student loans.
- ◆ After application of both grant and loan aid, there was no remaining need among students from families within the top two income quintiles in both 1998-1999 and 2002-2003. The remaining need of students from the bottom two quintiles could have been met with earnings from work during the academic year. Work earnings were not a part of this study since data are not available for most student employment.
- ◆ The percentage of the total college price actually paid by families after grant aid declined during the study period. The net price of attendance

after grants and loans declined or remained constant for students from the three lowest family income quintiles while it increased slightly for students from the two highest family income quintiles.

Affordability Measure III: Cumulative Student Education Debt Upon Graduation. This measure assesses the average cumulative student education debt accrued during undergraduate education by dependent North Carolina resident borrowers attending the University of North Carolina. Three cohorts are presented for whom cumulative debt measures are available on a unit record level. Additionally, national trends and prior survey research into the indebtedness of UNC system graduates are considered. Findings include:

- ◆ Average cumulative education debt among UNC students who borrowed was \$14,370 in 2002-2003, representing an increase of almost 5 percent over cumulative debt in 2000-2001. This level of indebtedness would result in repayment at approximately \$176 per month for 120 months, a standard ten year repayment period.
- ◆ Average cumulative education indebtedness nationally was estimated at \$16,708 in 1999-2000 in one study and at \$17,100 in 2002 in another. These national averages exceed average cumulative education debt for UNC students by 14-16%.

Benchmarks: Financial Aid to Students Attending North Carolina

Institutions. As an added set of information designed to enrich the unit record data from UNC, this section of the report presents data on financial aid received by all students attending all postsecondary institutions in North Carolina. These include community colleges, independent colleges, all sixteen campuses of the University of North Carolina, and proprietary institutions. Independent colleges include senior colleges and universities, junior colleges, seminaries, and Bible colleges. Proprietary institutions include colleges and schools which operate on a for-profit basis and a few vocational/training programs which were not included in any of the other categories. Findings include:

- ◆ Students attending North Carolina institutions received \$2.2 billion in financial aid from all sources in 2003-2004. This figure has more than doubled since 1994-1995, growing from \$1 billion in inflation adjusted dollars.
- ◆ The composition of aid received by students attending North Carolina institutions changed little between 1994-1995 and 2003-2004. Grants and scholarships represented 49 percent of financial aid received by students at North Carolina institutions in 1994-1995 and 50 percent of aid in 2003-2004. This exceeds the national average. According to the College Board's 2004 publication of *Trends in Student Aid*, nationally grants and scholarships comprised 44 percent of student aid in 1994-1995 and 38 percent of aid in 2003-2004.
- ◆ The distribution of financial aid received by students attending different types of institutions varies mainly with the price of attendance in each sector. Students attending UNC institutions and independent colleges and

universities receive a larger proportion of aid mainly because the price of attendance is higher than that of community colleges.

◆ North Carolina scholarship and grant programs grew approximately 78 percent between 1994-1995 and 2003-2004. North Carolina funded need-based programs more than doubled during the period due to the introduction of two new programs, the UNC Need Based Grant and Community College Grants. (NCSEAA)

In determining the cost of attendance NCSEAA's measurements went beyond tuition and fees to include "books and supplies for their classes and living expenses such as housing, food, clothes and transportation" also included are additional costs born by many students such as child cares costs to determine what they consider the total price or cost of college attendance. Mr. Nash felt that the methodology used in Measuring Up was flawed and when trying to discuss the differences in using the actual data available and that which Measuring Up was based upon NCPPHE representatives were not open to discussing alternative methodology. He further indicated that based upon real data he "had a good story to tell" and despite gains made in reducing the net costs to needy students the story is: "we need more." Ronald shared one of the major concerns the UNC board had

about families they think are falling through the cracks - I can't tell you the number of discussions that I have about if we increase tuition by a couple of a hundred dollars we are not worried about those people with significant incomes. They can pay. To some extent we are not worried about the real low income family; we know that we are going to take care of them through our need based financial aid. It's that family that's in the middle that's making too much money to qualify for the need base financial aid, but the burden of a college education is phenomenal. They feel a lot of pain for that group and that's one of the reasons that the sticker price stays low.

Each of the North Carolina interviewees discussed the issues surrounding affordability and North Carolina's attempt to address affordability through increases in aid while keeping tuition increases at a minimum.

Virginia Affordability Study

In 2005 the Virginia General Assembly directed the State Council of Higher Education for Virginia to conduct an affordability study on higher education in the state.

"The purpose of the study was to address the extent to which cost is a barrier to access for students wishing to attend a public or private, nonprofit college or university in the Commonwealth" (State, 2006 p. 1) Five issues were identified to be addressed in the study:

- 1) The economic diversity of students attending both public and private higher education institutions in Virginia;
- 2) The extent to which students and families rely on grant aid, loans, savings, and supplemental employment to cover the cost of attendance;
- 3) The extent to which state funded need based student financial aid mitigates cost barriers for students attending public institutions or reduces reliance on loans, savings, and supplemental employment;
- 4) The extent to which the state funded tuition assistance grant enables students to attend private, nonprofit colleges and universities in the Commonwealth; and
- 5) The comparative affordability and dependence on grants, loans, savings, and supplemental employment between Virginia's system of public and private institutions and that of similar states. (State, p. 1)

Six comparison states were chosen for the study: Kentucky, Georgia, Tennessee, Illinois, Indiana, and Minnesota.

The study indicates that each sector of Virginia institutions enrolls students from all income brackets. This would suggest that Virginia institutions are accessible to all students; however, this does not necessarily mean affordable; according to the study the

available data did not provide a comparison of college enrollments with the income distribution of Virginia families with college-aged persons. Therefore, low-income students could still be underrepresented in Virginia higher education; the affordability study did not address this issue and indicated that further research would be required to determine if that is the case and the extent to which affordability may be a contributing factor. (State, p.44)

Students from all income levels have been able to enroll in colleges and universities in every sector of higher education; however, the analysis of net price as a percent of median family income as calculated in the study demonstrated that, even after considering financial aid awards, the burden on students from the lowest income levels is significantly greater than for students from other income levels. (State, p.45)

The extent to which students and families rely on grant aid, loans, savings, and supplemental employment to cover the cost of attendance varies depending upon income level and whether students choose two- or four-year institutions. Federal grants are the primary source of grant assistance for most students attending public two-year institutions; however, without state grants, many students would have to increase the amount of loans needed to fund educational costs. With the availability of federal, state, institutional, and other grants, average loans have been held to a minimum and, in some cases, are almost non-existent at two-year institutions. (State, p. 45)

With a sticker price below the average across all income quartiles, Virginia's public two-year institutions compare favorably to other states. Virginia's rank for public two-year institutions improves when grant aid is taken into account. When comparing net

price as a percentage of median family income, Virginia's two-year institutions rank among the most affordable of the comparison states in all income categories. All income categories come in under the 30 percent of family income threshold. This level of affordability has allowed students enrolled at two-year institutions to minimize dependence on loans. (State, p. 47)

However, at four-year institutions the concept of affordability as considered in terms of net price across income levels looks very different than that at two-year institutions. The cost of attendance at Virginia's public four-year institutions is higher than other states and grant aid provides a modest improvement in the comparative net price, especially for the second income quartile for dependent and independent students. As a result of the increased costs associated with baccalaureate programs students enrolled in Virginia public four-year institutions receive larger grant awards than students at public two-year institutions. The increased aid is evident in state, institutional, and other programs, with the state awards accounting for the largest increase. State need-based awards are an important source of funding for undergraduates enrolled at Virginia public four-year institutions; except for the lowest income group, state need-based awards represent the largest single source of grant aid for dependent students. (State)

The net price of college attendance in Virginia as a percent of income is comparable among the comparison states except for the lowest income students. Dependent students in the lowest income quartile in Virginia have an average net price for a four-year institution above 50 percent of median income, indicating that low-income students struggle to meet the cost of attendance at a public four-year institution. The net

price of attendance for independent students in the lowest income quintile for a public four-year institution is above the median income. State grants play a larger role for students at public four-year institutions than at public two-year institutions, but grants from all sources are unable to keep up with the higher costs associated with four-year institutions and so loans play a greater role. (State)

Loan debt is significant across all income levels with debt load increasing as income increases. It appears, however, that much of the borrowing in the upper income levels is discretionary. Students from higher income levels were identified as borrowing for discretionary reasons, including the convenience of spreading out the family contribution over a period of years rather than making payments out of pocket. However, students in the lowest three income brackets (dependent students with family incomes less than \$65,413 and independent students with family income less than \$23,272) borrowed based upon need to cover educational costs. Loans represent a significant source of funding for students at public four-year institutions. (State)

The Tuition Assistance Grant meets 8% of the average sticker price, between 9% and 13% of net price, and between 11% and 50% of family net price at Virginia's private institutions. The program provides a significant source of funding and enables more students to consider private education. This is particularly important as enrollments at public institutions in the state are nearing capacity and students, who otherwise could not afford to attend a private institution, would have limited options for pursuing higher education. Evidence is clear that private colleges enroll a generous portion of Virginia's low-income students and invest large sums of their own funds to help meet student financial need. The Sticker Price at Virginia's private institutions is relatively high, but grant aid makes up much of the differential especially in the upper two income quartiles. Independent students and students in the lowest income quartile appear to be the most financially challenged when attending a private institution. (State, pp. 46 & 47)

In comparison with five of the other states, Georgia, Illinois, Indiana, Minnesota, Tennessee, using net price as a percent of median income low-income students in all states must overcome significant financial hurdles, with Virginia's ranking among the highest in this measure. Virginia provides the most affordable community college opportunities in comparison to the other states; however, the price paid by Virginia students is "consistently higher than that of the aggregated peer states. Even after grant aid is awarded, the average net price for Virginia students in most income groups is also higher than the average for the peer states" (State, p. 36).

The methods reviewed in this study tell a partial story about the status of affordability in Virginia. Additionally, the study provides price comparisons with six other states. Comparisons with additional states may result in more favorable or less favorable findings depending upon the states chosen. This study should serve as a springboard for further discussion and research, rather than a final declaration on the subject of affordability in Virginia. The study verifies that Virginia institutions in all three sectors are comparable in Net Price with selected peer states across most income groups but fall well behind in Family Net Price at four-year institutions. However, comparisons can mask the fact that each state faces significant challenges in providing affordable education for low-income students. The Net Price as a percent of median income for low-income students demonstrates that these students shoulder a much heavier burden than other students and those attending Virginia institutions, particularly public and private four-year institutions, demonstrate the need for significantly more assistance. With the federal government's shift of funding from grants to loans and the rising cost of education, significant increases in available funding from the state - in the form of need-based grants and TAG - and institutional aid are needed if low-income students are to be provided the opportunity for higher education at a level of affordability comparable to middle- and high-income students. (State, p. 48)

Summary

The concept of access was important to the interviewees; affordability was the most cited area of discussion by the participants. Each state presented information regarding affordability discussions and/or policies resulting from the current status of

tuition and net student costs. The F's received by each of the three states and forty others was a topic of concern. Participants felt that the grades did not adequately reflect state actions to address the issue of affordability and its impact on student access. State representatives also expressed concerns regarding the methodology used for the category.

The states have attempted to address the issue by assessing student needs within the state and through policy development. North Carolina's Philosophy of Need Based Student Aid was the most comprehensive policy development with particular concentration paid to the net cost of college for resident students. Virginia's Affordability Study was a review of college affordability in Virginia via price comparisons with comparable states and its impact upon student access, with the impact upon low-income students highlighted. Maryland's Tuition Affordability bill capped tuition increases at state institutions as the state completed the research and development of a Maryland Higher Education Model. Each of these activities attempted to address affordability by taking into consideration a combination of the distinctiveness of the state's student population, economic climate and statutory requirements.

Other Access Policies

Affordability was not the only access component that the respondents indicated the states were attempting to address. Access entails providing the proper courses, facilities and programs that meet the needs of residents and are accessible to all beyond costs and financial aid. Issues such as population growth and geographic location of institutions have become important components for higher education leaders in addressing the issue of access for state residents.

“Although North Carolina ranks eleventh in the nation in total population, it ranks sixth in population increases, with nearly a quarter of the current population 18 years of age or younger” (University, 2005, p. 5). In anticipation of an additional 50,000 students entering the higher education system over the course of the next fifteen years, the UNC board adopted a ten-year enrollment plan in 1998. “As part of a larger strategy to expand access to and participation in higher education, the plan sought to achieve more effective utilization of existing facilities, along with dramatic enrollment growth at those campuses with underutilized facilities and the physical capacity for future expansion” (University, 2005, p. 6). As a result the focused growth initiative was adopted. Seven institutions within the UNC system with smaller enrollments and excess physical capacity were designated as focused-growth institutions. The campuses include UNC’s five Historically Black Colleges and Universities (HBCUs): Elizabeth City State University, Fayetteville State University, North Carolina A&T State University, North Carolina Central University and Winston-Salem State University; its historically American Indian Institution, the University of North Carolina at Pembroke; and a historically white institution serving the rural western part of the state in a region with high concentrations of low-income students, Western Carolina University. The goal of the program was for each of the institutions to pursue enrollment growth of twenty percent or more within five years. The General Assembly of North Carolina appropriated \$10 million in recurring funds to assist the institutions in increasing enrollment in 1999. Funding for the program increased in following years through the General Assembly and the University. Additional funding was provided through the 2000 Higher Education

Bond Program where the state's unprecedented capital investment in the focused growth institutions totaled \$580 million, more than the seven institutions had received in capital appropriations and statewide bond issues since they were brought into the UNC system in 1972. This 2000 bond issue not only received general assembly support but according to Ronald "over three quarters of the state voted in favor of providing the dollars to the university." (University)

Between fall 1999 and fall 2004 enrollment on the focused growth campuses grew by 36 percent, in comparison enrollment at non focused-growth institutions grew by 13 percent. Although each of the institutions experienced substantial growth and significant program additions the progress made by the HBCUs are especially notable. Based upon statistics from the National Center for Education Statistics enrollment in HBCUs as a percentage of total enrollment in higher education institutions has changed little in recent years, with a number experiencing enrollment declines, as well as, struggles to maintain accreditation, repair physical plant and attract students. However, all five of the UNC HBCUs have had substantial enrollment increases and increases in state appropriations. Nationally state appropriations for HBCUs decreased by approximately \$8 per full-time equivalent student (FTE) between fall 1999 and fall 2002 while appropriations in North Carolina increased by approximately \$476 per FTE. (University)

The focused-growth initiative is the only program of its kind state representatives were aware of, especially with the utilization of the 2000 bond issue. The achievements made by the program are something that Ronald N. shared the university is "very proud of...you set a goal, you measure your progress towards the goal, and you achieve the

goal. Then you declare victory. What a wonderful example of doing that.” The program far exceeded the initial goal of 20% enrollment growth as well as provided the institutions a much needed influx of funds.

Maryland received an A in participation in the Measuring Up report with a significant number of its adult population enrolled at least part-time in postsecondary education. As the number of traditional and nontraditional students increased the state found it necessary to increase access to postsecondary education to students who because of geographical location or the limited capacity of local four-year institutions would otherwise not have the opportunity to pursue baccalaureate or graduate education. Maryland developed a regional center concept. In 2000 the Maryland General Assembly enacted Chapter 542, which revised the Maryland Charter for Higher Education to include regional higher education centers (RHEC). “RHEC are designed to ensure access to baccalaureate and graduate education in both unserved and underserved areas of Maryland at a reasonable costs to students and the State” (Maryland, 2006, p. 3). A RHEC is defined as a facility that:

- 1) Is operated by a public higher education institution in the State or a private institution operating under a charter granted by the General Assembly and includes two or more participating higher education institutions in the state;
- 2) Consists of an array of program offerings from higher education institutions approved to operate in the State by the Commission or by specific criteria;
- 3) Offers multiple degree level; and
- 4) Is approved by the Commission to operate in the State or is established by statute. (Maryland, p. 4)

Currently, there are eight regional centers: Anne Arundel Community College at Arundel Mills University Consortium, Eastern Shore Higher Education Center, Higher Education and Applied Technology Center, Laurel College Center, Southern Maryland

Higher Education Center, The Universities at Shady Grove, University of Maryland at Hagerstown and the Waldorf Center for Higher Education. The Universities at Shady Grove is a unique learning community as compared to the other centers, its programs are exclusively upper-class and graduate level. Operating funds for Shady Grove and Hagerstown are administered by the University System of Maryland. The goal of RHEC is not only to address student access needs but to develop community and business partnerships that help to support State, regional and local economic development as well.

Regional Higher Education Centers assist in addressing many of the accessibility issues state leaders are concerned about. As Steve indicates in discussing the Universities at Shady Grove:

“It addresses a lot of different things, it addresses the accessibility/space issue because there is more classroom space. It somewhat addresses the affordability issue in that you pay the tuition that is charged at the institution you are admitted to you and that you will get your degree from, but because you are not on campus using the pools and other ancillary facilities you don’t have to pay all those fees and those fees can really add up. It addresses some cultural issues that we found; we’ve got a lot to immigrants to Maryland and especially to the Washington metropolitan area and a number of these immigrants come from a culture where the student doesn’t go away to college. Their living at home...so it helps address that issue...It addresses the issue of the person that’s working.”

Preparation and K-12

Other than affordability, preparation was the second most cited issue of concern for the states based upon respondent comments. Mr. Nash was concerned that reports, such as Measuring Up, that focused on tuition levels and did not adequately incorporate the amount of aid available would have a subsequent negative effect on students who believe that postsecondary education is unobtainable for them because of the cost and will therefore not adequately prepare because they see no need. Mr. Miller also saw a

link in affordability and participation, reflecting that if lower income students perceived that higher education is out of reach then they will not make the necessary steps to prepare them to succeed impacting not only the individuals but the economy as well.

Ms. Via and Mr. Vaughn also indicated that the areas of preparation and retention also stimulated significant discussion. Both respondents indicated that the issues the report raised in the area of preparation stimulated a review of Virginia's K-12 connection. "This report in part stimulated our thinking about what does preparation mean and I think the studies we've done suggest, not just suggest, again it is pretty specific, it (preparation) is more than just how high the GPA" (Mr. James Vaughn). Exposing students to the culture of higher education institutions was indicated as a necessary step in preparation that many times was overlooked.

Mr. Vaughn believed that a more active role needed to be taken in preparing students for the transition to college. Based upon extensive interviews and research done in Southside Virginia, he thought that help for at risk kids needed to extend beyond academics but to also "those sort of indecipherable things, its about making a young person believe you really can do this, there are scholarships available, just because you're mother didn't go to school doesn't mean you can't." As a result, Mr. Vaughn indicated that SCHEV was preparing to host a conference that will incorporate programs that address the non-academic adjustments and preparations needed to support college success.

Other than affordability Mr. Nevins identified preparation as an area that generated discussion as a result of North Carolina's concern with their current dropout

rate. This area along with “retention issues and graduation issues, participation issues – those are being talked about all the time by our systems, in the legislature and so forth.” Mr. Nash works with a College Board task force on access that focuses on low income students, which is “more broadly defined than just economics, also people whose parents lack a Bachelor’s degree.” As a result of the task force’s research preparation itself is more broadly defined than grades and test scores. Although North Carolina’s college going rate is above the national average their drop out rate between ninth and twelfth grade is significant; preparation, in the broad sense, is seen as an underlying factor contributing to this problem. The participants did concede that although of major concern, preparation needs beyond academics is outside of the realm of the Measuring Up reports.

K-12

Activities in the K-12 sector impact student preparation and participation in postsecondary education. Higher education leaders in all three states felt that investing in secondary education is essential to insure quality postsecondary outcomes as well as an investment that the state as well as postsecondary institutions must commit to. In May 1994, parents, school boards and students from five low-wealth counties in North Carolina filed a lawsuit naming the State Board of Education and the State of North Carolina as defendants in what is now known as the Leandro lawsuit. The defendants charged that the State did not provide enough money for them to provide their children with a quality education. Six urban school districts also asked to be parties to the lawsuit, indicating that the state funding formula did not provide sufficient funds to educate their

at-risk students and students for whom English was not the first language. In 1997, the North Carolina Supreme Court ruled that the state constitution guarantees "every child of this state an opportunity to receive a sound basic education in our public schools." In 2004, after a long series of appeals, the Court reaffirmed its landmark ruling and empowered Superior Court Judge Howard Manning to commence implementation of the decision. Soon after the Court's decision, the Justice Center published *Common Ground: An Equal Opportunity for a Sound Basic Education*, a major policy report that calls on state leaders to move aggressively to implement the Court's decision.

As a result of this landmark decision, higher education leaders have become involved in the drive to enhance the quality of secondary education and thereby student preparation. Mr. Neal indicated that the state was directing funds to those areas, but had not fixed the initial concerns. He also acknowledged that from the University's perspective "until we get students that are prepared to come to college, we are not going to graduate the best students." As a result the University of North Carolina has developed initiatives that he indicated were "just kind of tips of the iceberg." He referenced a Camp Lejeune educational program where students who test below the 12th grade and are high school graduates are put through an intensive eight week program. According to Mr. Neal there has been significant success with this program and UNC is currently trying to determine how the University can implement a similar initiative.

The second initiative Mr. Neal shared was originally advanced by UNC President Bowles in the legislature "to get differential funding for math and science teachers in the public schools in those counties that were identified by the Leandro lawsuit." He did not

receive the requested funding; however the proposal caught the interest of the educational and civic leaders in the Greensboro area. It is not a very large city so it may not be the kind of intercity school system that was originally considered but it is a school system within a city that had some failing public high schools.

With the generosity of three foundations in the Greensboro area we are starting an initiative that gives differential pay to high school math teachers - and its substantial pay. Normally an entering math teacher would get \$31,000 year and through the differential pay and stipend and a couple other things - they get several things - they could make up to \$49,000 that first year. That is huge. One of the barometers that gets them some of that money is the success of their students. They get mentored by a professor at our [UNC] campuses, mentoring is a huge deal; we buy them a laptop, we buy the mentor a laptop so they are constantly in touch. We are approaching it on many, many fronts. Will it be successful? We believe that it will because we're going to get the best math teachers to come to that area and teach our kids math. And if they measure up, they get the money and if they don't, they don't get invited back. It's so funny because in the Forsyth county 30 miles away we heard things like 'But you're going to take all of our good math teachers' and our president said 'Damn right we are!' And you know what's going to happen you are going to start paying more and guess what else. They are going to starting paying (referring to other areas and counties) and they're going to start paying more and so on. And all of a sudden the whole profession is going to be raised and we will have better teachers and better students and we are going to care. And it's not only math science next. This is a very important project, and if it works it could change public education nation wide. (Mr. Ronald Neal)

Success of the initiative could eventually impact the level of preparation for high school students, reducing the need for remedial coursework and possibly positively impacting participation and completion rates.

Ms. Via and Mr. Vaughan shared two specific instances in which Measuring Up was considered quite valuable: the K-12 senior year experience and the state's restructuring act. Ms. Via indicated:

It was exceptionally useful for us. It gave information to us about how well students were being prepared in high schools and then how well they were

surviving once they got into the higher ed system. Our whole senior year experience, I think, was a result of the measuring up information that we had gotten there. So it was very valuable to us.

In 2003 under the leadership of Governor Warner, who made higher education an administration priority, Virginia joined the National Collaborative for Postsecondary Education Policy (the Collaborative). The Collaborative works with its state partners to “refocus postsecondary education policy on the needs of state residents” (ECS, p.1). The guiding questions used to assess participating states are based upon Measuring Up. For Virginia the findings included:

- Long-standing, deep disparities in educational opportunity by race, class, and geographic region, which are projected to be exacerbated in the future as the state experiences disproportionate growth among African American and Hispanic youth;
- Lack of alignment in early childhood through college (P-16) educational system, leading to inadequate performance in student preparation, persistence and completion;
- Lack of collaboration and seamless transfer between higher education sectors; and
- State colleges and universities not working together toward a common agenda for the state. (Couturier, 2006, p. 14)

Based upon these and other findings the Collaborative recommended the creation of a P-16 council to improve the alignment between the various education sectors; improvement of transfers between 2- and 4-year institutions; setting aggressive goals for increased participation and completion rates; increased levels of need-based financial aid; decentralization of management to institutional boards; expansion of research capacity; revitalization of SCHEV with a more deliberate mission; and a long-term agenda for higher education’s role in the state’s future. (Couturier)

As recommended by the Collaborative the P-16 Council was established in Virginia in 2005. The Council includes representatives from the board and staff of the Department of Education, the State Board of Community Colleges and the Community College System, members from the board and staff of SCHEV, postsecondary education institutions, state and local elected officials, business leaders, the Virginia Education Association, the National Science Foundation, and other state agencies. Council responsibilities include:

- Identify opportunities to better coordinate the state's education reform efforts from preschool to graduate school,
- Serve as a steering committee for oversight of the state's education reform activities as part of the National Governor's Association (NGA) Honor States Grant,
- Develop approaches to improve transitions among levels of education, promote student success and encourage students to continue their education,
- Consider strategies for data systems that provide information about students at all educational levels, and
- Make any other recommendations as may seem appropriate. (Virginia's, 2006, p. 17)

The Measuring Up reports and subsequent internal assessments indicated high grade retention in grade nine of high school, high drop out rates, only fair college going rate for ninth graders, low college graduation rates for ninth graders and a wide achievement gap among low-income and minority populations. In response to the data presented in Measuring Up and the state's assessments a Blueprint for an Action Agenda was developed resulting in a grant proposal to the NGA. The goal of the Blueprint was to increase high school graduation rates as well as postsecondary preparation and participation rates.

The Council issued its first report in October 2006 resulting in five recommendations aimed at strengthening the high school experience and higher education connection from the “Readiness for postsecondary education and work” sub group. The recommendations included:

- Work with the Board of Education (BOE) and both public and private institutions to adopt a common standard for college readiness among higher education institutions and public schools.
- Work with the Virginia Department of Education (DOE), higher education institutions and employers to ensure that high school course content and assessments are aligned with expectations of postsecondary educators and employers.
- Request that BOE and DOE continue to work with local school boards and divisions to improve preparation of middle school students for rigorous high school work.
- Increase the number of students completing rigorous courses in high school.
- Improve student transitions at critical points during their educational career, to include but not limited to: from middle to high school, from high school to postsecondary education and between community colleges and four-year institutions. (Virginia’s, p. 21)

The Council also recommended its continuation (the Council’s term was originally set to expire October 19, 2006), the inclusion of a preschool representative and a private postsecondary representative. As a result of their recommendations and the state’s commitment to educational reform the current governor, Tim Kaine, issued Executive Order 40 extending the Council’s term until July 2008, with the intent to codify the council in the 2008 General Assembly session. The council’s membership was also expanded to include a preschool and a private college representative by the executive order.

Summary

Preparation was the second most discussed topic during the participant interviews. Participants from each state felt identifying ways to increase student preparation was essential. Participants from North Carolina and Virginia discussed current state initiatives to connect K-12 with postsecondary education. The University of North Carolina has begun a new initiative working with math teachers in the city of Greensboro aimed at enticing higher quality teachers with better pay and enhancing student learning. Working with representatives from the NCPPHE, Virginia has instituted a P-16 Council whose goal is to better strengthen the connection between high school and higher education as well as increase the quality of learning in elementary and secondary education.

Measurements

Although reports such as Measuring Up were seen as helpful, each respondent felt it was imperative for states to develop an internal set of metrics to assess its progress, track the impact of policy decisions and compare outcomes with other similar state systems. Each component area within North Carolina's higher education system discussed the need to develop and maintain a set of internal metrics to measure and track the impact of policies and current issues upon students and postsecondary education as a whole within the state. An example of the positive impact of utilizing internal assessments and data was given by Mr. Nevins in describing the shift in the community college model for requesting funds. In the old model

you went before the legislature, you brought in some 38 year old woman who is divorced had 3 children and she stood in front of them and said: You know, my husband left me, I was in debt, I was on welfare, I had this problem, that problem.

I went to my community college I got my GED, I got my nursing degree now I'm off of welfare – tears are rolling down everybody's face.

In the current model

we really started focusing on using data and holding ourselves accountable; we put in a new accountability system. It caused initially a lot of gnashing of teeth among our college presidents but now they are running to their newspapers as soon as the reports come out and say look how good we're doing. The results of that have been that the legislature has been far more positive about community colleges in North Carolina. It has helped out funding some, but now when you hear people running to the legislature they talk about community colleges...

rather than the community colleges being one of North Carolina's best kept secrets. Mr. Neal and Mr. Nash also discussed the importance in developing a set of metrics that would provide policymakers and decision makers with the necessary information to make informed well thought out decisions.

Mr. Nash from the assistance authority concurred with Ms. Nicols' assessment by indicating that "It's had minimum impact. If it had real impact on the policy makers, I would have to spend more time figuring out exactly how it works. My sense is they look at it and say 'Are you kidding me' and move on." Mr. Michael Nevins and Mr. Ronald Neal felt that the processes and measures developed within the state are what policy makers rely on to govern policy decisions. Mr. Neal went further to explain that "There are good metrics in that report but I think it is much more important for everyone to look at their own set of metrics to determine how we make individual progress." As a result of the media attention the report garners each year when first publicized Mr. Nevins shared that legislative staffers often call to get input or perspective from the various component areas in the system. A perception verified by Mr. Jon Nace who indicated that once the report is publicized the legislators turn to who they consider to be the experts within the

state to determine if the report grades are valid or supported by research done by others. As a result of legislative inquiries regarding the validity of the Measuring Up 2006 report the UNC administration submitted a response to the 2006 Measuring Up report to the legislature specifically addressing the National Center's assessment of affordability. The response reiterated the interviewees' perception of the usefulness of Measuring Up. It indicated that the measures used in Measuring Up did not accurately reflect the net price to students and did not use complete and accurate data in developing North Carolina's scores.

In response to the growing concerns regarding access and outcomes related to postsecondary education Virginia has developed additional assessments through the State Council of Higher Education in Virginia. Although SCHEV has always been responsible for data reporting, as shared by Ms. Via and Ms. Vaughter much of the assessment data has come from the institutions. As a result of access concerns two reports were completed in 2006, the "Study on the Affordability of Virginia's Public and Private Institutions" and the "Report on the Analysis of Education Demand in Southside Virginia." As the state continues in the restructuring of its higher education system and strengthening the connections between K-12 and postsecondary education assessments and measurements are an integral component of SCHEV's responsibilities.

Summary

Each of the states acknowledged the importance of having assessments such as Measuring Up even with the disagreements regarding the metrics used. Participants also felt it important for states to do internal evaluations to determine if goals and needs are

being met. North Carolina respondents indicated that internal assessments are currently being used to inform policymakers and evaluate initiatives and institutional progress. Maryland and Virginia have also begun utilizing more internal assessments to develop state higher education policy and inform decision making.

Remaining Measuring Up Categories

Each participant alluded to the importance of having a more educated and skilled citizenry and the resulting state benefits. However, neither the benefits category nor any related policies were mentioned. There were also indications that the participation and completion data were included in state discussions and in the case of Virginia caused a closer look at what was happening between grades 9 through 12 in the secondary educational sector. The completion data also found their way into discussions regarding student retention. However the release of the 2006 report resulted in most states finding themselves on the defensive and having to explain affordability methodology they had no input in and did not agree with, thereby detracting from other reporting categories. The remaining category of learning, while mentioned by some participants, was not consistently identified as a topic of significant discussion by interviewees.

Restructuring Higher Education in Virginia

When asked how the overall grades were received in Virginia Ms. Via stated that in 2002, the first time the grades had been thoroughly reviewed on a state level, there was surprise regarding the affordability index:

Everything else was generated from the institutions rather than the state generating anything back so I think this was the first time that the state stepped up and said we need to look at this and talk about it and had we not had a fiscal problem in the Commonwealth I'm not sure our administration would have said

anything about it quite honestly...Most higher ed policy in Virginia came from the institutions rather than from the government.

Mr. Vaughan shared that he felt the report card illuminated some areas for the state such as participation and retention and that on balance the report card was accepted "fairly well".

James further pointed out:

I think that the eventual elements of restructuring in the restructuring act, which include categories of access and affordability, are clear indicators that (I wouldn't say that it is solely responsible for that policy direction) Measuring Up was clearly a contributor. Likewise, I think that in the last five years there [has been] some connection between the standards of learning in the K-12 sector and in college preparation; which to some degree, I am imagining ... that Measuring Up contributed to also. The former governor, remember was very aware of the national scene through his work with educational college service to any number of national organizations that were dealing with education. And I think his leadership with the National Governors' Association put him on a platform where he could really run with those ideas. So I think that our state had a particular advantage: first of having a governor that had a positional advantage of the National Governors' Association group and secondly he was the leader of [that group] and then to boot to have an educational agenda such as he did. I mean Virginia did then and does now take seriously these report card items.

In 2005 the Virginia General Assembly passed the Restructured Higher Education Financial and Administrative Operations Act (Restructuring Act) which is a significant renegotiation between the state and its public colleges and universities. The Restructuring Act was the result of separate initiatives by the then current Governor Mark Warner and three of the state's most notable institutions, the University of Virginia, Virginia Polytechnic Institute and State University, and the College of William and Mary. The universities were seeking to become chartered institutions, a status that would have designated the institutions as political subdivisions of the state rather than state agencies and would have given the institutions significant autonomy over daily operations and in

setting tuitions and fees. The main goal of the proposal was to give the institutions' boards autonomy to set tuition and fees. During difficult economic times funding for state colleges and universities in Virginia were significantly reduced by state lawmakers; appropriations for higher education dropped from 17% of general fund appropriations in 1984 to 10% in 2004. Although institutional boards have authority to set tuition and fees within its institution the legislature could override that authority. "Each year between 1994-1995 and 2001-2002, tuition was capped, frozen, or rolled back, including a 20% rollback in 1999-2000" (Couturier, 2006 p. 3). It is important to note however that between the 1981 and 2006 academic year tuition and mandatory fees increased by 150%.

As a result of the decreases in state appropriations, restrictions on fee increases and what the institutions considered to be burdensome regulations the three "power" institutions submitted what was called the charter proposal. The proposal would uphold the ability of the governance boards of each institution to set tuition and fees, giving the institutions greater control over revenue sources, the ability to set individual policies and procedures regarding procurement and human resources, and exemption from state capital projects regulations. The institutions in return would accept fewer dollars in new appropriations and a combined 2,500 additional in-state students.

In the 2005 session of Virginia's General Assembly a compromise was formed between the universities' requests in the charter proposal and the governor's agenda for higher education in the state. The Restructuring Act established legislation that would extend a certain level of autonomy to public higher education institutions based upon the

fulfillment of specific conditions. Under the bill, three levels of autonomy were made available with the level of autonomy dependent upon the institution's financial strength and ability to manage day to day operations.

Level 1 – After each institution's board passes a resolution committing the institution to meet statewide performance goal, which is mandatory, all public institutions received Level 1 autonomy impacting areas ranging from personnel to surplus materials and leases.

Level 2 – An institution may elect to sign a memorandum of understanding for increased autonomy in the areas of information technology and/or human resources upon demonstrating its ability to operate with increased autonomy.

Level 3 – Institutions that demonstrate the ability to successfully manage its administrative and financial operations without jeopardizing its financial integrity and stability may enter into negotiation with the Governor to develop a management agreement with the Commonwealth. The actual authority granted is governed by the terms of the individual management agreements and may include broad authority in capital building projects, procurement, human resources and finance and accounting.

The bill also required institutions to “develop six-year academic, financial and enrollment plans that outline tuition and fee estimates as well as enrollment projections, to develop detailed plans for meeting statewide objectives and to accept a number of accountability measures including meeting benchmarks related to accessibility and affordability” (Virginia, 2005 p.1). The Governor was also required to establish an independent advisory board to develop administrative management standards for the institutions. The Restructuring Act has been considered a major policy development for the state.

Developing the Maryland Higher Education Model

Measuring Up data served as support for an initiative to study a model for postsecondary education that would support the State's higher education goals and develop more comprehensive higher education policy. As a part of the 2004 State Higher

Education Plan, MHEC was charged with initiating the process for the development of a postsecondary education model. The model was to be used as a guide for decision making and based upon two overarching goals:

- The linkage of tuition policy, State support to institutions, and institutional and State financial aid in regard to student access and the needs of the state. Including consideration of:
 - How access can be provided to all Maryland residents who can benefit from postsecondary education and desire to attend a college, university or private career school.
 - The appropriate balance between the student share and the State share of the cost of higher education.
 - The economic and civic benefits to the State from having and educated population.
- The model should be the foundation for the development of a coordinated statewide 10-year growth plan for higher education. (Van D Water, 2006, p. a)

In deciding to develop a postsecondary model the Commission relied upon several guiding principles including an understanding that the State has a basic responsibility to provide postsecondary education adequately and efficiently; that while higher education is a private benefit it is also an enormous public good; and that there are certain trends in higher education that no system or institution will avoid. The need for the assessment was seen of such importance that it was linked to the Tuition Affordability Act of 2006. Under the Affordability Act with the exception of St. Mary's College of Maryland no public senior higher education institution could increase tuition over the previous year's rates for the academic year beginning fall 2006 and any increase in tuition at St. Mary's was limited to a 4.8% over the previous year and a commission was established to develop the Maryland Model.

Van de Water, LLC was contracted by MHEC to study and develop recommendations for a postsecondary educational model in Maryland. In developing recommendations for Maryland nine peer states were identified and used as models. Those states were: Connecticut, Illinois, Massachusetts, Minnesota, New Jersey, New York, Pennsylvania, Virginia and Washington, the selection of these states was based upon their similarity to Maryland in tuition policies and state average family income. As a result of the study Van de Water made the following recommendations in developing the Maryland Higher Education Model:

1. Set specific goals for access and affordability with annual progress reports. Objectives for setting these goals should include: increasing the participation rate of low-income students and close the college going and degree completion rate between low- and high-income students; place priority on meeting the needs of lowest income and non-traditional students in setting student financial aid; increase allocations to need-based aid; improve the state's rating in national measures of affordability; and increase the share of higher education costs funded by state appropriations.
2. Strengthen coordination of planning and budget development by amending the schedule and process for developing the higher education budget to promote collaboration and better informed decision making. Consideration should be given to establishing a higher education affordability committee to provide guidelines for setting tuition levels and related changes to student financial aid.
3. Align state appropriations, tuition, and student aid by adopting a framework to guide budget development and inform government and higher education leaders prior to the making of budget decisions.
4. Use student aid to make postsecondary education affordable to all citizens by boosting funding for need-based aid at a rate faster than tuition increases and enrollment growth, and focus on assisting students with the greatest needs and disadvantages. The state should also consolidate financial aid programs and increase awareness of student aid through outreach efforts. (Van de Water, 2006, p.)

In January 2007 the Maryland Higher Education Commission endorsed the recommendations of the Van de Water's report as the basis for developing the Maryland

model for funding higher education. The Commission also recommended the consideration of three additional issues and their impact upon postsecondary education in the state: a) the preparation of Maryland high school graduates for college, b) enrollment growth and distribution, and c) the possibilities for cost containment in the management of public higher education institutions. The recommendations will be submitted to the Governor and Maryland General Assembly by December 31, 2007.

Enhancements Recommended

The participants did note two areas of enhancements for report usage. “The inclusion of policy makers more directly in the process might increase its benefits to users” (James V.). Working with the states to understand their various systems and to get feedback on measures and methodology is seen as a way to enhance report utilization. Bernice V. indicated that NCPPHE now needs to “include grades in *learning* to help gain focus on student learning outcomes, especially with the advent of the Spellings Commission.” Learning is one of the six report card categories; however states have received incompletes since the report’s inception in this area.

Measuring Up was perceived as useful in supporting policy decisions regarding higher education; two sets of enhancements were recommended by Mr. Steve Morris and Mr. Fred Miller. Of most concern for Mr. Morris was the methodology used to determine the affordability index. The methodology for the 2006 report was seen as confusing and he asked the researcher if she could explain how the NCPPHE calculated affordability. There was frustration especially given the advancements Maryland was attempting to make postsecondary education more affordable. The respondents all agreed that the

methodology used in determining the report card grades was the area most seen as needing enhancements. Mr. Michael Nevins and Mr. Zachary Nash expressed the need for better or real data in developing the Measuring Up report: "I think they need to start looking at better data that exist and better measures that will tell the story" (Mr. Michael Nevins). In specifically reviewing the affordability index Mr. Nash relayed "...this is the thing that troubles me the most – the methodology – you may understand it, but I don't know of anybody else here who does, very obscure they're missing an awful lot of aid they needed to get." The concerns regarding methodology were not only in relation to affordability but to other aspects of the report as well, such as the collection of data that more accurately reflects community colleges which play a tremendous role in postsecondary education and the meshing of private institutional data into the state grades. Ronald Neal also suggested that the Measuring Up "report applies to privates too which skews the North Carolina picture substantially."

Mr. Miller suggested that the reports go beyond the grading system and provide additional information that would be useful to the states on how improvements can be made. He indicated that "some guidelines with emphasis on specifically how you can get more people from lower income and minority areas into higher education" would be meaningful. In the less talked about areas of preparation and participation he also felt "some direction and some policy suggestions on how you achieve more people that participate and how you get more prepared would be very helpful and how you get more people completing." Mr. Morris and Mr. Miller indicated that while Measuring Up may

have “no direct impact on policy” it was “used to support policy decisions and used as data” (Mr. Steve Morris) and seen as useful to the process.

Higher education policy has had greater national attention with the establishment of the Spellings Commission, whose goal was to develop a comprehensive national strategy for higher education. Ms. Via believes that whether or not Measuring Up, which is specifically mentioned in the commission’s report, will have a specific impact on higher education policy will depend upon “who wins the next election.” She believes that whether or not the next person appointed Secretary of Education recognizes the work done in the report will impact the future usage and influence of the report. Mr. Vaughn believed the report would continue to stimulate thinking about the various topics in the states.

When asked about the perceived impact Measuring Up will have on higher education policy considerations two of the respondents, Mr. Nevins and Mr. Neal believe that that the discussions the report stimulated is what’s most beneficial. Mr. Nash believed that “this year probably hurt them...it was so universally scored. It came out with such an extreme piece (referring to the Fs in affordability); on the other hand, with the commission (the Spellings Commission) mentioning them I do think it’s possible” for the report to impact higher education policy. Mr. Ronald Neal summarized the report’s impact by stating:

I think all over the nation people are reading it and studying it. It’s hard in my mind to separate whether it is the report that’s impacting us or the environment in general or the leadership that we have here right now – but all of it is working together to make a difference in higher education.

Chapter 5

Conclusions and Recommendations

Statement of Problem

The attainment of postsecondary education has a direct impact on the ability of individuals to lead productive and contributory lives in our current global society. Research provides numerous examples to support the assertion that there are significant economic and social benefits to increasing access to higher education. These benefits include reduced crime rates, a greater tolerance of diversity, increased civic participation, reduced unemployment and welfare, and more charitable giving and volunteerism. Therefore, an accessible higher education system is essential for the continued growth of our local and national communities.

Postsecondary education requires a substantial investment of funding and resources by individual students, their families and the American society. As a result of this investment and the greater societal implications, higher education has become a topic of significant focus for politicians, business and government leaders, as well as concerned students and parents. The delivery and support of higher education is a complex and multifaceted issue. Policy decisions regarding higher education are made at the state level with limited information regarding the direct impact of decisions or policies upon students' concerns or needs. Limited research has been done to review various state's methodologies or to look at the diversity in individual state needs to determine what may be appropriate in certain areas and not in others.

The National Center for Public Policy and Higher Education, in an attempt to address the impact of state higher education policies and practices, developed Measuring Up. Measuring Up is an analysis of the influence of state education policies upon postsecondary education participation and outcomes, conveyed in a report card format. The nationally comparative report assigns each state a grade in six categories: participation, affordability, preparation, completion, benefits and learning. This study attempted to determine if Measuring Up was useful to state policy makers in developing higher education policies and to discover how states are addressing what they perceive to be the most pressing higher education issues in Maryland, North Carolina and Virginia.

Purpose of the Study

The purpose of this research was twofold. The first goal was to provide a greater understanding of the state higher education organizational structure in North Carolina, Virginia and Maryland. The second objective was to determine if Measuring Up has been perceived by policymakers in Maryland, Virginia and North Carolina as a useful tool in the higher education policy process. The study also provided information on policies implemented to address pertinent issues as perceived by the participants within each state.

Research Design and Questions

A qualitative research design was used to gather information on the higher education governance structure for each state and a variety of perspectives on the usefulness of Measuring Up as a tool in the policy process. The participants were chosen by purposeful, criterion-based sampling. Participants were contacted via email by the

researcher requesting personal interviews to discuss the usefulness of Measuring Up and current higher education topics in their states. Interviewees included representatives from the legislature, executive office, and higher education governing or coordinating body for each state.

Data collection was done by conducting in-depth, open-ended interviews and written documentation review. Each personal interview was audio taped and transcribed verbatim. The transcripts were sent to each participant to review for accuracy and to clarify or edit their responses. After each interview the researcher reviewed the tapes and interview notes from the preceding interview(s) to determine if there were any overlapping themes or concepts. The transcripts and other documents were reviewed several times to insure all questions were answered and to identify general concepts and themes.

Discussion

Affordability

Affordability and its impact on accessibility is a topic that has gained national attention. “Decreases in state appropriations have played a role in the fact that public institutions increasingly rely on tuition” to sustain themselves (Institute, 2006, p. 18). Meanwhile, the federal financial aid system is seen as “confusing, complex, inefficient, duplicative, and frequently does not direct aid to students who truly need it” (Secretary, 2006, p. 3). As a result of these combined influences, it has become increasingly difficult for students to afford to pursue postsecondary education and acquire the appropriate skills necessary to achieve financial stability and social mobility. “It is estimated that between

the years 2000 and 2010, two million college-qualified high school graduates from low and moderate income families will be shut out of college entirely by financial concerns” (Institute, 2006, p. 6).

Affordability is not only a subject of concern by government officials but it is also cited as the general public’s greatest concern (Hart, 2003, p. 2). This concern with affordability is echoed within the three states; North Carolina, Virginia and Maryland have each indicated that student aid and tuition rates are among their top priorities. The 2006 Measuring Up report, however, was not seen as particularly useful in developing affordability policy. The methodology and subsequent grade of F to 86% of the states hurt the credibility of the report with the individual states. The Measuring Up report focuses on tuition rates which accounts for approximately 50% of the graded category’s weighted average. This methodology does not address affordability in a manner that the states’ representatives felt was meaningful, given the current economic climate and demands upon state resources. The literature on higher education affordability supports the concept that state fiscal constraints play an important role in the funding of higher education and as states face funding pressures from other sources that are seen as more critical or as entitlements, higher education appropriations have decreased (Callan, 1998; Immerwahr, 2004; Institute, 2006; Jones, 1998; NCPPHE, 2004). Therefore institutions can not expect a significant increase in resources that would bring about the lower tuition rates experienced in 1992, the benchmark comparison year for the Measuring Up affordability grades, nor is there an expectation that tuition costs will decrease. The states, Maryland, Virginia and North Carolina, have therefore opted to increase student

need-based aid to address the issue of access for lower and, most recently, middle income families. Since, in the states' perception, the report appears to be skewed toward low tuition, a stance that the states do not feel realistically addresses the issue of access; it has created a level of skepticism among state policymakers regarding its intent. For many, the methodology and resultant grades give the appearance of being agenda driven rather than a neutral assessment. An example of this is California's grade of C- in affordability, the highest grade given in the 2006 reporting year, along with Texas; however a recent report issued by the NCPPHE, the developers of the report card, indicates that a review of the community college system in California reveals that although student fees are among some of the lowest in the nation "affordability is a serious problem" (Zumeta, 2007, p. vii). Results such as these sustain the skepticism held by many policymakers, making report usage for affordability policies limited.

This skepticism does not mean that the states consider the report as being of no value in the discussion regarding affordability policy. Maryland has successfully used previous years' report findings to support the development of additional need based aid programs in its state plan. Virginia has also used the findings as a tool to support additional assessments on college affordability in the state and in the development of aid policies. Previous years' reports have helped to facilitate the discussion regarding affordability and access for low and middle income students; by contributing to the data pool and giving policymakers a means by which general comparisons can be made.

Other Access Policies

Though affordability has gained national attention it is not the sole consideration in determining student access. In Hart and Teeter's work on quality, affordability and access, fifty-two percent of the respondents felt that the nation was either not doing well enough or coming up short when it comes to providing access to college to young people from all backgrounds (Hart, 2003, p. 7). Limitations of availability of higher education for poor people and for racial minorities; and the segregation by race and class of students into various types of institutions was interpreted as a manifestation of the weakness of access policies in Eaton's work on the evolution of access policy.

In its report to the Secretary of Education, the Spellings Commission identified in its findings regarding access that expanding capacity across higher education is necessary to meet the growing demand of adult students participating in credential or degree-granting programs as well as the increasing numbers of low-income and minority students who will work full-time and need to attend school close to home (Secretary, 2006). Maryland and North Carolina have developed two different approaches to address the issues of access in terms of facility usage and geographic location to enhance participation. North Carolina's focused growth initiative and Maryland's regional higher education centers policy's goal was to expand enrollment in postsecondary education by increasing the availability of and access to baccalaureate institutions and training. North Carolina's growth initiative focused on enhancing facilities and programs at its public HBCUs, Native American institution and its institution in the rural western part of the state. Each of the institutions had excess physical capacity and provided opportunities to

address the needs of qualified students who may, because of cultural, familial and other intangible issues beyond financial aid, find it difficult or unacceptable to matriculate into the larger, more distanced traditional four year colleges or universities. This unique initiative used bond funding to provide a needed influx of funds to enhance facilities and institutional programming. The success of the program has centered on the ability of the focused growth campuses to outpace enrollment growth of the state's traditional institutions by twenty-three percent as well as surpass their goal of a twenty percent enrollment growth within five years. Enrollment at the focused growth campuses have increased by an average of thirty-six percent.

Maryland's goal, through its regional higher education centers concept, was to increase access in unserved and underserved areas of the state. The regional centers is one method by which Maryland lawmakers are attempting to increase capacity to meet the demands of working students who attend part-time looking for efficient, accessible educational opportunities as well as students in rural areas of the state. The centers consist of course offerings from two or more participating higher education institutions within the state at a single location.

Preparation and P-16

The literature on higher education issues supports the need for a stronger connection between K-12 and postsecondary education to enhance student preparation (Hart, 2003; Institute, 2006; Jones, 1998; National Commission, 2005; Secretary, 2006). The quality of secondary preparation impacts access to and retention in higher education. As indicated in the literature regarding student preparation, poorly prepared students have

lower retention and completion rates as well as incur increased costs associated with the requirement to take remedial courses (Institute, 2006; Secretary, 2006). In line with national concern regarding student preparation, as indicated in Hart and Teeter's work, state officials in North Carolina, Virginia and Maryland are utilizing methods by which the connection between postsecondary requirements and secondary education can be improved, such as working directly with schools and through K-16 partnerships. Both of these methods have been recommended as ways to improve student preparation and access. (Institute, 2005; Secretary, 2006)

Measuring Up was useful to the states in stimulating conversation and providing the states with supporting data to assist in the development of policies and initiatives. Virginia's P-16 Council was considered as a direct result of information provided by the Measuring Up reports. The report again provided supplemental data in helping states to identify trends and issues for discussion regarding student preparation.

Measurements

Accountability has been incorporated into many discussions regarding higher education in the United States (Institute, 2005; National 2005; Secretary, 2006). In its report, *Accountability for Better Results*, the National Commission in Higher Education recommended that statewide data systems across all levels of education be created to help inform policy and budgetary decisions (National, 2005, p. 7). The states in the study have also acknowledged the need to have accurate and comprehensive data available to assess policies and programs to aid in policy decisions regarding higher education.

Through the administrative units of the three major higher education agencies (UNC, NCCCS and NCEAA) system evaluation and review is an integral part of North Carolina's higher education planning process. The state's data analysis is not limited to reviewing and assessing what is happening internally, but also includes acknowledging accomplishments in other states and engaging in dialogues to determine if and how their methods may be useful in developing programs and policy in North Carolina. Although the premise of such a report as Measuring Up would be useful to North Carolina, there has been significant concern over the methodology used, especially in the affordability category. The development of the report is seen to have been far removed from the actualities of the various states, therefore with questionable methodology and assumptions. As a result of the concern over Measuring Up methodology, the extent of the state's own assessments, and involvement in national conversations, the report has not been seen as particularly useful in determining higher education policy decisions in North Carolina.

On the other hand, Maryland does not have the long standing internal evaluations and assessments that are typical of organizations that have had such data collection over an extended number of years. The assessments provided by Measuring Up have been significantly useful as the state continues to progress in the development of a comprehensive higher education plan. It has provided the state with an opportunity to compare itself with other states and use the data as a benchmark for areas of improvement and enhancement.

Virginia's culture has been one of having much of its information and assessment data filter up from the institutional level. Virginia state legislators have relied upon the state's public institutions to provide such data, much of the data in the original Measuring Up report was new or of a different perspective than what had been previously utilized. The report's information was a useful tool in supporting policy review and development that was already under consideration and filled in data gaps with existing information or assessments. It is important to note that with the exception of the responses to the F grades in affordability, the categorical grades were not identified as particularly useful. The underlying data, although controversial in some instances, is what was seen as useful in enhancing discussions regarding state higher education practices and needs.

The States

The higher education governance structure differs for each of the three states reviewed. North Carolina operates under a consolidated system; Virginia's system is composed of individual institutions with their own governing boards and a state coordinating body; the Maryland system consists of a state coordinating body and a consolidated system which oversees all but three of the state's public four year institutions. These differences impact the method by which policy recommendations are presented to the general assembly. Consolidated systems approach state legislatures with one voice for its constituent institutions, where as in single institution systems each institution lobbies for approval of specific policies, budgets, and etcetera; state coordinating bodies work directly with the legislature for general state level policy recommendations. The level of public funding of postsecondary education also differs

between the states with North Carolina consistently allocating more resources per capita than Maryland or Virginia.

Of the respondents, those from North Carolina indicated the least impact from the Measuring Up reports. Participants from Virginia and Maryland gave at least one instance where Measuring Up data was clearly utilized in the development of state initiatives, dissimilarly there were no direct linkages made in the North Carolina system. The differences in resource commitment and utilization of the Measuring Up reports appear to be connected to cultural differences rather than system governance. The commitment to higher education as outlined in the state constitution of North Carolina established an assured level of state commitment and responsibility to higher education (including cost and accessibility) very early in its history. Maryland's code also indicates a more specific commitment and responsibility for higher education and the quality thereof than in Virginia's general requirements. The influence of the state's history upon postsecondary education policy decision making is supported in the literature on higher education and public policy analysis indicating that historical and cultural issues play a significant role in policy development and implementation (Gill, 1992)

Summary

Measuring Up has been useful to support internal assessments and needs, as a comparison point for leaders to review their own assessment data, as well as bring to light issues not previously considered. There is little question regarding the value of a comparative report such as Measuring Up: it has attempted to quantify the status of higher education in a way that had not been done so previously and has been useful to

states in discussions regarding developing foundational elements for policy decisions. The Spellings Commission has contributed to the visibility of the report as well as its credibility by specifically mentioning the report's value in highlighting the critical components of postsecondary education and the need for the continuation of such assessments. Therefore it is reasonable to conclude that there will continue to be an audience for the report findings and that states will take the report findings seriously; if for no other reason than that the current administration in the U.S. Department of Education does.

Recommendations

The stated purpose of the Measuring Up report is to “provide the general public and policymakers with information they can use to assess and improve postsecondary education in each state. The report cards were developed as a tool for fostering improvement in policy and performance” (NCPPE, 2006, p. 27). In developing “tools” for usage by others it is important to determine and consider the users’ perspective on their needs and, in this instance, goals for postsecondary education. Although for the purposes of the Measuring Up report, each state’s individual needs and goals could not be addressed, a generalized concept or perspective from the intended audience should have been utilized in the development of the report. Conversations with state representatives, organizations or agencies such as State Higher Education Executive Officers were not included in the development of the report, thereby creating skepticism beginning with the issuance of the first report among those who were purported to be the target users. The most controversial component of Measuring Up is the measurements used to determine

grades, in particular affordability. Policymakers considered the methodology to be faulty and did not address the reality of the states economic climates or efforts. Conversations with state higher education leaders or representatives should occur prior to the issuance of subsequent reports to enhance effectiveness and utilization by policymakers.

The use of the standardized grading scale of A through F was successful in gaining the initial attention of state policymakers and influencers. The attention drawn by the initial reporting of grades prompted the states to more closely review internal assessments and assumptions and compare those to the Measuring Up results. This allowed the states to determine if their current internally generated information could be enhanced and incorporated sufficient metrics to support policy decisions. Although the grades themselves were not seen as helpful, the resulting review of the report details provided an additional viewpoint of consideration for state leaders.

However the report must go beyond generalized comparisons. To be more effective as a policy tool the underlying data components should provide for comparisons based upon state environmental components such as the state's economy, higher education system and population. Subgroups distinguishing community college data from four-year institutions would also provide for more meaningful comparisons in developing policy recommendations. Additional information should be gathered from state higher education leaders to determine data components that may be useful to state leaders but are not utilized in the measuring up assessment.

Implications for Further Study

The researcher embarked upon this study as a result of her personal interest in postsecondary access for low-income and minority students at all achievement levels. The researcher believes that before meaningful educational policy can be developed an assessment of the higher education environment of each state must be considered. Therefore in order to have a better perspective on how states are addressing higher education issues the researcher thought it prudent to talk with state leaders to obtain their viewpoint on their state's postsecondary educational needs and initiatives.

There were findings that were surprising; the researcher had anticipated that more comprehensive assessments had been completed on the state level than indicated. With the exception of one state, there were limited in-depth assessments conducted on the state level on issues such as student aid, preparation and student needs, and the subsequent impact upon student access and completion, especially on lower income and minority students. All three states have more recently begun state assessments of educational policies and their impact upon constituents. In light of this and other research findings there are several implications for state higher education leaders and implications for further study on what states are doing to address postsecondary issues.

A state's historical approach to higher education determines whether its culture is student or institutionally centered. This focus influences educational policy as well as the authority or voice of its higher education governing or coordinating body. While the governing bodies in a consolidated system have significant influence in changing the state culture as a result of the direct relationship with the legislature and state

administrative officials, coordinating bodies many times compete with institutional presidents and governing bodies in influencing policymakers and administrative officials.

Therefore, state coordinating bodies need to be assertive in looking out for the interests of its student constituents. They must be aggressive in developing state data through assessments and research and in developing a strong influential voice to insure that higher education policies are student centered rather than institutionally centered. Internal assessments should be ongoing and used as a base to policy decisions and initiatives. Coordinating bodies must take a strong leadership role in influencing the state culture regarding higher education.

Affordability is the most prevalent topic in today's conversation regarding higher education as demonstrated in the current literature and this research study. Further research should be done on how various states are attempting to address this issue within the confines of their own economic climate and constituent needs. The research should include comparative studies of states with similar environmental and cultural issues as well as analyses of current policies and initiatives and their impact upon student access. Given certain economic and cultural issues, what works well in California may not work in Alabama; therefore it is important to consider state history, climate, and constituents among other influences in comparing states and determining "best practices."

Similar research should also be completed in looking at preparation issues; especially in addressing inner city and rural needs. Of interest would be how states are attempting to close the gap between preparation indicators for low-income and minority students as compared to middle- and high-income students. Affordability and preparation

are underlying components of participation levels, therefore addressing these issues are prudent to increasing student participation as well as completion rates. What states are currently doing and which states appear to be successful are useful tools for all states. Learning about these initiatives by talking with the states and doing in-depth analyses would be most useful in helping others address those needs.

It would also be interesting to study the development and impact of Virginia's restructuring act for higher education and Maryland's higher education model. If and how these initiatives impact student access including the topical areas of affordability and participation as well as the subsequent impact upon the institutions and other postsecondary components within each state would be of value to states that may be considering reviewing or reorganizing their higher education structures.

North Carolina's focused growth initiative and Maryland's regional centers concepts are two additional initiatives that should be further reviewed and studied to determine how they may be transferred and utilized in other states with similar concerns. As the number of students graduating from high school as well as the number of immigrants and non-traditional students seeking postsecondary training or certification continues to grow it is necessary to consider new methods of increasing capacity and providing access.

Summary

Access to and the quality of postsecondary education has become of local, state and national concern. In order to keep pace in the current technological global society it is imperative to have an educated citizenry. A high school diploma no longer provides

the skill level necessary for advancement, therefore our definition of educated has expanded to denote those who have completed postsecondary certification. As a result, state governments and the federal government have focused on the quality of and access to postsecondary education.

In an attempt to assess the state of higher education the National Center for Public Policy in Higher Education developed Measuring Up, a national report card grading each state in six categories deemed to be essential to an effective postsecondary system.

Those categories included: preparation, participation, affordability, completion, benefits, and learning. The goal of the report was to give state higher education policymakers a tool by which to assess their current system in comparison to other states in each of the six categories. As a result of this comparison it was anticipated that a dialogue would be created not only within each state but between the states as well. The first report card was issued in 2000 with biannual releases occurring thereafter. The target audience for Measuring Up was state higher education leaders, business leaders and the general public.

To be considered as a useful tool for education leaders those leaders must regard the report itself as valuable. Although Measuring Up has garnered national recognition through the Spellings Commission no previous attempts have been made to determine the states' perspective on the report and its value as a useful tool. In interviewing postsecondary education leaders from three states, Maryland, North Carolina and Virginia, the report has been useful by contributing to on-going conversations regarding postsecondary education in the states. Although the report has generated or contributed to the dialogue regarding higher education in each state there is skepticism among the

states regarding the methodology used in the various categories, especially affordability, the most prevalent topic in postsecondary education discussions.

Of major concern in the development of Measuring Up is that state higher education leaders were not included in the process. States were not consulted in determining what their data or assessment needs were, nor was there inquiry into the type of assessments currently being done by the states. As a result state policymakers find themselves, in some cases, defending current policy decisions against assumptions and methodologies they feel in various instances do not adequately or accurately reflect state activities and actions. The issuance of the 2006 report which assigned grades of F in affordability in 43 states weakened the credibility gained by previous years' reports.

Although Measuring Up has contributed to higher education discussions and has been useful in supporting state assessments and activities, its usefulness would be enhanced by working with state education leaders or representatives. Future research should also look at various programs within the states to address such issues as access, preparation, participation, affordability and others. Programs such as North Carolina's Focused Growth Initiative or Maryland's Universities at Shady Grove concept as well as Virginia's Restructuring Act are state initiatives implemented to address students and policymakers' concerns.

Each of the states recognize the need to enhance student participation and access to higher education and are attempting to address barriers that hinder those seeking to continue their education. There is no one quick fix nor is it a solitary endeavor that each state does alone. As our society's needs and expectations change greater is the demand

upon states to provide accessible quality postsecondary education to its residents. As each state addresses higher education so do we collectively as a nation; therefore it is not left up to the states alone but to each of us in the higher education community.

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Appendix A

Details of Measurements

**HIGH SCHOOL COMPLETION:
18- to 24-year-olds with a high school credential**

Sources: U.S. Bureau of the Census. Current Population Survey. October 2002, 2003, and 2004 Supplements; October 1990, 1991, and 1992 Supplements. Washington, D.C. State-level data for 2002–2004 were provided by Research Triangle Institute, 2006; data for 1990–1992 were provided by Pinkerton Computer Consultants, 2004. This measure uses the following calculation:

- Numerator: Number of 18- to 24-year-olds in the population holding a high school credential.*
- Denominator: Total population ages 18 to 24, excluding those still enrolled in high school or currently pursuing alternative certification. High school credential includes a high school diploma or alternative certification such as a General Educational Development (GED) diploma.

This indicator measures the extent to which the traditional-college-age young adult population in the state is minimally qualified to participate in postsecondary education. This is because our denominator excludes those currently enrolled in high school, while others use the entire population ages 18 to 24 as denominator. This indicator is not a calculation of cohort survival rate (such as the percent of ninth graders graduating from high school in four years). Given the drop-out and re-entry patterns of many students, a simple calculation of high school graduation rate would fail to capture their eventual completion.

First introduced in Measuring Up 2004, the report card continues to provide a breakdown that allows each state to compare between regular high school diploma holders and GED recipients in their states. Nationally, 87% of traditional-college-age youths hold a high school credential; among them about 82% are regular high school graduates and about 5% are GED recipients.

This indicator pools three years of the most current data, 2002 to 2004 (and 1990 to 1992 as the data for the early 1990s), to obtain a large enough sample size to make reliable state estimates and to account for aberrations in any single year of data. Using this method, data are available for all 50 states.

**K–12 COURSE TAKING:
9th to 12th graders taking at least one upper-level math course**

Sources: Rolf K. Blank and Doreen Langesen. State Indicators of Science and Mathematics Education 2005: State-by-State Trends and New Indicators from the 2003–04 School Year. Washington, D.C.: Council of Chief State School Officers, 2005. The data for the early 1990s are from Rolf K. Blank and Doreen Gruebel. State Indicators of Science and Mathematics Education 1993: State

and National Trends—New Indicators from the 1991–92 School Year. Washington, D.C.: Council of Chief School Officers, 1993, p.18.

This indicator measures the percentage of public high school students in the state in grades 9 to 12 who took one or more math courses at levels 2 through 5 during the 2003–04 school year. These math courses include geometry, algebra 2, trigonometry, pre-calculus, or calculus.

Although high school humanities subject course taking is also important to students' preparation, neither the Council of Chief State School Officers nor any other organization collects these types of data comparably from the states. Louisiana's data from the early 1990s are for the 1989–90 school year.

Data are available for 35 states, including Alabama, Connecticut, Delaware, Kentucky, Massachusetts, New York, Oregon, and Vermont, for which the latest data available method was applied: That is, because these states had participated previously but did not participate in the most recent survey, their data from earlier Measuring Up reports were used. Fifteen states for which data are unavailable are: Alaska, Arizona, Colorado, Georgia, Hawaii, Illinois, Kansas, Maine, **Maryland**, Montana, New Hampshire, New Jersey, Rhode Island, **Virginia**, and Washington.

K–12 COURSE TAKING:

9th to 12th graders taking at least one upper-level science course

Sources: Rolf K. Blank and Doreen Langesen. State Indicators of Science and Mathematics Education 2005: State-by-State Trends and New Indicators from the 2003–04 School Year. Washington, D.C.: Council of Chief State School Officers, 2005. The data for the early 1990s are from Rolf K. Blank and Doreen Gruebel. State Indicators of Science and Mathematics Education 1993: State and National Trends—New Indicators from the 1991–92 School Year. Washington, D.C.: Council of Chief School Officers, 1993, p. 22.

A separate but similar indicator to math course taking, science course taking measures the extent to which high school students in the state were enrolled in one or more of the following science courses during the 2003–04 school year: chemistry or physics, second-year biology, AP biology, second-year earth science, or other advanced science courses.

Although high school humanities subject course taking is also important to students' preparation, neither the CCSSO nor any other organization collects these types of data comparably from the states.

Data are available for 35 states, including Alabama, Connecticut, Delaware, Kentucky, Massachusetts, New York, Oregon, and Vermont, for which the latest data available method was applied: That is, because these states had

participated previously but did not participate in the most recent survey, their results from an earlier survey (previously reported in Measuring Up) were used. Fifteen states for which data are unavailable are: Alaska, Arizona, Colorado, Georgia, Hawaii, Illinois, Kansas, Maine, **Maryland**, Montana, New Hampshire, New Jersey, Rhode Island, **Virginia**, and Washington.

K–12 COURSE TAKING:
8th graders taking algebra

Sources: Calculations based on unpublished data provided by the Science and Math Indicator Project team at the Council of Chief State School Officers. Rolf K. Blank and Doreen Langesen. State Indicators of Science and Mathematics Education 2005: State-by-State Trends and New Indicators from the 2003–04 School Year. Washington, D.C.: Council of Chief State School Officers, 2005. The data for the early 1990s are from Rolf K. Blank and Doreen Gruebel. State Indicators of Science and Mathematics Education 1993: State and National Trends—New Indicators from the 1991–92 School Year. Washington, D.C.: Council of Chief School Officers, 1993, p. 20.

This indicator measures the percentage of public school eighth grade students in the state who took algebra 1 during the 2003–04 school year.

Data are available from 31 states, including Alabama, California, Connecticut, Delaware, Florida, Kentucky, Massachusetts, Oregon, and Vermont, where the latest data available method was applied: That is, because these states had participated previously but did not participate in the most recent survey, their results from an earlier survey (previously reported in Measuring Up) were used. Nineteen states for which data are unavailable are: Alaska, Arizona, Colorado, Georgia, Hawaii, Illinois, Iowa, Kansas, Maine, **Maryland**, Montana, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Texas, **Virginia**, and Washington. (New York is missing the data because it offers integrated math instead of algebra.) In measuring improvement, data for the 1989–90 school year were used for Arkansas, Indiana, Louisiana, Minnesota, Mississippi, Missouri, Nevada, New Mexico, Oklahoma, Wisconsin, and Wyoming.

K–12 COURSE TAKING:
12th graders taking at least one upper-level math course

Sources: Calculations based on unpublished data provided by the Science and Math Indicator Project team at the Council of Chief State School Officers. The data are from the same source that was used to calculate the percentage of ninth to twelfth graders taking at least one upper-level math course: Rolf K. Blank and Doreen Langesen. State Indicators of Science and Mathematics Education 2005: State-by-State Trends and New Indicators from the 2003–04 School Year. Washington, D.C.: Council of Chief State School Officers, 2005.

This indicator measures the percentage of public high school senior students in the state who took at least one advanced math course during the 2003–04 school year. The indicator attempts to provide a current picture of how many high school students maintain academic rigor during their last year. In recent years much attention has been devoted to the problem of America’s high school seniors and the concern among policymakers that students may not be taking academically demanding courses after their graduation requirements are met, or after they are accepted to college. Thus, their preparation for postsecondary education or the workforce may be inadequate. In order to ensure that students are ready for a successful transition, it is suggested that state policies require rigorous course enrollment throughout all high school years.

The indicator uses the following calculation:

- Numerator: Number of public high school seniors enrolled in math courses at levels 2 through 5* during the 2003–04 school year.
- Denominator: Number of public high school seniors enrolled for the 2003–04 school year.

*These courses include geometry, algebra 2, trigonometry, pre-calculus, calculus, and AP calculus.

Data are reported for 23 states, including Alabama, Connecticut, Massachusetts and Vermont, for which the latest data available method was applied: That is, because these states had participated previously but did not participate in the most recent survey, their data from Measuring Up 2004 were used. Many states are missing data because they declined to participate in the survey, or they did not report the data by grade level. Twenty-seven states for which data are unavailable are: Alaska, Arizona, Colorado, Delaware, Georgia, Hawaii, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, **Maryland**, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New Jersey, New York, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, **Virginia**, and Washington. Also, historical data are unavailable; thus this indicator was not used to measure improvement over time.

K–12 STUDENT ACHIEVEMENT:

8th graders scoring at or above “proficient” on the national assessment exam in math

Sources: National Assessment of Educational Progress. The Nation’s Report Card, Mathematics 2005 and 1992. Washington, D.C.: U.S. Department of Education. <http://nces.ed.gov/nationsreportcard/nde> (accessed 3/15/06).

This math proficiency rate is measured as the percentage of public school eighth graders whose performance on the National Assessment of Educational Progress (NAEP) exam in math was “proficient” or “advanced.”

Academic proficiency levels are determined by the National Assessment Governing Board, based on judgments about what students should know and be able to do.

All 50 states are reported for 2005. In measuring improvement over time, data from the 1990 assessments were used for Illinois, Montana, and Oregon.

**K–12 STUDENT ACHIEVEMENT:
8th graders scoring at or above “proficient” on the national assessment exam in reading**

Sources: National Assessment of Educational Progress. The Nation’s Report Card, Reading 2005 and 1998. Washington, D.C.: U.S. Department of Education. <http://nces.ed.gov/nationsreportcard/nde> (accessed 3/15/06).

These proficiency rates measure the percentage of eighth graders enrolled in public school whose performance on the National Assessment of Educational Progress (NAEP) exam in reading was “proficient” or “advanced.”

Academic proficiency levels are determined by the National Assessment Governing Board, based on judgments about what students should know and be able to do. The reading assessment at the state level began in 1998 and thus data from 1998 to 2005 were used to measure improvement over time.

All 50 states are reported for 2005.

**K–12 STUDENT ACHIEVEMENT:
8th graders scoring at or above “proficient” on the national assessment exam in science**

Sources: National Assessment of Educational Progress. The Nation’s Report Card, Science 2005 and 1996. Washington, D.C.: U.S. Department of Education. <http://nces.ed.gov/nationsreportcard/nde> (accessed 5/25/06).

This indicator measures the percentage of public school eighth graders whose performance on the National Assessment of Educational Progress (NAEP) exam in science was “proficient” or “advanced.”

Academic proficiency levels are determined by the National Assessment Governing Board, based on judgments about what students should know and be able to do. NAEP science assessments began in 1996 and thus data from 1996 to 2005 were used to measure improvement over time.

Data are available for 46 states. Forty-four states participated in the 2005 assessment, and data for an additional two states (Nebraska and New York)

were drawn from Measuring Up 2004 (that is, the 2000 assessment). States for which data are missing are: Alaska, Iowa, Kansas, and Pennsylvania.

K–12 STUDENT ACHIEVEMENT:

8th graders scoring at or above “proficient” on the national assessment exam in writing

Sources: National Assessment of Educational Progress. The Nation’s Report Card, Writing 2002 and 1998. Washington, D.C.: U.S. Department of Education. <http://nces.ed.gov/nationsreportcard/nde> (accessed 4/15/04).

This measure indicates the percentage of eighth graders enrolled in public school whose performance on the National Assessment of Educational Progress (NAEP) exam in writing was “proficient” or “advanced.”

Academic proficiency levels are determined by the National Assessment Governing Board, based on judgments about what students should know and be able to do. The data for 2002 are still the most current data, since no assessment has been carried out since 2002. Data for 1998 and 2002 were used to measure improvement over time.

Data are reported for 43 states, including Colorado and Minnesota, where the latest data available method was applied: That is, because these states had participated previously but did not participate in the most recent survey, their results from an earlier assessment (reported in Measuring Up 2004) were used. Seven states for which data are missing are: Alaska, Illinois, Iowa, New Hampshire, New Jersey, South Dakota, and Wisconsin.

K–12 STUDENT ACHIEVEMENT

Low-income 8th graders scoring at or above “proficient” on the national assessment exam in math

Sources: National Assessment of Educational Progress. The Nation’s Report Card, Mathematics 2005 and 1996. Washington, D.C.: U.S. Department of Education. <http://nces.ed.gov/nationsreportcard/nde> (accessed 3/15/06).

This indicator measures the percentage of public school eighth graders who are eligible for free or reduced-price lunch and whose performance on the National Assessment of Educational Progress (NAEP) exam in math was “proficient” or “advanced.”

Academic proficiency levels are determined by the National Assessment Governing Board, based on judgments about what students should know and be able to do. Improvement over time was measured from 1996 to 2005.

All 50 states participated in the 2005 assessment.

K-12 STUDENT ACHIEVEMENT:**Number of scores in the top 20% nationally on SAT/ACT college entrance exams per 1,000 high school graduates**

Sources: Test scores The College Board. "College-Bound Senior Data Sets—SAT I Composite Scores," 2005 and 1993, unpublished data obtained from the College Board. ACT. "Frequency and percent of students who had ACT composite scores at or above 26," 2005 and 1993, unpublished data obtained from the College Board. ACT. "Frequency and percent of students who had ACT composite scores at or above 26," 2005 and 1993, unpublished data obtained from the ACT. Public and private high school graduates 2004–05 and 1992–93 Western Interstate Commission for Higher Education. *Knocking at the College Door: Projections of High School Graduates by State, Income and Race/Ethnicity 1988–2018*. Boulder, CO: 2004.

This indicator reflects the prevalence of college entrance exam-taking throughout the state as well as the achievement level of the students who took these tests. The high achievement level on the college entrance exams demonstrated by recent high school graduates is calculated using the following formula:

- Numerator: (Number of scores at or above 1200 on SAT I [verbal and math] test) + (Number of scores at or above 26 on ACT test).
- Denominator: Number of public and private high school graduates in a given year.

Nationally, 22% of test scores were at or above 1200 on the SAT in 2005. Students attaining a score of 1200 or higher approximate the top quintile (20%) of SAT scores. Though the ACT exams are administered independently and use a different scoring methodology than that used by the College Board for the SAT, a common conversion method can be applied. A score of 26 on the ACT is equivalent to a score of 1200 on the SAT. The National Educational Longitudinal Study (NELS: 88) indicates that 15% of high school seniors take both the SAT and the ACT, although data are not collected in such a way as to provide an unduplicated count of test-takers. This indicator measures not the number of test-takers in each state, but the number of test scores for each state that are among the top 20% nationally. Constructed this way, the measure estimates the number of high school graduates demonstrating a high performance on the college preparatory exams. The SAT scores for 1993 and 2005 are comparable. The College Board introduced a recentering system in 1995, which ensures that the levels of proficiency represented by scores are consistent among different editions of the SAT. The data used in the report card have been made comparable, after taking into account the effect of recentering.

Data are available for all 50 states.

K–12 STUDENT ACHIEVEMENT:**Number of scores that are 3 or higher on an Advanced Placement subject test per 1,000 high school juniors and seniors**

Sources: The College Board. 2005 State and National Annual Summary Reports. New York.

www.collegeboard.com/student/testing/ap/exgrd_sum/2005.html (accessed 10/15/05); “The number of scores of 3 or above, 1993, by state,” unpublished data obtained from the College Board.

This indicator measures the number of Advanced Placement subject tests taken by 11th and 12th grade students with scores of 3 or higher per 1,000 11th and 12th grade students enrolled in public and private schools. The measure uses the following calculation:

- **Numerator:** Number of 11th and 12th graders’ Advanced Placement subject test scores of 3, 4, or 5.
- **Denominator:** Total 11th and 12th graders enrolled in public and private schools. The number of 11th and 12th graders enrolled in public and private schools was computed by multiplying the public enrollment by a private-enrollment adjustment factor developed by a data contractor working with the College Board. The majority of AP test-takers are enrolled in these grades.

This ratio does not provide information on the number of students in each state who take an advanced placement test. Instead, the numerator measures the total number of scores at or above 3. Scores at or above 3 are generally recognized for college credit.

Data are available for all 50 states.

TEACHER QUALITY:**7th to 12th graders taught by teachers with a major in their subject**

Sources: National Center for Education Statistics. Schools and Staffing Survey, 1999–2000 and 1990–91. Washington D.C.: U.S. Department of Education. Richard Ingersoll (Associate Professor, University of Pennsylvania) assisted in designing the indicator and provided state-level analysis and data.

This new indicator measures the percentage of secondary school students taught by teachers who have an undergraduate or graduate major in the field during the 1999–2000 or the 1990–91 school year. Adequately qualified teachers, especially at the secondary education level and especially in the core academic fields, ought to be knowledgeable about the subject that they teach. The completion of a college degree in the subject field is indicative of possessing minimum subject knowledge required to be a qualified teacher.

The measure looks at public school students (charter schools included) enrolled in core academic fields—that is, math, English, social studies, and science. Also, only departmentalized teachers are included; teachers who teach multiple subjects to the same class all day, as common in elementary schools, are excluded. The definition of “a major in their subject” is fairly broad: both undergraduate- and graduate-level degrees, and both academic and education degrees are counted (for instance, a degree in math or in math education), as most subject-area education degrees require substantial coursework in an academic field; a degree in related fields is also counted (see table, next page). This indicator has not been updated since the 2004 report card, because the more recent survey data are not yet available for state-by-state analysis.

Data are available for all 50 states.

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Matching Teaching Fields with Training Fields

<i>Teaching Fields</i>	<i>Courses Assigned to Teach</i>	<i>Teachers' Majors</i>
English	Literature, composition/journalism/creative writing, reading, other English/language arts courses	Communications and journalism, English, English education, literature, reading education, speech
Mathematics	General mathematics, business math, algebra, elementary algebra, intermediate algebra, advanced geometry, trigonometry, analytical geometry, probability/statistics, calculus, other mathematics	Engineering, mathematics, mathematics education, physics, statistics
Social Studies	Social studies, history, world civilization, political science/government, geography, economics, civics, sociology/social organization, other social sciences, psychology	Psychology, public affairs and services, social studies/social sciences education, economics, history, political science, sociology, other social sciences, other area/ethnic studies
Science	General science, biology/life science, chemistry, physics, geology/earth science/space science, other physical sciences, other natural sciences	Science education, biology, chemistry, earth science/geology, physics, other natural sciences, engineering

Participation: Indicators and Weights

<i>Indicator</i>	<i>Weight</i>
Cluster 1: Young Adults	60%
Chance for college by age 19	40%
18- to 24-year-olds enrolled in college	20%
Cluster 2: Working-Age Adults	40%
25- to 49-year-olds enrolled part-time in any type of postsecondary education	40%

YOUNG ADULTS:

Chance for college by age 19

Sources: Thomas Mortenson. "Chance for College by Age 19 by State in 2002" and "Chance for College by Age 19 by State in 1992." Postsecondary Education Opportunity Web site accessible to subscribers, <http://www.postsecondary.org/SpreadsheetsPW/ChanceCollegeAge19.xls> (accessed 8/15/06).

This indicator measures the probability that ninth grade students will finish high school within four years and go on to college immediately after high school (when most students are approximately age 19). To calculate this measure, the high school completion rate is multiplied by the college continuation rate. The following formulas describe the components of this calculation:

High School Completion Rate*

- Numerator: Number of public high school graduates in 2002.
- Denominator: Number of public school ninth graders in 1998.

College Continuation Rate*

- Numerator: Number of college freshmen in 2002.
- Denominator: Number of public high school graduates in 2002.

*Data for all components are from National Center for Education Statistics, Washington, D.C.: U.S. Department of Education.

This indicator adjusts for inter-state migration by using the NCES residence and migration survey, which follows high school graduates to the institutions they chose to attend. Since many students pursue their college education out-of-state, the calculation relates college freshmen (by state of residency) to the state data on high school graduates.

This is a synthetic cohort statistic that cannot adjust for students' out-of-state migration during the high school years. No nationally comparable longitudinal data exist that precisely measure the college-going rate of ninth grade students in each state. Additionally, due to data reporting problems in several states with regard to college continuation rates, the data for 2000 were applied for Delaware, Rhode Island, and Kansas.

Data are available for all 50 states.

YOUNG ADULTS:

18- to 24-year-olds enrolled in college

Sources: U.S. Bureau of the Census. Current Population Survey. October 2002, 2003, and 2004 Supplements; October 1990, 1991, and 1992 Supplements. Washington, D.C. State-level data for 2002–04 were provided by Research Triangle Institute, 2006. Data for 1990–92 were provided by Pinkerton Computer Consultants, 2004.

This indicator reports the percentage of 18- to 24-year-old adults who are currently enrolled in education and training programs beyond high school. Including both full-time and part-time enrollment, the indicator is calculated using the following formula:

- Numerator: Number of adults ages 18 to 24 currently enrolled in grades 13 to 17 who have not yet attained baccalaureate degrees.
- Denominator: Total number of adults ages 18 to 24.

Students already holding a baccalaureate degree and returning for additional or different credentials are not included in this figure.

This indicator pools three years of the most current data, 2002 to 2004 (and 1990 to 1992), to obtain a large enough sample size to make reliable state estimates and to account for aberrations in any single year of data. Data are available for all 50 states.

WORKING-AGE ADULTS:

25- to 49-year-olds enrolled part-time in any type of postsecondary education

Sources: Population enrolled National Center for Education Statistics. Fall Enrollment Survey, 2003 and 1993. Washington, D.C.: U.S. Department of Education. Fall 2003 state-level data provided by Research Triangle Institute, 2006. Fall 1993 state-level data provided by Pinkerton Consultants, 2004. Population U.S. Bureau of the Census. Current Population Survey. October 2002, 2003, and 2004 Supplements; October 1992, 1993, and 1994 Supplements. Washington, D.C. State-level data for 2002–04 were provided by Research Triangle Institute, 2006. Data for 1990–92 were provided by Pinkerton Computer Consultants, 2004.

This indicator measures the percentage of 25- to 49-year-old adults with a high school credential who are currently enrolled part-time in an institution of higher education. The following calculation is used:

- Numerator: Population of adults ages 25 to 49 with at least a high school credential who are currently enrolled part-time in an institution of higher education.
- Denominator: Population of adults ages 25 to 49 with at least a high school credential.

This indicator focuses on part-time enrollment to assess the opportunities for working-age adults in each state to participate in postsecondary education. It includes both undergraduate- and graduate-level enrollments. The 1991 enrollment survey data have a large number of age-unknown responses. Since this type of data are available every two years, the 1993 data are used instead, in order to measure improvement over time.

Data are available for all 50 states.

FAMILY ABILITY TO PAY:

Percent of income (average of all income groups) needed to pay for college expenses minus financial aid:

at community colleges

at public 4-year colleges/universities

at private 4-year colleges/universities

Sources: Tuition and room and board for the academic year 2005–06 National Center for Higher Education Management Systems’ special analysis, using preliminary data from IPEDS Peer Analysis System, National Center for Education Statistics, 2006. Tuition and room and board for the academic year 1992–93: National Center for Education Statistics. Digest of Education Statistics 1994. Washington, D.C.: U.S. Department of Education, 1995. Pell grants 2004–05 and 1992–93 Office of Postsecondary Education. Title IV/Pell Grant End of the Year Report 2004–05 and 1992–93. Washington, D.C.: U.S. Department of Education, 2006, 1994. Institutional aid 2003 National Center for Higher Education Management Systems’ special analysis, based on the data from “Student Financial Aid Survey, Fall 2003,” IPEDS Peer Analysis System, National Center for Education Statistics, 2006. Institutional aid 1992–93 National Center for Education Statistics. Digest of Education Statistics 1994. “Current Fund Revenue and Expenditures of Institutions of Higher Education by Selected Categories and State, Fiscal Year 1993.” Washington, D.C.: U.S. Department of Education, 1995. Median family income by quintile 2003–05 and 1991–93 U.S. Bureau of the Census. Current Population Survey. 2003, 2004, 2005 March Supplements; 1991, 1992, and 1993 March Supplements. State-level data for 2003–05 were provided by Research Triangle Institute, 2006. Data for 1991–93 were provided by Pinkerton Computer Consultants, 2004. Average financial aid by family income 2003–2004 and 1993–94 National Center for Education Statistics. National Postsecondary Student Aid Survey 2003–04 and 1993–94. Washington, D.C.: U.S. Department of Education. Data Analysis System Variables: PELLAMT, INGR TAMT, STATNEED,

STATNOND, TOTGRT By CINCOME. Filtered by institution level and control for public two-year, public four-year, and private four-year. State grants (need- and non-need-based) 2005–06 National Center for Higher Education Management Systems, “Annual Survey of State Grant Aid Programs for Academic Year 2005–06,” 2006. State grants (need- and non-need-based) for the academic year 1992–93 National Association of State Student Grant and Aid Programs. Annual Survey, 1992–93 Academic Year. Albany, NY: 1994. Full-time equivalent enrollment 2004–05 National Center for Higher Education Management Systems’ special analysis, using preliminary data from IPEDS Peer Analysis System, National Center for Education Statistics, 2006. Full-time equivalent enrollment 1992–93 National Center for Education Statistics. Digest of Education Statistics 1994. Washington, D.C.: U.S. Department of Education, 1994.

College affordability is based on institutional price, the adequacy of state effort to meet students’ financial need, and students’ personal or family income. The ability-to-pay indicator examines the interaction of these important factors given (1) the variation in the percentage of personal income that families of different means must pay to meet college costs, and (2) the variations in price across the public/private and two- and four-year sectors. To assess state performance reliably and comparably, this indicator is based on a set of assumptions and a series of calculations that use a combination of national- and state-level data. The first set of calculations determines the approximate net cost of college attendance, taking into account federal, state, and institutional financial aid. The second set of calculations relates this net cost to families’ annual income and takes into account the share of total enrollment at each of the major sectors in higher education in the state: community colleges, public four-year colleges and universities, and private four-year colleges and universities.

Components of Net College Cost:

- Tuition and fees The average tuition and fees (for in-state residents) are calculated by state for each of the major sectors in higher education: community colleges, public four-year colleges and universities, and private four-year colleges and universities. This calculation assumes average tuition and fees for each sector charged to the full-time student.
- Room and board The federal government adds the cost of housing, food, and other necessary living expenses to tuition and fees when determining a student’s cost of attendance at a particular institution. This indicator calculates average room and board fees by state and by type of institution. This calculation assumes that average cost of living expenses at public four-year colleges in the state are the same as those incurred by students attending the state’s public two-year community colleges. This assumption is made in part to account for living expenses that must be paid by all students, whether they live on campus or not.
- Federal financial aid Average federal financial aid by state is calculated as the average Pell grant per full-time equivalent enrollment (FTE), by state. Pell grants are by far the largest component of federal grant aid.

- State financial aid States offer need- and non-need-based financial aid for college attendance. Average state need- and non-need-based grant aid is calculated per FTE.
- Institutional financial aid Institutions offer scholarships, fellowships, and tuition discounts to support undergraduate college attendance. Average institutional financial aid by state is calculated by examining the reported average institutional aid received by students in each sector of higher education in each state. Sector-wide averages are calculated as an enrollment-weighted average of average aid awarded at all institutions in the sector. The new source of data we used has updated the institutional aid information substantially. However, the data are collected for first-time, full-time, degree-seeking students only (not all undergraduates). Due to the absence of current data for all undergraduates, the average freshman award is assumed to be the average institutional aid for all undergraduates.
- Average financial aid by family income Average financial aid awards mask the deliberateness of policies to target aid at different student populations. Without student unit records available at the state level to provide precise amounts of financial aid received, estimates must be calculated. These estimates are based on the average financial aid received by students, nationally, in each income quintile. For each type of major financial aid (federal, state, institutional), the average aid amounts received by students in five income groups are calculated, using data from the U.S. Department of Education's National Postsecondary Student Aid Survey. By dividing this average aid of each income group by the national average aid per FTE, the percentage of aid awarded to each income group is calculated for each type of financial aid. These percentages then are multiplied by the average aid per FTE in each state for each type of aid. These calculations assume that students receive the same percentage of available aid in every state, but the actual amount of financial aid for students in each income quintile will vary by state because the size of the average award varies by sector and by state.
- Net college cost in each sector Average net cost of attendance in each sector of higher education is calculated by subtracting total average financial aid received (federal + state + institutional) from average expenses (tuition + fees + room + board). While students and their families incur the same expenses in a given sector regardless of income, they receive different amounts of financial aid depending on their income level. Therefore, the net college costs differ for each family income quintile in the state.

The Role of Family Income The ability to pay for college is based both on the net cost and the resources available to pay the cost. By state, net cost at each of the major sectors is calculated as a percentage of median family income in each quintile. The results of these calculations are estimates of the amount of family income required by low-income, middle-income, and high-income families to attend college in each of the state's major sectors. To estimate affordability for

all families in each sector, ability to pay is estimated for families in each income quintile. The average of these five income quintile estimates becomes the state average for each sector as shown below:

- Ability to pay for a technical or community college, all families in the state.
- Ability to pay for a public four-year college or university, all families in the state.
- Ability to pay for a private four-year college or university, all families in the state.

These three measures are cumulatively worth 50% of the affordability grade, but the weight assigned to each sector differs by the share of total full-time equivalent enrollment that each sector in the state comprises. This final step ensures that college affordability is determined not only by the state's efforts to make one sector affordable for all of its residents, but also by the state's policies to make its most-utilized institutions affordable. In each state report card, the table entitled "A Closer Look at Family Ability to Pay" shows family income, net college costs, and net costs as a share of income for each of the five income groups. The table also presents information for the "40% of the population with the lowest income," which is computed by averaging the figures for the two lowest income quintiles.

The most precise way to measure students' ability to pay would be to analyze student-unit record data. While such records are available for national indicators of affordability, it is not possible to develop reliable and comparable indicators from these sources that attest to the level of affordability in each of the 50 states. Comparable income data on the students enrolled in each sector are not available by state. As a result, this calculation measures the ability of all state residents to pay for college, regardless of whether or not they enroll in a postsecondary institution.

Data are available for all 50 states.

STRATEGIES FOR AFFORDABILITY:

State investment in need-based financial aid as compared to the federal investment

Sources: Pell grants 2004–05 and 1992–93 Office of Postsecondary Education. Title IV/Pell Grant End of the Year Report 2004–05 and 1992–93. Washington, D.C.: U.S. Department of Education, 2006, 1994. State grants (need- and non-need-based) 2005–06 National Center for Higher Education Management Systems. "Annual Survey of State Grant Aid Programs for Academic Year 2005–06" (unpublished data). Boulder, CO: 2006. State grants (need- and non-need-based) 1992–93 State Student Grant and Aid Programs. Annual Survey, 1992–93 Academic Year. Albany, NY: National Association of State Student Grant and Aid Programs, 1994.

This indicator measures states' commitment to provide aid for low-income students as compared to the federal contribution. The indicator is calculated using the following formula:

- Numerator: Total amount of state need-based aid awarded to undergraduate students.
- Denominator: Distribution of Pell grant aid by state of residence of students.

Without having data to measure precisely the expected family contribution and amount of unmet need for students in each state, this indicator is a proxy measure for (1) how well the state targets aid to families with the greatest need, and (2) how much need-based aid is made available to all students.

It is assumed that the state's methodology for awarding state need-based aid is similar enough to the federal methodology that the students awarded need-based aid in the state are the same students covered by the federal Pell grant program. This may or may not be true in all cases. Due to data limitations, whether the two types of financial aid are actually benefiting the same students cannot be determined. Data for state grant aid now reflect the past year, while the most current data on Pell grants are still two years old. Although the state and Pell grant data do not refer to the same year, the indicator is now measured with more up-to-date data on state grants. The state grant aid data for New York reflect the TAP expenditures for 2004–05 and part-time student aid appropriations for 2005–06.

Data are available for all 50 states.

STRATEGIES FOR AFFORDABILITY:

At lowest-priced colleges, the share of income that the poorest families need to pay for tuition

Sources: Tuition and fees 2005–06 National Center for Higher Education Management Systems' special analysis, using preliminary data from IPEDS Peer Analysis System, National Center for Education Statistics, 2006. Tuition and fees 1992–93 National Center for Education Statistics. Digest of Education Statistics 1994. Washington, D.C.: U.S. Department of Education, 1995. Family income for the lowest quintile U.S. Bureau of the Census. Current Population Survey. 2003, 2004, 2005 March Supplements; 1991, 1992, and 1993 March Supplements. State-level data for 2003–05 were provided by Research Triangle Institute, 2006. Data for 1991–93 were provided by Pinkerton Computer Consultants, 2004.

Tuition levels have been shown to affect whether low-income students choose to go to college. Decisions about overall tuition levels are an important part of the concept of affordability. Creating and preserving low-price options for college is an important state strategy to ensure access for low-income students

and families who would otherwise be priced out of higher education. This indicator measures this aspect of affordability with the following formula:

- Numerator: The listed tuition and fees for full-time residents at the lowest-priced public institutions in the state.
- Denominator: The median family income in the lowest income quintile in the state.

The lowest-priced colleges normally are the community colleges. This indicator averages three years of family income data from the most current data available (2003–05) to obtain a large enough sample size to make reliable state estimates and to account for aberrations in any single year of data.

Data are available for all 50 states.

RELIANCE ON LOANS:

Average loan amount that undergraduate students borrow each year

Sources: FFELP loans Office of Postsecondary Education, FFELP Report, AY 2004–05 and AY 1994–95: Total Loan Guarantees for Undergraduates Only. Washington, D.C.: U.S. Department of Education, 2006. Direct loans Office of Postsecondary Education, Direct Loans to Undergraduates, AY 2004–05 and AY 1994–95: Total Loan Guarantees for Undergraduates Only. Washington, D.C.: U.S. Department of Education, 2006.

Federal loans comprise more than 90% of the funds students borrow to attend college. Thus, this indicator serves as a proxy for annual student loan burden. The following formula is used to calculate the average loan amount that undergraduate students receive from the federal government:

- Numerator: Total dollars in FFELP Stafford subsidized, unsubsidized, and PLUS loans made to parents in FY 2005 + Total dollars in William D. Ford Stafford subsidized, unsubsidized, and PLUS loans made to students in FY 2005.
- Denominator: Total number of loans from both programs. An unduplicated count of the borrowers is not available by state. For this reason, the denominator used may report individual students who take out more than one loan, understating the total average loan amount.

Data are available for all 50 states.

PERSISTENCE:

1st year community college students returning their 2nd year

Sources: National Center for Higher Education Management Systems' special analysis based on Enrollment Survey Fall 2003, Enrollment Retention Rate 2004, Institutional Characteristics 2004, IPEDS Peer Analysis System, National

Center for Education Statistics, 2006; ACT, "Institutional Data Questionnaires 1990," unpublished state-level data tabulation provided by the ACT, 2004.

This indicator measures the first-to-second-year persistence rate for first-time students on two-year campuses. Prior to Measuring Up 2006, the indicator only reported for first-time full-time students due to the data limitation. A better source of data has recently become available, enabling us to capture all first-time students including part-time students. Reported by 1,635 degree-granting two-year institutions (97% response rate), the persistence rate for 2003 represents the 2003 fall cohort (all first-time degree/certificate seeking students) who returned in fall 2004 as either full- or part-time students. The persistence rate is calculated for full-time and part-time students separately and then weighted together by their respective first-time full-time/part-time cohorts to obtain an overall persistence rate. All institutions included in the analysis are Title IV degree granting two-year institutions. Those that did not report the data on retention rate and/or fall 2003 first-time undergraduate enrollments were not included in the analysis; those reported 'zero' were considered non-reporting and were not included in the analysis.

The indicator results between the previous report cards and the 2006 report card may not be entirely comparable. However, the National Center staff found that the replacement of the data source has no impact on a state's overall direction of change when improvement over time is assessed for the Completion category. The persistence indicators are included in the analysis of improvement over time.

Data are available for all 50 states.

PERSISTENCE:

Freshmen at 4-year colleges and universities returning their sophomore year

Sources: National Center for Higher Education Management Systems' special analysis based on Enrollment Survey Fall 2003, Enrollment Retention Rate 2004, Institutional Characteristics 2004, IPEDS Peer Analysis System, National Center for Education Statistics, 2006; ACT, "Institutional Data Questionnaires 1990," unpublished state-level data tabulation provided by the ACT, 2004.

Similar to the persistence rate at two-year institutions, this indicator measures the first-to-second-year persistence rate for first-time students on four-year campuses. Prior to Measuring Up 2006, the indicator only reported for first-time full-time students due to the data limitation. A better source of data has recently become available, enabling us to capture all first-time students, including part-time students. Reported by 2,072 degree-granting four-year institutions (82% response rate), the persistence rate for 2003 represents the 2003 fall cohort (all first-time degree seeking students) who returned in fall 2004 as either full- or part-time students. The persistence rate is calculated for full-time and part-time

students separately and then weighted together by their respective first-time full-time/part-time cohorts to obtain an overall persistence rate. All institutions included in the analysis are Title IV degree granting four-year institutions. Those that did not report the data on retention rate and/or fall 2003 first-time undergraduate enrollments were not included in the analysis; those reported 'zero' were considered non-reporting and were not included in the analysis.

Though the data are not entirely comparable between the previous report cards and the 2006 report card, state results for four-year college students are very similar between the old and new sources. Also, the National Center staff found that the replacement of the data source has no impact on a state's overall direction of change when improvement over time is assessed for the Completion category. The persistence indicators are included in the analysis of improvement over time.

Data are available for all 50 states.

COMPLETION:

First-time, full-time students completing a bachelor's degree within 6 years of enrolling

Sources: National Center for Educational Statistics. Graduation Rate Survey, 2003–04 and 1996–97. Washington, D.C.: U.S. Department of Education. State-level data obtained from www.higheredinfo.org (accessed 3/8/06).

Older and full-time working adults constitute a larger proportion of the college student body today, and more students now take longer to complete the baccalaureate degree. By looking at a prolonged time period within which students progress toward the bachelor's degree, this measure is designed to capture the educational progress of a broader student population. Using preliminary data from the NCES Graduation Rate Survey (GRS), it measures the percent of first-time, full-time students enrolled in a public or private four-year institution who obtain the bachelor's degree at the institution they entered within six years of enrolling.

Part-time students, returning students, and students who transfer to another campus are not captured in this measure. The completion rate may be underestimated for the states where such students are a large part of the student body. The 1996–97 and 2003–04 data are used for the analysis of improvement over time.

Data are available for all 50 states.

COMPLETION:**Certificates, degrees, and diplomas awarded at all colleges and universities per 100 undergraduate students enrolled**

Sources: Total awards National Center for Education Statistics. Completion Survey, 2003–04 and 1991–92. Washington, D.C.: U.S. Department of Education. State-level data for 2003–04 were provided by Research Triangle Institute, 2006. Data for 1991–92 were provided by Pinkerton Computer Consultants, 2004. Undergraduate enrollments National Center for Education Statistics. Enrollment Survey Fall 2003 and Fall 1991. Washington, D.C.: U.S. Department of Education. State-level data for 2003 were provided by Research Triangle Institute, 2006. Data for 1991 were provided by Pinkerton Computer Consultants, 2004.

This indicator uses the following calculation:

- Numerator: Total number of certificates, diplomas, associate's degrees, and baccalaureate degrees awarded throughout the 2003–04 academic year (or 1991–92).
- Denominator: Full- and part-time undergraduate enrollment in fall 2003 (or 1991).

This measure is not a cohort statistic. However, since both the associate's and the bachelor's degrees are totaled, this indicator does capture the degree completion of students who transferred from one institution to another.

Data are available for all 50 states.

EDUCATIONAL ACHIEVEMENT:**Population ages 25 to 65 with a bachelor's degree or higher**

Sources: U.S. Bureau of the Census. Current Population Survey. October 2002, 2003, and 2004 Supplements; October 1990, 1991, and 1992 Supplements. Washington, D.C. State-level data for 2002–04 were provided by Research Triangle Institute, 2006. Data for 1990–92 were provided by Pinkerton Computer Consultants, 2004.

This measure assesses the educational attainment of the working-age population in the state, using the following calculation:

- Numerator: Number of adults ages 25 to 65 with at least a baccalaureate degree.
- Denominator: Number of adults ages 25 to 65 in the state.

This indicator averages three years of the most current data, 2002 to 2004, to account for aberrations in any single year of data. This indicator does not

control for inter-state migration. State scores may be higher due to the number of bachelor's degree holders who have migrated from other states.

Data are available for all 50 states.

ECONOMIC BENEFITS:

Increase in total personal income as a result of the percentage of the population holding a bachelor's degree

Sources: Median earnings U.S. Bureau of the Census. Current Population Survey. March 2003, 2004, and 2005 Supplements; March 1990, 1991, and 1992 Supplements. Washington, D.C. State-level data for 2003–05 were provided by Research Triangle Institute, 2006. Data for 1990–92 were provided by Pinkerton Computer Consultants, 2004. Adult population with bachelor's degree or higher U.S. Bureau of the Census. Current Population Survey. October 2002, 2003, and 2004 Supplements; October 1990, 1991, and 1992 Supplements. Washington, D.C. State-level data for 2002–04 were provided by Research Triangle Institute, 2006. Data for 1990–92 were provided by Pinkerton Computer Consultants, 2004. Total personal income Bureau of Economic Analysis. State Personal Income, Annual and Quarterly, for All States and Regions, 2004, and 1992. Washington, D.C.: U.S. Department of Commerce. www.bea.doc.gov/bea/regional/spi/drill.cfm (accessed 3/31/06).

Statewide economic benefit reflects the average net contribution of baccalaureate degree holders relative to total personal income. This indicator is measured with a three-step mathematical formula. First, this measure calculates the difference in the median earnings between adults whose highest level of education is a high school credential and adults with at least a baccalaureate degree. This earnings differential is then multiplied by the number of adults in the state with a baccalaureate degree. The third step divides this result by total personal income in the state. The following formula is used:

- Numerator: Median earnings of population ages 25 to 65 with at least a baccalaureate degree, less median earnings of population ages 25 to 65 whose highest education is a high school credential, multiplied by the number of adults ages 25 to 65 with at least a baccalaureate degree.
- Denominator: Total personal income in the state.

Personal income is the sum of net earnings adjusted by place of residence, rental income of persons, personal dividend income, personal interest income, and transfer payments. It is measured before the deduction of personal income taxes and other personal taxes and is reported in current dollars (no adjustment is made for price changes). Total personal income is the personal income received by all residents of a state from participation in production, government, and business transfer payments, and accumulated government interest. Earnings of adults who are unemployed or not in the labor force but who have minimal annual earnings are included in the calculation of this measure.

For earnings and population this indicator averages three years of the most current data, 2003 to 2005 and 2002 to 2004, respectively, to obtain a large enough sample size to make reliable state estimates and to account for aberrations in any single year of data. A state's total personal income information used in the calculation represents a single year of data. Data are available for each of the 50 states.

ECONOMIC BENEFITS:

Increase in total personal income as a result of the percentage of the population with some college (including an associate's degree), but not a bachelor's degree

Sources: Median earnings U.S. Bureau of the Census. Current Population Survey. March 2003, 2004, and 2005 Supplements; March 1990, 1991, and 1992 Supplements. Washington, D.C. State-level data for 2003–05 were provided by Research Triangle Institute, 2006. Data for 1990–92 were provided by Pinkerton Computer Consultants, 2004. Adult population with some college or associate's degree U.S. Bureau of the Census. Current Population Survey. October 2002, 2003, and 2004 Supplements; October 1990, 1991, and 1992 Supplements. Washington, D.C. State-level data for 2002–04 were provided by Research Triangle Institute, 2006. Data for 1990–92 were provided by Pinkerton Computer Consultants, 2004. Total personal income Bureau of Economic Analysis. State Personal Income, Annual and Quarterly, for All States and Regions, 2004, and 1992. Washington, D.C.: U.S. Department of Commerce. www.bea.doc.gov/bea/regional/spi/drill.cfm (accessed 3/31/06).

This indicator approximates the statewide income benefits associated with those whose education attainment extends beyond a high school credential, but is less than a bachelor's degree (that is, those holding an associate's degree or those who attended some type of postsecondary institution but did not obtain the baccalaureate degree). First, the difference in the median earnings between adults whose highest level of education is a high school credential and adults with some college or an associate's degree is calculated. This earnings differential is then multiplied by the number of adults in the state with some college, or adults holding an associate's degree. The third step divides this result by total personal income in the state. The following formula is used:

- Numerator: Median earnings of population ages 25 to 65 with some college or an associate's degree, less median earnings of population ages 25 to 65 whose highest education is a high school credential, multiplied by the number of adults ages 25 to 65 with some college or an associate's degree.
- Denominator: Total personal income in the state.

Personal income is the sum of net earnings adjusted by place of residence, rental income of persons, personal dividend income, personal interest income, and transfer payments. It is measured before the deduction of personal income taxes and other personal taxes and is reported in current dollars (no adjustment is

made for price changes). Total personal income is the personal income received by all residents of a state from participation in production, government, and business transfer payments, and accumulated government interest. Earnings of adults who are unemployed or not in the labor force but who have minimal annual earnings are included in the calculation of this measure.

For earnings and population this indicator averages three years of the most current data, 2003 to 2005 and 2002 to 2004, respectively, to obtain a large enough sample size to make reliable state estimates and to account for aberrations in any single year of data. A state's total personal income information used in the calculation represents a single year of data. Data are available for each of the 50 states.

CIVIC BENEFITS:

Residents voting in 2002 and 2004 national elections

Sources: U.S. Bureau of the Census. Current Population Survey. November Voting and Registration, 2002 and 2004. Washington, D.C. State-level data tabulated by the National Center staff, using the Census website data tool, <http://dataferrett.census.gov> (accessed 2/1/06).

This indicator uses the following calculation:

- Numerator: (Number of voters in November 2002 election) + (Number of voters in 2004 election).
- Denominator: (Voting population in 2002) + (Voting population in 2004) Voting population indicates state residents age 18 or above.

Votes cast in local, state, and federal races are included. Due to data limitations, this indicator does not disaggregate the voting rates of residents by level of educational attainment. National studies have shown that voting rates increase with higher levels of educational attainment. This measure is included as a proxy for the civic returns a state enjoys as a result of its more highly educated population.

Data are available for all 50 states.

CIVIC BENEFITS:

Of those who itemize on federal income taxes, the percentage declaring charitable gifts

Sources: Internal Revenue Service. Statistics of Income for Tax Year 2003 and 1992. Annual State Tax Reports. Washington, D.C.: U.S. Department of the Treasury. The 2003 data were obtained from www.irs.gov (accessed 5/1/04). The 1992 data were provided by IRS staff, 2004.

The charitable giving rate is the number of charitable contributions made by all those tax filers who itemized their tax returns during the 2003 (or 1992) tax year. This indicator uses the following calculation:

- Numerator: Number of tax filers itemizing charitable contributions on their 2003 federal tax return.
- Denominator: Number of state residents filing an itemized federal tax return in 2003.

By monitoring the number of donors, rather than the dollar amount donated, this indicator captures the prevalence of philanthropy among income earners and tax filers in the state. The number of donors in the state serves as a proxy for the residents' local and regional dollar commitments to public welfare. Due to data limitations, this indicator does not disaggregate the charitable giving rates of residents by level of educational attainment. Annual analyses by the Washington, D.C.-based Independent Sector correlate income to volunteering and describe a direct relationship between educational attainment and charitable giving. The indicator may favor states with wealthier populations, because only those donations large enough to meet tax-deductible criteria are reported.

Data are available for all 50 states.

CIVIC BENEFITS:

Increase in volunteering rate as a result of college education

Sources: U.S. Bureau of the Census. Current Population Survey. September 2003, 2004 and 2005 Supplements. Washington, D.C. State-level data tabulated by the National Center staff, using the Census website data tool, <http://dataferrett.census.gov> (accessed 4/30/06).

This indicator addresses the state's civic benefits resulting from a highly educated population as measured in the area of volunteering. Nationally, the volunteering rate increases with the level of education, according to the Census: 21% of high school graduates volunteer nationally, while 39% of bachelor's degree holders do so. Similarly, those with some college volunteer at a higher rate than high school graduates. Given differences in volunteering rates by education, this indicator looks at the value added of college education in volunteering rates. Volunteering rates vary among states even at the same educational level, and the extent to which the volunteering rates increase with educational attainment also varies from state to state. The larger the increases by education, the higher the state scores on this indicator. The indicator is measured as the difference in volunteering rates between high school graduates and those with some college. Volunteering rates of each education group are calculated using the following formula:

Volunteering rate for high school graduates

- Numerator: Number of people, age 18 and above, whose highest education attained is high school and who participated in volunteering activities.
- Denominator: Total state population, age 18 and above, whose highest education attained is high school.

Volunteering rate for all college educated

- Numerator: Number of people, age 18 and above, whose highest education attained is higher than high school and who participated in volunteering activities.
- Denominator: Total state population, age 18 and above, whose highest education attained is higher than high school.

Due to data limitations, the extent of volunteering is not accounted for in this measure (for example, the number of hours devoted to volunteering throughout the year). Regardless of frequency or regularity of volunteering, only the total numbers of volunteers are counted. This indicator averages three years of the most current data, 2003 to 2005, to account for aberrations in any single year of data.

Data are available for all 50 states.

ADULT SKILL LEVELS (3 Indicators):

Adults demonstrating high-level quantitative literacy skills

Adults demonstrating high-level prose literacy skills

Adults demonstrating high-level document literacy skills

About forecasting state performance on the literacy indicators: The national survey on adult literacy, administered by the U.S. Department of Education, is updated once every 10 years. The most recent survey, the 2003 National Assessment of Adult Literacy (NAAL), has reported the findings for the nation and five of the six oversample states. However, the detailed data that are necessary for state-level estimates are not yet available. Measuring Up 2006, therefore, shows the state estimates as previously reported in 2004 but does not grade states based on these estimates. These state estimates come from a commissioned study by Stephen Reder (Portland State University). Stephen Reder's synthetic estimates are based on the assumption that the statistical relationship between economic and demographic characteristics of state adult population (Census variables) and the level of literacy demonstrated by state adult population (National Adult Literacy Survey: NALS) remain unchanged since the last national survey results from 1992. By updating the states' economic and demographic variables using the 2000 Census, state estimates were calculated on the percentage of adult population showing high levels of literacy in each of the three areas measured. Direct comparisons can be made from 1990 to 2000 to track state progress in these measures. However, these estimates are not comparable with the state results in the previous report cards.

Among the 1990 and 2000 Census variables, the following variables were considered as predictive of literacy levels and comparable across the 1990 Census, the 1992 NALS, and the 2000 Census and were therefore employed in the modeling:

- Educational attainment (highest grade completed/degree received)
- Race (African American)
- Hispanic
- Speaks English (native language/very well/well/not well/not at all)
- Immigration status (immigrated within past five years)
- Region of U.S. (four major Census regions)

The study found that a considerably larger proportion of the adult population shows high levels of literacy than they did 10 years ago. However, as cautionary notes, uncertainty exists about predicting the 2000 data, and when newer survey data become available, these estimates will be validated against actual survey results. Also, the predicted 2000 results may be overestimated because demographic changes over the past decade are not well captured by the models. In particular, the effect of aging in the population may have a depressive effect on literacy levels but is not represented in the models.

About the literacy indicators: The adult skill levels indicators measure the percent of the states' populations whose literacy skills are most similar to the skills of college graduates (level 4 or 5 on a scale of 1 to 5 on the National Adult Literacy Survey, NALS). Three types of literacy skills are measured: quantitative, prose, and document literacy:

- Quantitative literacy measures the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials. Adults with the highest measured level of quantitative literacy, level 5, can perform multiple arithmetic operations sequentially, and can make inferences about the appropriate operation to perform without prompting from the text.
- Prose literacy measures the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems, and fiction. Adults with the highest measured level of prose literacy, level 5, can find information in dense text with considerable distracting information that might seem plausible but is incorrect.
- Document literacy measures the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables, and graphs. Adults with the highest measured level of document literacy, level 5, can use complex documents containing distracting information and make high-level inferences.

Due to data limitations, these indicators do not disaggregate the literacy rates of residents by level of educational attainment. Nevertheless, national studies have

shown that literacy is attained through, and associated with, higher levels of educational attainment.

State estimates are available for 50 states.

LEARNING

Measures used

The Learning category was created in a similar manner to the five regular graded categories included in Measuring Up. Like its counterparts, the category consists of several weighted subcategories—each of which is designed to reflect a particular dimension of performance—that can ultimately be combined to yield an overall grade. The Learning category contains three distinct subcategories (subcategory weights are included in parentheses):

- 1) Abilities of the college-educated population (25%): This subcategory reflects a state's overall stock of educational capital by examining the proportion of college-educated residents who achieve high levels of literacy. It thus directly addresses the question, "What are the abilities of the college-educated population?" originally posed in Measuring Up 2000. For Measuring Up 2006, the data used were drawn from five states that participated in a state-level over-sample of the National Assessment of Adult Literacy (NAAL) in 2003—Kentucky, Maryland, Massachusetts, Missouri, and New York—for college-educated residents ages 25 to 64. The NAAL assessment poses real-world tasks or problems that require respondents to read and interpret texts ("prose literacy"), to obtain or act on information contained in tabular or graphic displays ("document literacy"), and to understand numbers or graphs and perform calculations ("quantitative literacy").
- 2) College and university contributions to educational capital (25%): This subcategory is intended to reflect the contributions to a given state's stock of educational capital by examining the proportion of the state's college graduates (two- and four-year) ready for advanced practice in the form of professional licensure or graduate study. It thus addresses Measuring Up 2000's original policy question: "To what extent do the state's public and private colleges and universities educate students to be capable of contributing to the state's workforce and democratic processes?" For Measuring Up 2006, the measures used were based on available data from 14 existing licensure and graduate admissions examinations for students within each state.

Indices in this subcategory were computed by first defining a particular level of performance on each test that could be used as a benchmark, above which a particular test-taker could be deemed "ready for advanced practice." In the case of licensure examinations with established national standards, this level was defined as passing the examination and being licensed. In the case of graduate admissions examinations, a criterion score was set at a level generally accepted as "competitive" with respect to gaining admission to a graduate program. The number of individuals achieving this level or higher was then counted. The resulting total number of "graduates ready for

advanced practice” from all available licensure and graduate admissions examinations was then divided by the total number of applicable degrees (bachelor’s or associate’s) associated with the credential, and separately reported for nine licensure examinations and five graduate admissions tests. Fields included in the licensures list were nursing, clinical pathology, physical therapy, respiratory therapy, radiology, and physician’s assistant. Admissions examinations included Graduate Record Examination (GRE), the Graduate Management Admissions Test (GMAT), the Medical College Admissions Test (MCAT), the Law School Admissions Test (LSAT), and the Pharmacy College Admissions Test (PCAT). All test scores were obtained directly from national sources.

Highly varied data on teacher licensure are available for most states through published Title II reports. But comparing performances across states is problematic for teacher education because of differing standards in each state, as well as the use of different test batteries. In addition, each state has its own standards for what constitutes a “passing” performance, even if they use the same or similar tests. These difficulties led to the decision to display teacher preparation data separately, instead of aggregating teacher licensure test results together with results for other professional licensing examinations. The “educational capital” measure for teacher education included in Measuring Up 2006 is simply the number of individuals passing licensure examinations in the state, obtained from Title II reports, divided by the number of applicable degrees obtained from the Integrated Postsecondary Educational Data System (IPEDS).

- 3) Performance of college graduates (50%): This category is intended to reflect how well the graduates of the state’s two- and four-year institutions can perform complex tasks related to both academic and real-world problem-solving situations. It thus addresses the all-important question of the quality of the state’s higher-education product. Results reported in Measuring Up 2006 are the same as those reported in Measuring Up 2004, based on the five-state demonstration project conducted by the National Forum on College Level Learning. The measures used in this project consisted of two sets of assessments, the Collegiate Learning Assessment (CLA) for four-year students, and the ACT WorkKeys assessment for two-year students.

The CLA is an innovative assessment offered by the Council on Aid to Education (CAE). It 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. For example, one set of students might be asked to draw a conclusion from a body of presented evidence in biology, while another set might be asked to examine a set of historical conclusions based on original documents, quantitative data, and academic commentary. Still other students are asked to write two extended essays—one to make a persuasive argument on an assigned topic, and another to analyze and refute an argument that they are provided, by attacking its logic and the evidence to support it. The CLA battery used in the five-state demonstration project consisted of two types of assessments—a set of four authentic 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. (More information on the CLA assessment is available at http://www.cae.org/content/pro_collegiate.htm).

The ACT WorkKeys principally examines what students can do with what they know. Items on reading comprehension and locating information, for instance, are focused on how well test-takers can 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. The WorkKeys writing assessment also requires students to complete an extended essay. The WorkKeys battery used in Measuring Up 2004 included four tests—applied mathematics, reading for information, locating information, and business writing—and the results of each test are reported separately. (More information on the WorkKeys examinations is available at www.act.org/WorkKeys/).

How testing data were collected

Administering the CLA and WorkKeys examinations to students in the five participating states constituted the greatest challenge to developing a learning entry for Measuring Up. Subsections below describe the sampling procedures used to select potential students to participate, how the tests were administered, and the results obtained.

Sampling Given the level of funding available, only a limited number of test-takers could be recruited in each state. The original data-collection design for the demonstration project envisioned some 1,200 test-takers for each of the two test batteries in each state. This necessitated using a cluster sampling approach in which a sample of institutions is first drawn, then a sample of students to participate from each institution selected. The sampling approach chosen was a compromise, based on the conflict between the need to attain some degree of statewide representativeness and the desire to include enough test-takers at participating institutions to make it possible for the resulting data to be used for local purposes. 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. In Nevada, where there are only two four-year institutions and four two-year institutions, all were chosen, and the numbers of students targeted for testing at each was higher. And in Kentucky and Oklahoma, all public institutions were invited to participate, and the institutional sampling frame was only used to select private institutions.

In each case where a selection of institutions was made, the universe of applicable institutions (public four-year, private four-year, and two-year) was divided into groups of roughly comparable institutions. Variables used to construct these groups included institutional size, type, disciplinary mix, selectivity, urban/rural location, full-time/part-time ratio, and race/ethnic mix. The resulting sampling groups were then checked by running statistics for

various combinations of potential selections within them to ensure that they produced samples that closely resembled statewide distributions on such variables as full-time/part-time breakdown, gender, race/ethnicity, and disciplinary emphasis. The typical result for each state was five to seven distinct groups of institutions within each category of institutions (public four-year, private four-year, and two-year). The first group in each cluster consisted of institutions that were invited to participate. Given the need for flexibility in recruiting institutions, each state was then given the discretion to select a given number of institutions within each sampling group.

Once participating institutions were identified, the next step was to randomly select a group of students to be invited to participate in the testing.

Accordingly, a set of sample-selection guidelines was developed for use by participating institutions. The target population for sampling included all students officially enrolled in the fall of 2003 expected to complete a two-year or a four-year degree the following spring (identified by numbers of credits or courses completed). Institutions were directed to randomly select an initial sample of students meeting these criteria, together with two backup samples to be used to replace on a matched basis members of the initial group who declined to participate. Institutions were provided with several methods for conducting the random selection procedure and for employing the backup sample. (See Appendix 3 for a copy of the sample-selection guidelines for the WorkKeys examination. The guidelines used for the CLA were similar.)

Test administration The CLA and the WorkKeys batteries were administered using protocols supplied by the vendors, customized for use in the demonstration project. The CLA assessments were completed in a Web-based format. Each CLA test-taker completed either one Task or two GRE Prompts. Each CLA test-taker also completed the National Survey of Student Engagement (NSSE), although results of this survey were not included in Measuring Up. The total testing time for the CLA battery was just over two hours. Each WorkKeys test-taker completed a) the Applied Mathematics and the Reading for Information examination or, b) the Locating Information and the Business Writing examination. The tests were completed in a paper-and-pencil format. Each WorkKeys test-taker also completed the Community College Survey of Student Engagement (CCSSE), although results of this survey were not included in Measuring Up. The total testing time for the WorkKeys battery was about one and a half hours.

Sampling results The institutional sampling procedure yielded a total of 51 two-year and 60 four-year institutions invited to participate. Of these, 48 two-year and 49 four-year institutions elected to participate. With the exception of Illinois, where the four-year participation rate was only 50%, this level of cooperation yielded a group of institutions that remained broadly representative for each state. Obtaining high levels of student cooperation, however, was a challenge—largely because of lack of incentives to participate. A total of 2,638 students completed the WorkKeys battery across the five states, representing 47.1% of the target sample quota. A total of 2,085 students completed the CLA, representing 34.8% of the target sample quota.

Despite these challenges, both CLA and WorkKeys testing data remained reasonably representative of underlying student populations in each state, from a demographic standpoint, with the exception of gender. Women completed both test batteries more frequently than men. There were also isolated instances of race/ethnic imbalance in the test-taking population. In addition, because of test administration difficulties beyond the state's control that resulted in a badly skewed distribution of tests between the state's two four-year campuses (as well as unacceptably small numbers of test-takers), CLA results for Nevada could not be used in Measuring Up.

The extent to which the test-taking population is representative of each state's student population on factors such as ability or motivation is, of course, unknown. But this was investigated in several ways. First, an analysis was undertaken to determine if test-taker numbers and cooperation rates at each institution were related to overall performance on the six examinations. Test-taker numbers varied (from a low of eight students to a high of 128) across institutions, and there was no indication that institutions that tested fewer students performed better on any of these tests. Indeed, on the WorkKeys Business Writing test, there was a very slight positive relationship between test-taker numbers and overall performance. While far from definitive, these results suggest that underlying student ability and motivation levels varied little across testing sites.

Creating index scores

Like the five graded areas in Measuring Up, measures included in the Learning category were converted into index scores in order to allow quite different measures to be aggregated and compared. The basic procedure was very similar to that used in the five graded areas and essentially involved three steps. First, the measures themselves were aggregated or otherwise adjusted (for example, weights applied to test scores to correct known sample biases, or multiple measures aggregated across existing testing data, as described below). Second, all measures were converted to a common index around a benchmark level set at 100. The national average (or in some cases the five-state average) was used to set the benchmark instead of the best-performing state. Finally, differences between each measure and the established benchmark (positive or negative) were calculated and displayed for each state. Each type of measure, however, required a distinct set of calculations to be performed in order to accomplish the first step in this process:

Literacy measures Over-sample results from the National Assessment of Adult Literacy (NAAL), administered in 2003, were available for five states—Kentucky, **Maryland**, Massachusetts, Missouri, and New York. Reports from each of these states and the nation prepared by NCES provided the percentage of those taking the assessment who scored in the top performance category (“Proficient”) broken down by level of education. These proportions were combined for three categories reported—earning an associate's degree, a bachelor's degree, and a graduate degree. The resulting proportions were then divided by the total number of residents of equivalent

age and degree attainment in each state and the nation as reported by the Current Population Survey (CPS).

Licensure and admissions examinations As noted earlier, data on professional licensure test-score performance were available for Measuring Up 2004 in six fields plus teacher education, and for five commonly used graduate admissions examinations. All these scores were available from national sources for all 50 states and the nation. Before using these data to construct index scores, a number of initial calculations were required to make them comparable:

- Subscore aggregation: For tests with multiple subscores, but no total score, subscores were aggregated to create a single indicator of performance weighting each subscore equally. The same procedure was used to average the number of individuals passing or scoring at or above a particular level where multiple subscores were present.
- Standardizing scores: To adjust for differences in test-score scaling, summary test score performance data were indexed to a standardized 0–1 value range depending upon the top score possible on a given test (e.g. a GRE score of 450 with a maximum of 800 yields a standardized score of 0.5625).
- Time period aggregation: Up to three years of the most recent data were used in these calculations to create an “average year.” This approach allowed more data to be used in cases where the number of test-takers in a given state was small. In cases where three years of data were available, data from all three were aggregated and divided by three. In cases where two years were available, these two were combined and divided by two. Where only one year was available, only this most recent year was used.

After these initial adjustments, the resulting data consisted of comparable summary performance statistics for each test, including number of test-takers, mean and median scores, standard deviation, and number passing or achieving at or above a designated score. From these data, the “graduates ready for advanced practice” indicator was calculated. The following steps were used to create this indicator:

- 1) Determine the number of individuals ready for advanced practice. For licensure tests, this is the number of individuals passing the examination. For admissions examinations, it is the number of individuals achieving at or above a given “nationally competitive” score (GRE=600, GMAT=600, LSAT=155, MCAT=10, PCAT=215).
- 2) Determine the appropriate number of graduates associated with each potential test-taking population using IPEDS data. In most cases, these are baccalaureate degrees, but in some cases they are associate’s degrees—and in some cases, both. For teacher examinations, the denominator was the total number of baccalaureate degrees in education plus all other fields of study listed as providing a “qualified” teacher in the teacher quality measure used in the Preparation category.

If multiple testing years were present, degree data were aggregated by year to create an “average year.”

- 3) Create a ratio between these two numbers. This is the “fraction of educational capital” contribution represented by this particular test.
- 4) Sum the resulting fractional contributions to educational capital for each of the five states and the nation.

CLA and WorkKeys data Indicators were created for each of the six tests administered as part of the National Forum on College Level Learning’s five-state demonstration project by calculating the proportion of test-takers scoring at or above a given level on each test. For CLA, this level is based on standardized scores of 25 or above, reported separately for task-based problem-solving and the GRE writing prompts. For WorkKeys, the levels differ because the scales for each of the four tests also differ—high scores are 6 and above for Reading for Information and for Applied Mathematics, 5 and above for Locating Information, and 4 and above for Business Writing. These cut scores were based on conventions roughly established by the NALS, which uses a similar scoring scheme.

Because of the overrepresentation of women in all testing samples, and a few deviations in representativeness with respect to race/ethnicity, all test score data were weighted for each state before calculating index scores. While gender does not affect performance on the CLA, it has a strong effect on WorkKeys Applied Mathematics, and a moderate effect on WorkKeys Locating Information. Race/ethnicity also strongly conditions performance on both the CLA and all four WorkKeys examinations. As a result, a weighting scheme was applied to each state’s aggregate results on both batteries to adjust scores in proportion to the state’s student population on both variables. All of the test data were also weighted by institutional enrollments. Test-takers from a larger institution count more in computing the state’s aggregate score than those from smaller institutions in proportion to how much of the state’s total undergraduate FTE enrollment each represents.

Finally, because the CLA is a new instrument, it has no national norms. And although WorkKeys is nationally administered, the national norms available through ACT are for all test-takers, not just those enrolled in college. Because the demonstration project administered WorkKeys to a college-enrolled sample, the overall performance of these students in all states (and at almost all institutions) was well above ACT’s national norms. Because of these difficulties, race/ethnicity- and gender-weighted results for the CLA and WorkKeys for all of the examinations used in the five-state demonstration project were used as national benchmarks in computing index scores.

Appendix B
Interview Questions

1. Are you familiar with “Measuring Up”?
What happens with the report once it is received?
2. Given that there have been three “Measuring Up” reports how has it been used in state higher education policy considerations in _____?
3. How has Measuring Up impacted discussions on higher education in _____?
4. Are there areas where Measuring Up has been more valuable than in others?
5. How has Measuring Up been helpful in developing policy to address the issue of affordability in _____?
6. How can Measuring Up be enhanced for utilization in policy making?
7. What specific impact do you believe it will have upon higher education policy considerations?
8. How has _____ overall grades been received?
9. Is there any one of the graded areas that has stimulated more discussion than others?

Appendix C
Consent Form

RESEARCH SUBJECT INFORMATION AND CONSENT FORM

TITLE: A Study of the Value of “Measuring Up” as a Tool for State Policymakers in Developing Postsecondary Education Policy for Three Eastern States

VCU IRB NO.: HM10273

PURPOSE OF THE STUDY

The purpose of this research study is to determine if “Measuring Up” has been a useful tool for higher education leaders in North Carolina, Virginia and Maryland in developing higher education policy within their perspective states.

You are being asked to participate in this study because you are or have been a part of the postsecondary educational policy process within your state.

DESCRIPTION OF THE STUDY AND YOUR INVOLVEMENT

If you decide to be in this research study, you will be asked to initial this consent form after you have had all your questions answered and understand what will happen during this process.

In this study you will be asked to participate in a personal individual interview which will last approximately one hour. You will be asked questions regarding “Measuring Up” the state-by-state postsecondary education report card sponsored by the National Center for Public Policy and Higher Education, its impact upon policy decisions within your state, and what current issues you feel are the most pressing for your state involving postsecondary education. The interview will be audiotape recorded to insure your thoughts and ideas are reported in an accurate and complete manner. You will have the opportunity to review your responses after transcription to clarify and edit any comments.

BENEFITS

You may not receive any direct benefits from this study, however the information will help in understanding the needs of policy makers in making critical determinations regarding higher education policy and help provide better and more comprehensive information to assist in that process.

COSTS

There are no monetary costs for you associated with this study. However it will require approximately 60 minutes of interview time.

ALTERNATIVES

You do have the option not to participate in this study.

CONFIDENTIALITY

You will not be specifically identified in this research; however your responses to the research questions and working title may be disclosed in this process. The consent form signed by you may be looked at or copied for research or legal purposes by Virginia Commonwealth University.

What we find from this study may be presented at meetings or published, but your name will not ever be used in these presentations or papers.

The interview session will be audio taped; however no names will be recorded. At the beginning of the session, you will be asked to use initials only so that no names are recorded. The tapes and the notes will be stored in a locked cabinet. After the information from the tapes is transcribed and verified, the tapes will be destroyed.

I agree to have my interview audio taped. _____ Participant Initials

VOLUNTARY PARTICIPATION AND WITHDRAWAL

You do not have to participate in this study. If you choose to participate, you may stop at any time without any penalty. You may also choose not to answer particular questions that are asked in the study.

QUESTIONS

In the future, you may have questions about your participation in this study. If you have any questions, contact:

Rachel R. Maddux
rrmaddux@vcu.edu
804.828.0991 or 804.683.6846

Dr. Maike Philipsen
miphilip@vcu.edu
804.827.2630

If you have any questions about your rights as a participant in this study, you may contact:

Office for Research Subjects Protection
Virginia Commonwealth University
800 East Leigh Street, Suite 111
P.O. Box 980568
Richmond, VA 23298

Telephone: 804-828-0868

WHY IS THE STUDY INVESTIGATOR DOING THIS STUDY?

The conduct of research is an expected part of the fulfillment of the requirement for the degree of Doctor of Philosophy at Virginia Commonwealth University for the investigator, Rachel R. Maddux.

CONSENT

I have been given the chance to read this consent form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature indicates that I am willing to participate in this study.

Participant name printed

Participant signature

Date

Rachel R. Maddux
Investigator/Witness

Date

Appendix D

Participant Table

PSEUDONYMS

North Carolina

Michael Nevins Associate Vice President, Planning, Accountability, Research and Evaluation; North Carolina Community College System

Ronald Neal Chief of Staff, University of North Carolina General Administration

Zachary Nash Executive Director, North Carolina State Education Assistance Authority

Jackie Nichols Former President, University of North Carolina

Jon Nace North Carolina Legislative Staffer

Virginia

James Vaughan Executive Director, State Council of Higher Education for Virginia

Deion Vaughter State Senator, Education and Health Committee

Bernice Via Former Secretary of Education, Virginia

Maryland

Fred Miller Director, Maryland Higher Education Commission and Secretary Higher Education

Steve Morris State Senator, Vice-Chair Budget and Taxation Committee, Chair Education, Business and Administration Sub-committee, Chair State Planning Commission for Higher Education

Vita

VITA

Rachel Rena' Maddux was born on June 8, 1961 in Blackstone, Virginia. She is an American citizen and the daughter of Jessie S. Maddux and the late Herbert S. Maddux, Sr. After graduating from Nottoway Senior High School in 1979 she matriculated at Virginia Commonwealth University and received the Bachelor of Science in Accounting in 1983. Rachel is a single parent with one child, Dominique Rena' Maddux-Jackson.

Rachel worked for the State of Virginia as an auditor prior to returning to Virginia Commonwealth University in 1989 as an employee. In 1990 she transferred to the Division of Student Affairs as a senior accountant. It was during her tenure as the Division's fiscal administrator she began to pursue her passion for education and enrolled as a graduate student in education. In 1999, she received her Master of Education degree from Virginia Commonwealth University specializing in higher education leadership and subsequently began doctoral studies in 2000. In November of 2004 she was chosen as the Director of Residential Life and Housing in the Division of Student Affairs and Enrollment Services.

Rachel's research interest include postsecondary access issues for low-income and students of color, higher education policy development and students affairs. Dr. Maddux continues to serve as Director of the Residential Life and Housing program at Virginia Commonwealth University.