Report to the Governor's Blue Ribbon Commission on Higher Education

Reports of Institutional Effectiveness

December 1999

State Council of Higher Education for Virginia
MEASURES OF INSTITUTIONAL EFFECTIVENESS

Background on Performance Measurement

Since 1991, with JLARC’s study of Virginia’s executive budget process, performance measurement has been a subject of serious conversation as a mechanism for program evaluation. In 1992, the Appropriation Act mandated that the Commonwealth embark on performance measurement pilots. These actions were the precursor to the major budget reform that took place in 1995, when the budget process incorporated performance measurement as part of its development of the 1996-98 biennial budget.

As a result of these efforts, performance measures were developed for institutions of higher education. Much of the work in development of these systemwide measures was done in conjunction with State Council of Higher Education for Virginia (SCHEV) and the institutions themselves. Work with the institutions included assistance from the Vice Presidents for Academic Affairs, Finance, and Administration of the institutions of higher education along with several institutional research directors. These efforts culminated in the development of seven measures that are highlighted later in this paper. These measures were twice published in the states Executive Budget document, not measuring institutional result against each other, but rather comparing them to institutionally set targets.

In 1997, the introduced Executive Budget took performance measurement to the next level. Several performance-based initiatives were included in the introduced budget, which tied funding to certain performance outcomes. Most notably was a $50 million pool of performance funds allocated to institutions of higher education based on their achieving certain performance outcomes. The initiative was the result of the desire by policy-makers to have greater accountability for state funds provided to the public institutions of higher education.
Although that initiative failed, the interest in accountability from the public remains strong. The model introduced in 1997 serves as the impetus for much of this continued discussion.

Governor Gilmore’s first act as Governor was to create this Blue Ribbon Commission to examine ways of ensuring accountability in higher education for the nearly $3.0 billion its receives in taxpayer funds each biennium.

The Governor’s charge to the Blue Ribbon Commission in the area of accountability is:

- to evaluate how to increase fiscal accountability;

- to determine what incentive structures can be incorporated in the funding process that will encourage efficiency and innovation; and

- to advise the Governor on how institutions, administrators, and faculty can be made more accountable to their shareholders (the taxpayers, the parents, and the private contributors) for the quality of the academic content and the outcomes accomplished through the investment of public funds.

In May 1999, SCHEV adopted a performance-based funding model that was premised on providing operating funds, annually adjusted for inflation, to the institutions. While growth was limited to inflation, the institutions stand to benefit from the proposed significant deregulation because it would allow institutions to have full control over their resources. In exchange, institutions would be required to provide greater accountability by meeting certain minimum expectations relative to certain performance indicators. In addition, SCHEV has proposed the development of an incentive fund that would reward institutions for performance over minimum expectations. These performance funds are to be added to an institution’s base funding. Currently, the model has been submitted to the Governor and General Assembly for their consideration in the 2000-2002 budget.
Although not explicitly taking action on performance measures/funding, the General Assembly has established a Joint Subcommittee to Study Higher Education Funding Policies. The General Assembly has asked the Joint Subcommittee to include “incentives for achievement and productivity.”

When looking at the national picture in this area, states using performance measurement in funding moved from seven in 19XX to 22 in 19XX, [FLETCHER] based upon a study conducted by the State Higher Education Executive Officers. According to an April 1998 article in the Chronicle of Higher Education, “the public’s demand for accountability is not going away and information-driven, market-oriented reforms, such as performance-based budgets, are part of the answer to that demand.” The article further states that “linking performance to appropriations gives policy makers and customers a clearer sense of how the public’s investment in education is being used.”

In addition to the more global uses for accountability, performance measurement also is useful at the institution level. Performance measures serve to assist faculty and university management in providing information that will assist them in strengthening programs as well as demonstrating the “value added” their programs/universities provide. In business, such performance measurement activities have helped increase competitive advantage. This also can be the case in higher education.

**Structure for Greater Accountability**

A variety of important areas exist when considering institutional effectiveness. While assessing *academic quality* is first and foremost to evaluating institutional effectiveness, assessing *institutional efficiency* is of importance when attempting to evaluate the full complement of institutional effectiveness. Therefore, identifying two areas for development of measures of institutional effectiveness is proposed.
The two areas for development of measures of institutional effectiveness are:

1. **Quality/Student Outcomes** – measures demonstrating success of students during their higher education experience as well as after college graduation;

2. **Efficiency** – measures demonstrating university efficiency in the use of fiscal, human, and physical resources. This includes measures that demonstrate productivity of an institution in the use of its resources and fiscal measures that demonstrate the effectiveness of financial operations of the institution.

**Systemwide and Institution-Specific Performance Measures**

Clearly, the use of systemwide performance measures is important in articulating what outcomes are important to the Commonwealth for the higher education. At the same time, each institution has a specific mission. Therefore, institution specific measures also must be included to adequately measure an institution’s success in meeting its mission. To this end, the Commission recommends that each of the four aforementioned categories include both systemwide measures as well as institution-specific measures.

**Relative Comparisons: What do the measures tell us?**

A multi-dimensional model should be used that has four areas of measurement, which will include both systemwide and institution specific measures.

So what will the measures tell us? Not much unless the state has something by which to compare the measures. Throughout the development of performance measures for higher education beginning in 1995, it has become clear that recognition must be given to an institution’s mission and uniqueness as well as the fact that not all institutions exist for the same purpose. With this understanding, it is important to realize
that when using systemwide measures, comparisons should not be made among Virginia institutions. Instead, comparisons should be made in at least one of these three ways: peer comparisons, longitudinal comparisons, and/or comparisons versus a methodologically determined target.

Some measures will allow the Commonwealth to compare results in all three ways. For example, although graduation is an expectation of the Commonwealth, progression to graduation will differ by institution just as outcomes will vary by mission of the institution. Although graduation rates are a systemwide measure, assessing success on this measure can be done in all three of the ways described above. First, one can examine institutional success by comparing an institution’s results on graduation rates to similar or like institutions nationally. Second, one can examine institutional success by looking over a series of years at the trend in an institution’s graduation rates. Third, one can examine institutional success on graduation rates by examining institutional results compared to an expected rate or target.

When using peers to compare successful performance in academic/student areas, using the established faculty salary peer groups may be an appropriate comparison. This is certainly one way to make the comparison relative to peers. It also is important to note that each institution typically has developed its own set of six or so institutions that it consistently uses to assess its position. These six or so institutions may or may not be a subset of the larger faculty salary peer group. Certainly, the group that has been identified by the institutions as the institutions that are most like them and/or who they aspired to be like, is an appropriate assessment. However, the basis for selection of the peer group should be explicitly stated.

Longitudinal analyses certainly tell us what is happening over time. It is important not to react to a one-year aberration in performance, but to look at long-term trends. There often are legitimate explanations for occasional dips or anomalies in annual results. The more important assessment is examining the overall trend of an institution. If a downward movement is evident, certainly something is happening at the institution that should cause alarms to go off for the Commonwealth’s decision-makers.
and at the university level. An upward trend could indicate improvement over time. Trend information is of particular use when assessing institutional effectiveness.

When comparing institutions to targets, it is important that these targets not be set arbitrarily. Often, there is a tendency to set targets low so that one can claim success. However, this does not provide a meaningful assessment of institutional performance. It is recommended instead that targets be methodologically or statistically set so that one can say that, based on certain inputs, an institution is expected to perform in a certain way. If an institution exceeds its expected performance, then clearly that is some indication of institutional success. In other words, the institution appears to be “adding value” since the students are performing above expectation.

Currently, SCHEV is doing a good deal of work in this area, particularly in relation to graduation and retention rates. SCHEV is attempting to refine the current methodologies used by such groups as US News and World Report for determining expected graduation and retention rates of colleges and universities. Expected graduation and retention rates for each Virginia institution may be available as early as next fall for comparison with actual graduation rates. This should serve as a solid target for Virginia colleges and universities with regard to these rates. The purpose of predicting expected rates, allows the “value added” to be measured by a particular university. The focus on “value added” is integral to assessing success on all measures.

Institutional performance and quality should not be measured by “inputs” or the abilities a student brings to an institution, but rather by the “outputs” or the abilities a student gains before leaving an institution. There are a number of measures, graduation rates, retention rates, an others that can be used to provide insight into the amount of “value-added” by a student’s college education. By gathering actual student abilities upon entry to college, or by using formulas to develop predicted performance, institutions will be able to develop measures of “value added” to be determined at graduation.
**Unintended Consequences**

The reason for performance measures is both for a management tool, as well as a means for the Commonwealth to articulate its goals and objectives for the system.

Many critics of performance measurement, however, claim that the focus on outcomes can lead to unintended consequences. An example might be in the case of graduation rates. Institutions can become more focused on the results and hence push students through to graduation (via grade inflation and the like). Yes, it is possible that this may happen. However, this situation is preventable. It will not take very long for a reputable institution to lose its good standing if its graduates are not qualified to enter the workforce or well prepared when they enroll in graduate programs.

To counter unintended consequences, it is important to establish a balanced set measures so that if actions are taken to influence results on one measure, there will be a negative corresponding effect on other measures. A perfect example is graduation rate and post graduation surveys/employer surveys and licensure exams. If manipulation occurs to improve scores on graduation rates, employer surveys may decline as graduates do not possess the qualifications desired by business and industry or graduate schools. Similarly, institutions will not fare well on the pass rates of their graduates on licensure exams and GRE subject exams.

Having a balanced complement of measures is the key to avoiding unintended consequences.

**Report of Institutional Effectiveness**

Whether funding is tied to performance results or not, it is incumbent on the Commonwealth to provide the public with information that assesses institutional effectiveness. Therefore, it is recommended that the State Council of Higher Education annually produce a Report of Institutional Effectiveness. The report shall include both
systemwide and institution-specific performance measures. The results shall be compared to the performance of peer institutions, historical trends, and/or methodologically based targets.

**Measures of Institutional Effectiveness**

Currently there are seven “core” or systemwide measures that were developed in 1996 which are regularly reported to the Department of Planning and Budget. These measures certainly can serve as a starting point for systemwide measures.

The current “core” performance measures are:

1. Graduation, progression, persistence, and retention rates;

2. Transfer rate;

3. Percent of graduates employed in program related work or pursuing further study;

4. Instruction as percent of E&G expenditures;

5. Percent of management standards met;

6. Space utilization; and

7. Faculty Productivity

In June 1999, SCHEV adopted additional measures during the course of work on its Performance-Based Funding Model for higher education. These measures, still under development, are predominately systemwide, although one measure is designed predominately for the community colleges. The focus of the measures is to assess the value that an institution adds, in particular to quality/student outcomes.
SCHEV’s proposed systemwide performance measures include:

1. Graduation rates;
2. Retention rates;
3. Passage rates on exit exams;
4. Post graduate placement;
5. Faculty productivity; and
6. Transition rates or completion rates

The Virginia colleges and universities’ Council of Presidents has been asked by the Blue Ribbon Commission to develop performance measures. The college presidents have developed a preliminary matrix of measures, which are divided among two categories – administrative measures, and academic measures. Unique institution standards and universal systemwide standards are further designated. Although definitions for the measures were not provided, SCHEV has attempted to define the measures and how they could be quantified.

The preliminary measures provided by the Council of Presidents are:

<table>
<thead>
<tr>
<th>Institution Unique</th>
<th>System Measure – Universal; Institutional Standard -Unique</th>
<th>System Measure Universal System Standard Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer rates</td>
<td>Graduate Survey</td>
<td>Technology competency of all graduates</td>
</tr>
<tr>
<td>Remedial education</td>
<td>Placement rates</td>
<td>Communication skill competency</td>
</tr>
<tr>
<td>Placement &amp;</td>
<td>Completion rate of desired course of study</td>
<td>Rigorous programmatic review</td>
</tr>
<tr>
<td>Performance of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>graduates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey of students who leave prematurely</td>
<td>Employer survey</td>
<td>SACS reaffirmation</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Professional development/renewal experience of faculty</td>
<td>Percent of faculty with terminal degrees in their fields</td>
<td>Regular faculty evaluation including post-tenure review</td>
</tr>
<tr>
<td>National Research Council ranking</td>
<td>Percent of total credit hours taught by ranked full time faculty</td>
<td>Percent of programs eligible for national accreditation that have received accreditation</td>
</tr>
<tr>
<td>NSF ranking</td>
<td>Student performance on licensure exams/GRE subject tests, etc.</td>
<td>Attainment of 5 Management Standards</td>
</tr>
<tr>
<td>Bond rating</td>
<td>Crime statistics</td>
<td>Currency of Technology Equipment</td>
</tr>
<tr>
<td>Debt capacity</td>
<td>Meet or exceed national benchmarking standards</td>
<td>Positive Quality Assurance Audit (QAR) for Internal Audits Every 4 Years</td>
</tr>
<tr>
<td>Private fund raising</td>
<td>Expenditure of funds on instruction and academic support</td>
<td>Facilities condition report</td>
</tr>
<tr>
<td>Institutional national rankings</td>
<td></td>
<td>Space Utilization</td>
</tr>
<tr>
<td>Percent of alumni who contribute to the institution</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Characteristics Desirable in Recommended Measures

The DPB measures, SCHEV measures, and the Council of President's measures share some areas of overlap. The measures that have shared characteristics are easily incorporated into the proposed multi-dimensional model.

The following matrix depicts the recommended system-wide measures in each of the four categories. Institutional-specific measures require further development. However, certain systemwide measures may not apply to all institutions. The matrix
also indicates what benchmark will be used to assess outcomes; that is peers, historical experience; and/or methodologically developed targets.

Desired measures will include the following characteristics:

1. Measures in which it is possible to bring a value-added dimension either through entry/exit measures or projected/predicted performance rate based on entering student characteristics;

2. Measures that are related to identified performance/education goals that are desired – often not direct measures but a combination of several proxy measures that are related to that goal; and,

3. Carefully examined measures to determine potential for unintended consequences and development of offsetting measures to keep the measures balanced.

**Recommended Measures**

The following is a compilation from the already existing DPB measures, the SCHEV-proposed measures, and those proposed by the Council of Presidents that could be systemwide measures for use in the annual publication of the Report of Institutional Effectiveness. The measures recommended for inclusion in the Report of Institutional Effectiveness may or may not be appropriate for use in determining appropriations or in a performance-based funding model like the Institutional Performance Agreement (IPA).

Certainly, performance on a subset of these systemwide measures, along with institution-specific measures, could be included in a performance-based funding model/IPA. Selection of measures to be included and expected outcomes included in an IPA would be dependent upon negotiations and agreement by all parties in the IPA process.
National experience to date in the area of performance funding has indicated that fewer measures in a funding model are better than a greater number of measures. Therefore, it recommended that expected outcomes on a subset of the following systemwide measures, along with institution-specific measures, be included in an IPA.

System-wide measures, such as the following, are recommended for inclusion in the annual Report of Institutional Effectiveness:

**Quality or Student Outcome Measures:**

1. **Graduation and retention rates** for four-year institutions based on actual versus predicted rates. Could also look at trend and peer analyses. [System measure universal; institutional standard unique]

2. **Nationally standardized tests** (licensure, GRE subject, etc) compared with peer performance, predicted/projected rates and historical trends. [System measure universal; institutional standard unique]

3. **Transfer-completion/progression rates** for Community Colleges and for institutions with non-traditional populations – based on student goal achievement and/or successful performance if transfer to four-year is the student goal – compared to Historical trends. [System measure universal; institutional standard unique]

4. **Specific Skill Measures** to include such competencies as technological, writing, and speaking. Measures dependent upon the adoption of a Quality Assurance Proposal. [System measure universal; system standard universal?]

5. **Post Graduate experience** evaluated through alumni surveys and employers/graduate school interviews/surveys – somewhat of a weak measure due to lack of reliability of survey instruments, but balances some other measures. Would examine trends over time, could look at national
standards or other national benchmarks. [System measure universal; institutional standard unique]

**Efficiency Measures:**

1. **Research productivity** as viewed by NSF and National Research Council ratings as well as review of citation index counts of citations of faculty publications – in comparison to peers and based on the institutional type – highest for research, lowest for primarily teaching institutions. [System measure universal, if applicable; institutional standard unique]

2. **Audits of assessment, program review and post-tenure review** processes by external auditors trained to conduct such audits. This measure is process rather than outcome focused, but ultimately the audit process could be evaluated from a value-added perspective to determine whether it should continue. [System measure universal; system standard universal]

3. **Institutional national rankings.** Although this measure would not be a good candidate in an IPA (because it is made up of several independent measures and is redundant with other proposed measures (e.g. graduation rate, retention rate, etc.)), it is useful in a Report of Institutional Effectiveness. The rankings also would include program-specific rankings for each institution. Historical rankings also could be used to show trends. [System measure universal; institutional standard unique]

4. **Percent of alumni who contribute.** This measure is a proxy measure for assessing student satisfaction. Willingness of alumni to give to an institution serves as a proxy for determining a student’s experience at a particular university and serves some use in assessing accountability to consumers. Comparing results on this measure over time and compared to peers or national benchmarks would be appropriate. [System measure universal; institutional standard unique and, if possible, system standard universal]
5. **Crime Statistics.** Like the national rankings measure, this measure would not be a suitable measure for inclusion in an IPA. However, it is useful information for consumers of higher education and should be included in the Report of Institutional Effectiveness. Comparisons over time and possibly comparisons to other institutions in similar locations with similar demographics nationally may be appropriate. [*System measure universal; institutional standard unique*]

6. **Expenditure of funds on instruction and academic programs.** This is currently a performance measure and does indicate institutional priorities for the expenditure of its funds. Trend analysis is indicative of changing priorities of an institution and is useful in assessing institutional accountability. [*System measure universal; institutional standard unique*]

7. **Percent of programs eligible for national accreditation that receives it.** This measure is useful in that an external body has deemed the institution's programs have met characteristics of a quality program which are required for accreditation. Although this measure would not necessarily be suitable in an IPA (because it reflects only a percentage of institutional programs), it is useful in determining one dimension of quality of institutional programs. [*System measure universal, system standard universal*]

8. **Attainment of management standards.** This measure demonstrates financial management of an institution based on five standards that are accounting related. This is an existing DPB measure. Historical and vs. target comparisons are appropriate. Success on this measure should be a minimum requirement. [*System measure universal, system standard universal*]

9. **Positive Quality Assurance Reports of internal audit.** This measure demonstrates good resource and process management as it relates to an institution’s internal audit function. The measure would be reported every four
years. Success on this measure should be a minimum requirement. This measure is not suitable for an IPA since it is expected. [System measure universal; system standard universal]

10. **Debt Capacity.** This measures the institution’s revenue to debt ratio. It is a fiscal health indicator. Comparisons over time and to a Commonwealth and/or national standard are appropriate comparisons. [System measure universal; system standard universal]

11. **Faculty Productivity** in terms of credit hours generated and research dollars generated. This is an existing DPB measure. Credit hours generated could have unintended consequences due to implications for large classes. Balance with another measure is important. [System measure universal, as applicable; system standard universal]

12. **Space Utilization.** This is an existing DPB measure for assessing how well colleges use their existing space vs. a SCHEV developed system-wide standard. Historical comparisons are also useful. [System measure universal; system standard universal]

**Recommendations for Accountability**

1. Measures of institutional effectiveness shall be developed for each institution of higher education.

2. Measures of institutional effectiveness shall include measures of quality/student outcomes, efficiency measures, accountability measures, and fiscal measures.

3. Measures shall be both systemwide and institution specific.
4. Measures shall be a balanced set of measurement approaches to avoid manipulation and unintended consequences.

5. Institutional effectiveness evidence shall include measures such as the systemwide measures described previously.

6. Relative comparisons shall be made by use of one or more of these benchmarks: peer institutions, historical results, and/or methodologically set targets.

7. SCHEV is charged with fine-tuning systemwide measures and developing institution-specific measures with the colleges and universities. To the extent possible, these measures shall be outcome and value-added based.

8. SCHEV shall conduct periodic review/audits of the measures and the data report by the institutions.

9. Institutions shall report annually or biennially, depending upon the measure, its results on systemwide and institution specific measures.

10. Institutions shall explain significant deviations in results when compared to peers, historical experience, and/or methodologically set targets.

11. SCHEV shall annually report in a *Report of Institutional Effectiveness* the results of both systemwide and institution-specific measures to the Governor and General Assembly. The measures shall be compared with peers, historical results and/or methodologically established targets, as appropriate. The report also shall be posted on SCHEV’s web site for public consumption.

12. SCHEV shall continue to examine best practices in the area of assessment and incorporate such practices in its review of academic programs.

13. SCHEV shall study the concept of “academic audits” that is used in Great Britain and consider its application in Virginia.