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The indicators selected for performance reporting reflect the attitudes of state policymakers on the goals, values, and models for excellence for public colleges and universities.

Reporting Indicators: What Do They Indicate?

Performance reporting for higher education adds to the adage that what gets measured is what gets valued. Measuring results may increase what is valued, but publicizing the findings is more likely to improve performance. Banta and Borden claim that performance indicators “can be defined as the generation of judgments about performance” (1994, p. 18). The indicators picked for reporting provide clues about what state policymakers want from higher education and offer insights into their attitudes toward public colleges and universities. All programs of reporting, including those not mandated in legislation, respond mostly to issues raised in external demands from governors, legislators, and business leaders. Although coordinating or system officials in consultation with campus leaders may have picked or proposed the indicators, they knew that governors and legislators were looking over their shoulders.

The underlying question is, what do the reporting indicators really indicate? The goal in this chapter is not just to describe and define the indicators but also to probe for their implication and intent. The answers can assist state and campus policymakers in devising reporting systems that can better attain the major purposes of demonstrating accountability, improving performance, and responding to state needs. They might even add to the credibility of public higher education in ways that could contribute to increased state funding.

In this chapter, we seek answers to a series of questions. What types of indicators are preferred in performance reporting—inputs, processes, outputs, or outcomes? Do they reflect more the external concerns of state officials or the internal concerns of the academic community? To what extent

do the indicators express the classic policy values of efficiency, quality, equity, and choice? What do the reporting indicators imply about the models of excellence for public colleges and universities desired by state policymakers? How do the answers to these questions about performance reporting compare with those reached for performance funding? Finally, to what extent do the indicator types, concerns, values, and models of excellence differ between two- and four-year colleges and universities, and what does this answer tell us about the attitudes of state policymakers toward these two types of institutions?

Methods

Comparing the indicators in the twenty-nine study reports proved challenging because the measures varied widely in number, content, and wording. Some programs link different objectives in a single indicator whereas others list them separately. We constructed a common core of 158 generic indicators by combining measures with similar intent but different names and by separating those with different purposes into distinct measures. Staff then categorized each indicator by type, concern, policy value, and model of excellence (see Appendix at end of chapter).

The analysis examines the implication and intent of the performance indicators in two ways. The first uses the total number of generic indicators for both performance reporting (158) and for performance funding (66) to identify the percentages each program allocates to indicator types, concerns, values, and models of excellence (Burke and Serban, 1998; also see this chapter's Appendix). The second makes the same calculations for the eight most used indicators in performance reporting and performance funding, as shown in Table 3.1.

Common Indicators

Both programs exhibit a limited number of widely used indicators, but the performance reports share more common measures than those for performance funding. In Table 3.1, the top eight indicators for both programs are

Table 3.1. Rank of Top Eight Indicators by Use

<i>Performance Reports, Total Number = 29</i>	<i>Performance Funding, Total Number = 11</i>
Graduation or retention 24	Graduation or retention 10
Enrollment or race 21	Job placement 8
Research, sponsored 20	Student transfers 6
Student transfers 19	Faculty workload 5
Tuition and fees 18	Institutional choice 5
Financial aid 17	Licensure test scores 4
Degrees awarded 16	Time to degree 4
Licensure test scores 16	Workforce and economic development 4

ranked according to their usage. The items in bold type are the measures shared by performance reporting and funding, which includes only three indicators. The top eight indicators for performance reporting are used in at least sixteen of the twenty-nine study reports. Conversely, the top eight measures in the eleven cases of performance funding include indicators used by four or more programs. In other words, more than half of the performance reports use their top eight measures, but less than 40 percent of the funding programs apply their top eight indicators. Although analyzing all of the generic indicators gives some sense of their overall usage, focusing on the most popular indicators gives a better reading of the intent of policymakers on the indicator types, concerns, values, and models of excellence where it matters most—on the most used measures.

Comparison with Performance Funding Indicators

Although Table 3.1 shows that both programs adopted few common indicators, more performance reports than funding programs used their most popular indicators. Performance reporting and performance funding stress some of the same indicators, such as graduation, transfer, job placement rates, and licensure test scores (Burke and others, 2002; Burke and Serban, 1998). Despite these similarities, performance reporting reveals increased emphasis on total enrollments, student diversity, tuition and fees, and financial aid. Apparently the issues of access, diversity, and affordability seem more crucial to policymakers in performance reporting than in performance funding. Conversely, funding programs paid more attention to efficiency measures such as faculty workload and time to degree. Clearly, performance reporting stressed more the inputs of enrollments, student diversity, tuition and fees, and financial aid, whereas performance funding emphasized more the outputs of graduation, transfer, and job placement. Performance funding would naturally not reward increased access because state budgets for public colleges and universities already funded enrollments in campus budgets. In addition, this funding program would not add allocations for increased financial aid because states fund the lion's share of these programs for public colleges and universities. The most common measures in performance funding favor the output category of efficiency and productivity, and those from performance reporting emphasize the input category of access and equity.

Two-and Four-Year Reporting Indicators

Although studies criticize performance funding for not including more measures that encourage the special missions of community colleges, funding programs seem more sensitive than performance reporting to the differences between the two types of institutions (Burke, 1997; Burke and others, 2002; Burke and Serban, 1998). Reporting programs use nearly identical indicators

for two- and four-year campuses. In contrast, performance funding in Florida, Missouri, Ohio, and Tennessee have both shared and different indicators for their baccalaureate and associate institutions. Recent changes in South Carolina also apply the same approach. The use of identical indicators in performance funding in Arkansas for community colleges and baccalaureate campuses has had dire effects, having contributed to the demise of the first effort at performance funding in that state (Burke and others, 2002; Burke and Serban, 1998).

Two- and four-year colleges should share some of the same measures that stress their common goals in providing general and specialized education. However, they should also have different indicators that reflect their diverse missions. Many four-year campuses have special missions in research and graduate studies whereas two-year colleges have distinct mandates in workforce training and adult education. Failure to include more indicators that differentiate the distinct missions of two- and four-year colleges lends some credence to complaints that performance reporting represents a one-size-fits-all indicator system, at least as applies to two- and four-year colleges and universities.

Indicator Types. Whether used for reporting or funding, performance indicators fall into four types (Carter, Klein, and Day, 1992; Cave, Hanney, and Kogan, 1991; Richardson, 1994). *Inputs* involve the human, financial, and physical resources received to support programs, activities and services, such as funding, enrollments, and staffing indicators. *Processes* include the means used to deliver programs, activities, and services. Assessment of student learning, use of technology, and teacher training constitute process measures. *Outputs* reflect the quantity of products actually produced—degrees awarded, retention or graduation rates, and sponsored research funding. *Outcomes* cover the quality of programs, activities, and services or their benefits to students, states, and society. Test scores, job placements, and satisfaction surveys results of students, alumni, and employers represent common outcomes measures. Some writers stop with outputs and include the concept of outcomes within that designation (Cave, Hanney, and Kogan, 1991). We see outputs and outcomes as different enough that they require separate designations because outputs connote quantity and outcomes quality.

The four indicator types have different characteristics and objectives, but operationally they are related. Successful indicator systems—whether at the state, system, or campus levels—should link all four types in an input-process-output-outcome model (Borden and Bottrill, 1994) or Astin's input-environment-outcome concept (1991). For example, at the campus level, the input of the academic preparation of students requires different processes of teaching and learning to produce the output of graduation and the desired outcomes in life and careers. In other words, the processes should match the inputs to produce desired outputs and outcomes. Unfortunately, none of the programs studied in performance reporting or funding follow this

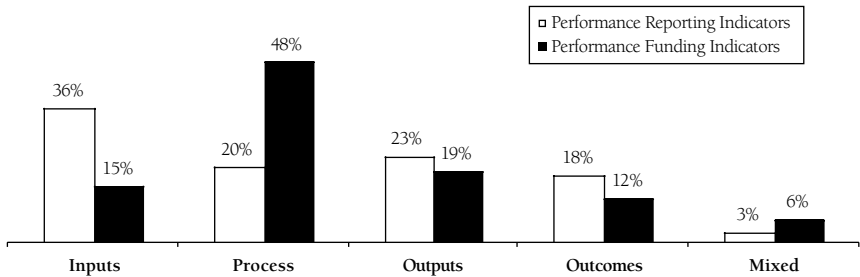
prescription, although the state university system in Florida initially proposed such an approach in a performance budgeting proposal. All too often, state and campus policymakers consider performance indicators as isolated rather than related items that should reinforce each other. The advocates of performance-based management and programs forget this connection when they belittle inputs and processes and laud outputs and outcomes. Both performance reporting and funding may include too many input and process indicators and too few output and outcome indicators, but all performance programs should recognize the interaction of all four types of performance measures.

Designing the four types of indicators involves different levels of difficulty and controversy. Inputs and outputs with their emphasis on quantity are easy to count and, at least on the surface, to assess. Consequently, they are less controversial than the other types, although outputs such as retention and graduation rates stir opposition, especially from community colleges, because of their part-time and nontraditional students. Outcomes present by far the greatest difficulty and arouse the most controversy. They attempt to capture the elusive characteristics of quality in undergraduate education and its benefits to external society. Judgments on these characteristics are always subjective and never self-evident. Quality and benefit vary with the eye of the beholder. The multiple stakeholders of students, parents, governors, legislators, business leaders, and the general public define quality differently depending on their interests. Processes are also difficult to measure but are far less controversial on campus than outcomes or even outputs. Colleges and universities divided by their disciplines and department focus more on processes than products, whether outputs or outcomes. Conversely, governors and legislators often see input indicators as pleas for additional resources and view processes as vague measures of quality that lack the comparability required to assess statewide or institutional performance.

Figure 3.1 shows the percentages by indicator types for the total number of indicators for performance reporting and performance funding. Performance reporting has more than twice the percentage of input indicators than performance funding. In contrast, funding programs rely on more than double the percentage of process measures than reporting initiatives. The increased emphasis on inputs in the performance reports stems from their stress on access, affordability, and diversity. Reporting also shows somewhat higher percentages of outputs and outcomes indicators than performance funding. The heavy use of process measures in performance funding is surprising because the rationale for most of these programs extolled shifting funding from process and inputs to outcomes and outputs.

The reliance of performance funding on process indicators may arise in part from the lack of acceptance in the academic community of standardized testing. Only three of the eleven programs in one study included standardized tests in general education and academic majors. Instead, they

Figure 3.1. Performance Reporting and Funding Indicators by Type

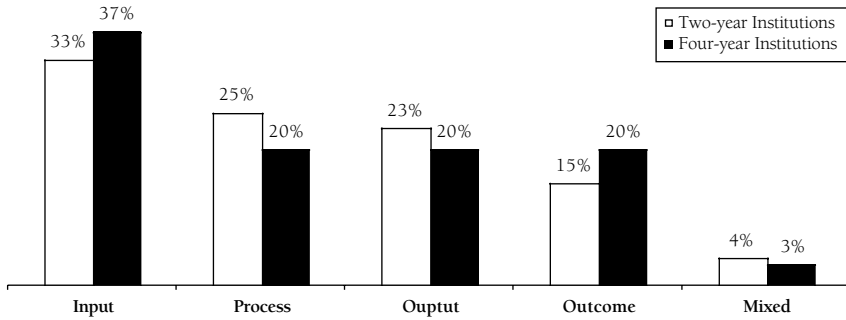


relied on process measures such as course availability, class size, student-faculty ratios, and program review. In addition, process indicators proved less controversial to administrators and faculty than outcome indicators (Burke and others, 2002; Burke and Serban, 1998).

Indicator Types and the Most Popular Measures. Comparing the eight most popular indicators rather than their total number reveals some differences in emphasis between the two programs of reporting and funding. The reporting indicators have 37 percent inputs, 37 percent outputs, and 13 percent outcome measures. The student transfer (13 percent) is a mixed type—an input for baccalaureate campuses but an output for two-year colleges. The absence of process measures and the increased stress on outputs represents the most significant change for the top eight indicators of performance reporting. Those for performance funding show 25 percent input, 37 percent process, 25 percent outcomes, the mixed input-output measure of student transfers (13 percent), and no output measures. The major change in the most popular indicators for performance funding comes in the elimination of output, a diminished emphasis on process, and increased interest in outcomes measures.

Indicator Types and Two- and Four-Year Institutions. Both two- and four-year institutions use indicator types for performance reporting that show only small differences (Figure 3.2). Baccalaureate colleges and universities have slightly more input and outcome indicators whereas community and technical colleges have more process and output measures. Much of the difference of inputs and outputs for these two types arises from transfers, an output from two-year colleges and an input for four-year institutions. Given the differences of missions between two- and four-year colleges and universities, more differences in the types of indicators would be anticipated. With the community colleges' focus on the dual goals of producing graduates for the workforce and baccalaureate transfer, more emphasis on output measures would be expected. A partial explanation for this less-than-expected emphasis is that several reports do not apply graduation rates—by far the most important output measure—to two-year colleges because of their large enrollments of part-time and nontraditional students who may not wish to complete a degree.

Figure 3.2. Type of Indicators by Two- and Four-Year Institutions

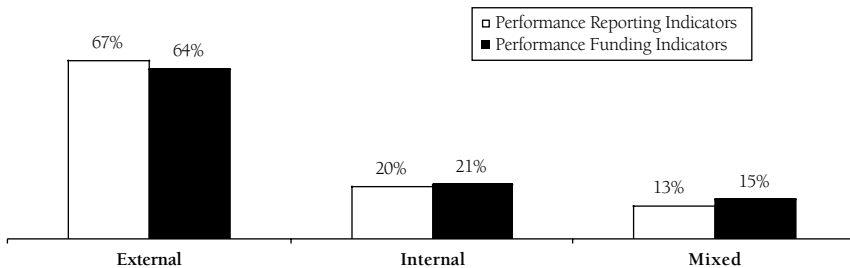


External or Internal Concerns

An important policy question is whether the selected indicators express the external concerns of states and society or the internal concerns of the academic community. External concerns clearly dominate performance reporting. Over two-thirds of the total reporting indicators reflect external concerns, only a fifth internal concerns, and the rest a mixture of both concerns (Figure 3.3). In performance funding, external concerns also overwhelm internal interests. When the top eight indicators used for performance reporting are analyzed, the predominance of external concerns increases. No less than six of eight indicators for reporting suggest external concerns, and two a combination of external and internal. Using the top eight indicators for performance funding shows that external concerns generate seven measures, with only one coming from internal concerns.

External Focus and Program Initiation. The heavy external emphasis on performance reporting is especially surprising. A natural assumption is that the method of initiation would affect indicator selection, especially their reflection of external and internal concerns. External concerns would be expected to dominate in mandated-prescribed programs, where legislation dictated the indicators. Yet, this method initiated only 28 percent of the

Figure 3.3. Performance Reporting and Funding Indicators by Concerns



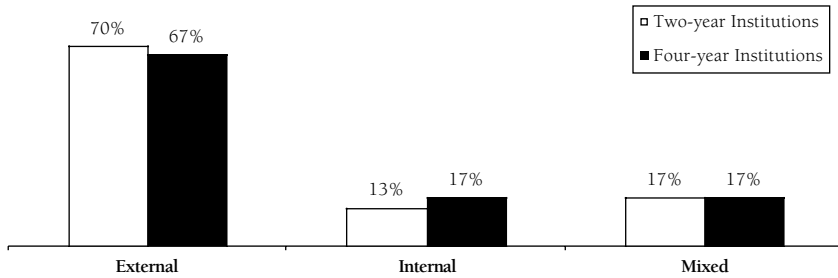
twenty-nine study reports. In contrast, coordinating or system boards, in consultation with campus representatives, launched the reports without legislation in 38 percent of the reports. They also proposed the indicators in mandated-not-prescribed programs, which constitute 34 percent of the programs. The last two methods allow ample opportunity for expressing internal concerns because coordinating officials in consultation adopted or at least proposed the performance indicators. As a result, 72 percent of the performance reporting programs allowed educators to propose the indicators. Clearly, even in not-mandated programs of performance reporting, coordinating or system boards with their campus collaborators choose indicators desired by governors and legislators to avoid a mandate.

The method of initiation affected substantially the indicators selected in performance funding (Burke and Serban, 1998). In contrast to performance reporting, 64 percent of the funding programs in an initial eleven-state study came from mandate and prescription, but just 9 percent originated as mandated-not-prescribed and only 27 percent as not-mandated programs. Clearly, the initiation method explains the dominance of external concerns in the earlier performance funding programs, which overwhelmingly originated as mandated-prescribed programs. Recent trends in performance funding have shifted the method of initiation to not-mandated and mandated-not-prescribed initiatives (Burke and Minassians, 2001).

Previous studies show that the initiation method affected the choice of indicators in performance funding and had considerable effect on not only indicator concerns but also the policy values and models of excellence for public campuses reflected in the measures selected (Burke and others, 2002; Burke and Serban, 1998). Our analysis suggests that this effect did not occur in performance reporting on indicator concerns, values, or models. The reasons for this result are unclear and require further study. We could speculate that coordinating officials and campus representatives seemed willing in mandated-not-prescribed and not-mandated programs to accept the concerns, values, and models of governors and legislators for reporting, but not for funding. They appeared to accept reporting indicators desired by outsiders as the price of credibility in state capitols but opted for funding measures more favored by academics. For performance reporting, the price was right; for performance funding, the stake was too high to adopt indicators favored by governors, legislators, and business leaders.

Two- and Four-Year Institutions. As noted before, the performance reports failed to provide a sufficient number of distinctive indicators that reflected the different mission of two-year colleges, especially for workforce training, older part-time students, and contract courses and services for business and industry. This failure explains the small differences between two- and four-year campuses on indicators reflecting internal and external concerns (Figure 3.4). Two-year colleges show slightly more external concerns—but not nearly as much as expected because community colleges by their charter and character are closely connected to community needs.

Figure 3.4. Concerns by Two- and Four-Year Institutions



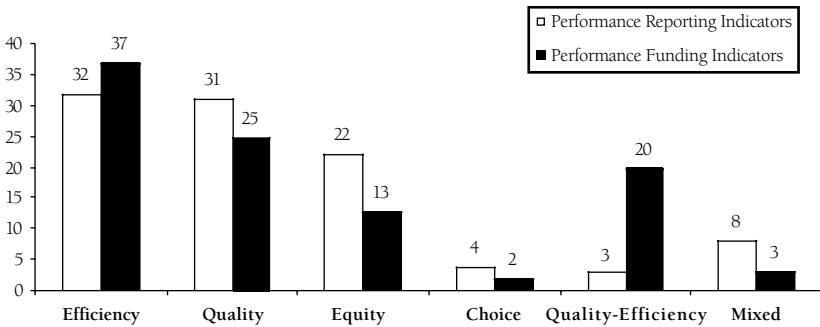
Conversely, four-year colleges and universities are usually thought to respond more to the internal concerns of their faculty. Obviously, the indicators used by both types of institutions in performance reporting respond overwhelmingly to external concerns.

Policy Values

Public policies, including those on higher education, reflect the core social values of quality, efficiency, equity, and choice (Richardson, 1994). *Quality* consists of achieving or exceeding high standards of performance. Of course, quality is the most elusive of all the values, especially in higher education. It can be real or perceived. It can be an input (SAT or ACT scores), a process (assessment of student learning), or an outcome (licensure test scores). It is traditionally not an output, which suggests quantity. *Efficiency* covers the calculation of the resources received in relation to the results achieved—or a cost-benefit analysis. It includes indicators such as graduation or retention rates and time to degree. *Choice* constitutes the ability to select from a range of options. An obvious example is campus-specific indicators left to institutional choice. *Equity* represents the response to the disparities in needs and the diversity among different groups. In the case of higher education, equity often relates to students admitted and staff employed, as expressed in indicators on enrollment race and gender or diversity of faculty and staff (Burke and others, 2002; Burke and Serban, 1998). Of course, ascribing a value to a particular indicator is challenging and represents judgment calls.

Efficiency and quality indicators have nearly equal percentages in performance reporting (Figure 3.5). Reporting shows a lower percentage of efficiency indicators than performance funding, a significantly higher percentage of quality measures, and much less interest in the combined efficiency and quality as a policy value. The surprise is the stress on equity items in reporting as opposed to funding. Choice has few indicators in either program. The striking trait in performance funding is the considerable support for indicators that combine the characteristics of both quality

Figure 3.5. Performance Reporting and Funding Indicators by Value



and efficiency. Funding programs devote much less attention to equity measures than those for reporting.

The reasons for these differences require more study at the state level. One possible explanation of the differing emphasis on indicators that combined quality and efficiency is that for performance funding, more of its measures have dual roles because the link to funding forces the inclusion of fewer measures than performance reporting. Perhaps the different timing of the studies of performance indicators for funding and then reporting explain the differences. The analysis of performance funding measures looked at the ones in place in 1996–97 (Burke and Serban, 1998). The one on performance reporting examined the indicators in place in 2000–01. The first analysis occurred in the heat of the assaults on affirmative action. The second appeared in a period of growing concern that legal prohibitions would devastate minority enrollment, especially in states where African Americans and Hispanics were becoming an increasing proportion of the traditional college-aged students.

The balanced support for efficiency and quality indicators in both programs and the combination of the two values in performance funding suggest a new concept of quality and efficiency in state capitols but not on college campuses. State policymakers view quality and efficiency differently than campus leaders. Governors, legislators, and business leaders increasingly see efficiency and quality as complementary values, whereas administrators and professors traditionally view them as conflicting. External groups think of quality in the external context of effectiveness, which includes both efficiency and quality. This combination reflects the new management maxim that business, government, and educational organizations not only can but also must improve both quality and efficiency.

Policy Values and the Most Popular Measures. Although using the total number of indicators for performance reporting and funding reveals a balance between quality and efficiency, looking at the values implied in the eight most used indicators for each tells a different tale. Three of the reporting indicators represent efficiency, and not one implies quality, although

two of them suggest the combination of quality and efficiency. One indicator reflects equity and another its combination with choice. The top eight measures for performance funding present a radically different array of policy values. Fully six of the measures suggest efficiency, and none imply quality. One measure suggests quality and efficiency, and another choice. When it came to the most used indicators, quality clearly lost out to efficiency in both programs, more so in performance funding than in performance reporting.

One possible conclusion is that quality does fairly well when all of the reporting indicators are included because it has many possible measures: 31 percent of the total. On the other hand, it lacks two or three generally accepted indicators that can compete with graduation, transfer, and job placement rates and can win admission into the top measures of performance reporting or funding. Clearly, more measures are no defense of quality in indicator systems for higher education. The lack of emphasis on a few quality measures may well reflect the reluctance of the academy to define more clearly the critical elements of quality in undergraduate education. The solution is not to press for even more measures of quality, as campus representatives are wont to do. These results suggest that the academic community has failed to develop a few good indicators of educational quality capable of attracting internal and external support.

The difficulty of devising acceptable indicators of undergraduate learning plagues both reporting and funding. Both programs show the reluctance of the higher education community to accept standardized tests as a measure of educational quality, except in professional licensure examinations. Only two performance reports use standardized tests to evaluate quality in general education and the same number in academic majors. Three programs in performance funding adopt standardized tests in both areas. On the other hand, 55 percent of the performance reports and 36 percent of the funding programs include licensure test scores. Apparently, academics accept licensure examinations required by external organizations for professional practice, but not standardized tests that evaluate the general and specialized knowledge and skills acquired by their graduates in the arts and sciences.

Given this resistance to standardized testing, more use would be expected in performance reporting of satisfaction surveys of students (nine reports) and alumni (eight reports) as evidence of the quality of undergraduate education. Results from student satisfaction surveys may increase as more colleges and universities adopt new designs, such as the National Survey of Student Engagement, which is largely a process assessment (Indiana University Center for Postsecondary Research and Planning, 2001). A limitation of that survey is that the publication of institutional results is voluntary among participating campuses. To date, many participants have not authorized publication. Surveys of employers (seven reports) are becoming more common but require considerable effort and

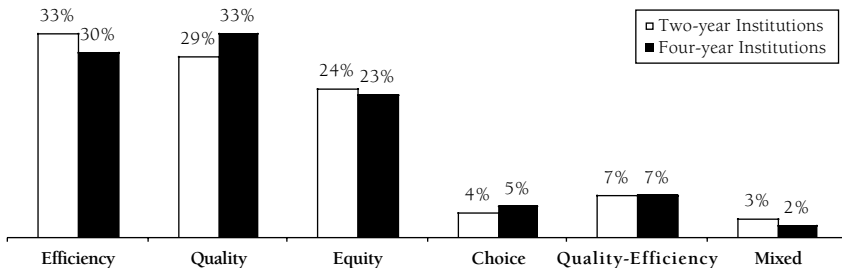
costs. Reporting also relied on indirect measures, such as assessment of student learning (seven reports), where five of the reports merely noted that campuses had plans in place for assessing student learning. The other two were Missouri and Tennessee, which assessed student learning through testing.

Performance reporting reveals some continuing allegiance to the traditional input-and-process measures of quality found in *U.S. News & World Report*. They use input indicators of SAT and ACT scores (nine reports), high school average (three reports), and faculty credentials (four reports). The reports also assess quality through the old and inadequate process measures of student-faculty ratios (eight reports), class size (four reports), and faculty teaching in lower division courses (nine reports). Frankly, even these inadequate indicators of quality, with the possible exception of SAT and ACT scores, appear in only a small proportion of the twenty-nine reports in this study. The decision of *Measuring Up 2000*, the state-by-state report card, to give an incomplete grade on the quality of student learning (National Center for Public Policy and Higher Education, 2000), should spur efforts to develop better measures of educational quality. It will not be easy, but it is clearly necessary.

The reason performance reporting stresses equity indicators more than performance funding is unclear. Perhaps the different time periods of the studies for funding and reporting, noted earlier, explain the differences.

Policy Values and Two- and Four-Year Institutions. Reporting indicators for two- and four-year institutions show only slight variations in the policy values of efficiency, quality, equity, and choice (Figure 3.6). Community and technical colleges have a higher percentage of efficiency and a lower percentage of quality indicators than baccalaureate colleges and universities. However, neither of these differences is as large as would be expected from their diversity of missions and goals. Again, the reason is that most reports used nearly all of the same indicators for two- and four-year institutions. The percentages for the other values of equity, choice, and the mixed values are almost identical.

Figure 3.6. Policy Value by Two- and Four-Year Institutions



Models of Excellence

The indicators selected for reporting and funding suggest—consciously or unconsciously—models of excellence for public colleges and universities because they signify the characteristics that policymakers desire in successful higher education systems and public colleges and universities. The diverse stakeholders of higher education mean multiple models of excellence. Astin (1991), Ewell (1994), and Richardson (1994) have developed models for public colleges and universities that reflect the interests and concerns of the stakeholders. Drawing on some of their concepts, this study and previous ones on performance funding use three models of excellence for higher education: resource and reputation, strategic investment, and client centered (Burke, 1997; Burke and others, 2002; Burke and Serban, 1998).

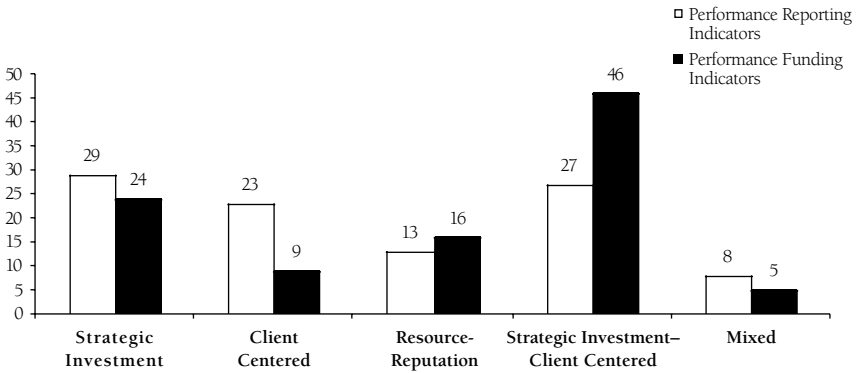
The resource-and-reputation model is the traditional faculty-oriented model. It combines Astin's two models of resource and reputation into one because, as he concedes (1985), both produce similar results or ratings. This model is provider driven because it reflects internal concerns of the academic community rather than external needs of states and society. The resource-and-reputation model relies heavily on input and process indicators to represent the resources and reputations of colleges and universities. It uses performance indicators such as SAT and ACT scores of new students, faculty credentials, faculty compensation, graduate education, and program review. Professors tend to favor these measures as marks of quality colleges and universities.

The strategic investment model reflects a state-oriented model. It uses Ewell's concept of strategic investment that stresses the state's interest in seeing its funding of public higher education from a cost-benefit point of view (Ewell and Jones, 1994). Richardson (1994) also presents a cost-benefit model. This concept rests on the interests of state governments in deriving the most benefit from public colleges and universities for the least cost. It stresses efficiency and productivity measures, such as graduation rates, time to degree, degrees awarded, and expenditures per student.

The client-centered model is primarily student oriented. It follows the customer- or client-centered focus of the quality movement and, to a lesser extent, the "good educational practices" model advocated by the National Center for Higher Education Management System (1994). Supporting indicators include enrollment by race, gender, and age; tuition and fees; faculty availability to students; and satisfaction survey results of students, alumni, and employers. The last measure suggests the expansion of this model to include other clients, such as businesses.

Analyzing all of the 158 generic measures shows that performance reporting spreads its indicators fairly evenly across the strategic investment, client-centered, and a combination of these two models into a strategic investment–client-centered category (Figure 3.7). The resource-and-reputation

Figure 3.7. Performance Reporting and Funding Indicated by Model



model generates much less interest. The percentage of indicators in performance reporting reflecting the client-centered model is two-and-a-half times that in performance funding but just half of the latter's combination of the strategic investment and client-centered type. Performance reporting seems to favor the pure models of client-centered or strategic investment rather than the model that combines the two. Both policies show considerable attention to measures implying strategic investment and slight support for resource and reputation. The combination of strategic investment and client-centered model involves indicators that join cost benefit with customer service, like graduation and job placement rates, workforce and economic development, and teacher training and K-16 collaboration.

Models and the Most Popular Measures. Looking at the eight most popular indicators, the emphasis in performance reporting tilts heavily toward the combination of strategic investment and client centered and to the pure client-centered models. Indeed, the other models do not attract even a single indicator. The combination of strategic investment and client-centered model covers five indicators and the client centered three. The combination of strategic investment and client-centered model is even more dominant in performance funding. It garners six of the eight indicators, leaving strategic investment and resource-and-reputation models each with one measure. This dominance suggests the linkage between efficiency and productivity in strategic investment combined with the responsiveness to clients that now includes students, states, and society. The client-centered portion of this combination expands the notion of customers far beyond students to nearly every group in the state or society. Clients now covered communities, businesses, schools, and nonprofit organizations. State governments—typically seen as the primary financiers of public higher education—became increasingly a critical customer, balancing the cost of the enterprise against the benefits to society.

These shifts in top indicators for both programs suggest a new definition of effectiveness for public higher education and its colleges and

universities. The traditional resource-and-reputation model focused internally on the inputs of students, budgets, and faculty. In contrast, the strategic investment–client-centered model focuses externally; combines efficiency, productivity, and quality; and suggests an input-process-output–outcome model. The best institutions are the ones that make the most of the inputs of students, faculty, and resources through productivity and responsiveness in outputs and outcomes to the needs of students, states, and society.

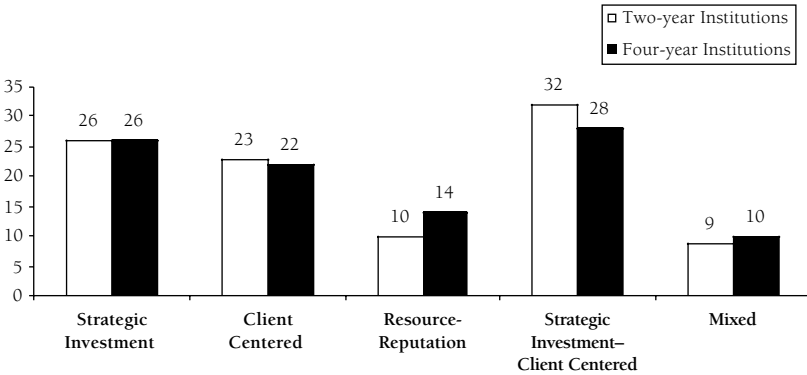
Models and Two- and Four-Year Institutions The use of mostly the same indicators for two- and four-year colleges and universities again diminished the differences in preferred models by institutional type. Baccalaureate campuses exhibit more interest in indicators that reflect the resource-and-reputation model, but not nearly as much as anticipated. Conversely, community and technical colleges give more attention to the combination of strategic investment and client-centered model. The two types of campuses show similar ratings of the models in performance funding (Burke and Serban, 1998). The major difference is that both record higher percentages for the combined strategic investment–client-centered model. Two-year colleges devote 56 percent and four-year campuses 52 percent of their indicators to this combined model.

If the baccalaureate campus—especially the research university—represents the ideal of the resource-and-reputation model of excellence, the community college embodies the exemplar of the combined strategic investment and client-centered type. Traditional excellence for the baccalaureate campus derives from the quality of the students admitted, the size of its resources, and the reputation of its faculty for research. The community college follows the new model. It is certainly client centered and offers big benefits for low costs. It focuses externally on community customers, admits nearly all applicants, responds productively to their many needs, and constrains costs. These are the characteristics of the strategic investment–client-centered model of excellence. Despite these decided differences, Figure 3.8 shows only minor variations between the two types of institutions in the models of excellence suggested by their reporting indicators. The only real differences show that the indicators for four-year campuses favor the resource-and-reputation model slightly more than those for two-year colleges and that the reverse is true for the combination of the strategic investment and client-centered models.

Findings

This study of reporting indicators suggests the following findings:

Two- and four-year campuses largely share the same reporting indicators. Performance reporting stresses the inputs of access and equity whereas performance funding relies surprisingly on processes.

Figure 3.8. Model of Excellence by Two- and Four-year Institutions

The indicators used in both programs stem from the external concerns of states and society rather than the internal concerns of the academic community.

The most common reporting indicators show a strong shift to inputs, external concerns, efficiency, and the joint strategic investment–client-centered model of excellence.

Unlike performance funding, the method of initiating performance reporting—mandated-prescribed, mandated-not prescribed, and not mandated—seems to have little or no influence on indicator types, concerns, values, and models.

Coordinating and system boards and campus representatives accept reporting indicators desired by outsiders as the price of credibility in state capitols but opt for funding measures more favored by academics.

Quality has a large number of indicators in the total generic measures but lacks a few accepted and robust measures that can compete with efficiency measures like graduation and job placement rates.

Governors, legislators, and business leaders view quality and efficiency as complementary goals whereas campus leaders see them as conflicting values.

We have the following recommendations:

Two- and four-year colleges and universities should have some common indicators to reflect their shared goals but different measures to encourage their different missions.

Reporting programs should allow each public college or university to choose a few indicators that reflect their special goals or missions.

State policymakers should carefully consider the desired indicator types, concerns, values, and models in designing the details of those programs.

They should link indicators in an input-process-output-outcome model rather than add them as desirable separate items.

The academic community should quit quarreling about inadequate indicators of student learning and devise collectively a few valid and reliable measures that can win acceptance on college campuses and in state capitols.

Conclusion

Surveys show that both state and campus policymakers believe that selecting indicators is the most difficult task in designing performance plans (Burke and others, 2002; Burke and Serban, 1998). On the other hand, all too often they adopt or accept performance measures without carefully considering critical issues such as their types, concerns, policy values, or models of excellence. The choice of indicator type causes conflict between state and campus policymakers. The former opt for outputs and outcomes, and the latter push for inputs and processes. Accepting the inputs-processes-outputs-outcomes approach aligns inputs with processes in ways that can produce the best possible outputs and outcomes. This throughput model ensures that campuses tailor their internal process to suit their student inputs, which encourages a diversity of missions of public colleges and universities. The indicators used in performance reporting and funding stress external rather than internal concerns. Public colleges and universities needed the external push to make them more responsive to the needs of states and society. On the other hand, successful reporting indicators should balance the legitimate needs of external society and internal concerns of the academic community. Colleges and universities should respond to the long-term educational needs but not the momentary wants of states and society.

Performance indicators should reflect all of the policy values of quality, efficiency, equity, and choice. Like the indicator types, they are complementary, not conflicting. The changing attitudes toward equity and diversity in admissions demonstrate the difference between the long-term focus of higher education and the short-term interest of states and society. Whatever the attitudes of states and society, colleges and universities should insist that equity and diversity are enduring values that are always worthy of their support. Finally, the models of excellence desired for public higher education should direct the choice of indicators. The combined strategic investment–client-centered model reflects a new notion of effectiveness that combines quality, efficiency, and productivity in service to states, students, and society. This new model surely suits the mandated mission of public colleges and universities.

Appendix to Chapter 3. Reporting Indicators with Indicator Types, Policy Values, Concerns, and Models

<i>Indicators</i>	<i>No. of States</i>	<i>Type</i>	<i>Policy Value</i>	<i>Concerns</i>	<i>Models</i>
Academic program cuts	1	Process	Quality, efficiency	External	Strategic investment
Acceptance rate	4	Input	Quality, choice, equity	Internal/External	Strategic investment/Client centered/Resource-reputation
Accredited programs	3	Outcome	Quality	Internal	Resource-reputation
Administrative, academic costs, staff	10	Process	Efficiency	Internal/External	Strategic investment/Resource-reputation
Adult basic education	1	Process	Equity	External	Strategic investment/Client centered
Assessment student learning	7	Process	Quality	External	Strategic investment
Best management practices	1	Process	Efficiency	External	Strategic investment
Business services	1	Output	Efficiency	External	Strategic investment
Campus choice of mission-specific indicators	4	Process	Choice	Internal	Resource-reputation
Class size	4	Process	Quality	External	Strategic investment/Client centered
Collaboration among campuses	4	Process	Efficiency	External	Strategic investment
Collaborative purchasing	1	Process	Efficiency	External	Strategic investment
College going rate	2	Input	Equity	External	Strategic investment/Client centered
College going rate, race	2	Input	Equity	External	Strategic investment/Client centered
College participation rate	14	Input	Equity	External	Strategic investment/Client centered
College participation rate, low-income families	1	Input	Equity	External	Strategic investment/Client centered
Cooperative education, internships	3	Process	Choice	External	Strategic investment/Client centered
Cost of degree per student	1	Input	Efficiency	External	Strategic investment
County percentage population served	1	Output	Efficiency	External	Strategic investment/Client centered
Course availability	2	Process	Quality, efficiency	External	Strategic investment/Client centered
Course completions	3	Output	Efficiency	External	Strategic investment
Degree attainment	6	Outcomes	Efficiency	External	Strategic investment/Client centered

Appendix to Chapter 3. Reporting Indicators with Indicator Types, Policy Values, Concerns, and Models (continued)

<i>Indicators</i>	<i>No. of States</i>	<i>Type</i>	<i>Policy Value</i>	<i>Concerns</i>	<i>Models</i>
Degree attainment, annual earning	2	Outcome	Efficiency	External	Strategic investment
Degree attainment, employment rates	1	Outcome	Efficiency	External	Strategic investment
Degrees awarded, age	3	Output	Equity	External	Client centered
Degrees awarded, fields	10	Output	Efficiency	External	Strategic investment
Degrees awarded, gender	4	Output	Equity	External	Client centered
Degrees awarded, level number	16	Output	Efficiency	External	Strategic investment/Client centered
Degrees awarded, race	5	Output	Equity	External	Client centered
Degrees critical fields	7	Output	Efficiency	External	Strategic investment
Degrees critical fields, teacher education	1	Output	Efficiency	External	Strategic investment
Diversity faculty staff	10	Input	Equity	Internal	Client centered
Economic impact	1	Outcome	Efficiency	External	Strategic investment
Enrollment age	11	Input	Equity	External	Client centered
Enrollment by critical fields	2	Input	Efficiency	External	Strategic investment
Enrollment by fields	5	Input	Efficiency	External	Strategic investment
Enrollment degree level	14	Input	Efficiency	External	Strategic investment/Resource-reputation
Enrollment freshmen	1	Input	Quality, efficiency	Internal/External	Strategic investment/Resource-reputation
Enrollment freshmen minority	1	Input	Equity	External	Strategic investment/Client centered
Enrollment gender	10	Input	Equity	Internal/External	Client centered
Enrollment noncredit	5	Input	Efficiency	External	Strategic investment/Client centered
Enrollment nontraditional	1	Input	Equity	External	Client centered
Enrollment off campus	1	Input	Choice	External	Client centered
Enrollment race	21	Input	Equity	External	Client centered
Enrollment residence	12	Input	Equity	External	Strategic investment/Client centered
Enrollment status	8	Input	Choice	External	Strategic investment/Client centered
Enrollment top students	6	Input	Quality	Internal	Resource-reputation

Enrollment trends	13	Input	Efficiency	External	Strategic investment
Expenditure per student	5	Input	Efficiency	External	Strategic investment
Facilities, grounds	9	Process	Efficiency	External	Strategic investment
Faculty age	1	Input	Equity	Internal	Resource-reputation
Faculty availability	1	Process	Quality	External	Client centered
Faculty compensation	11	Input	Quality	Internal/External	Strategic investment/Resource-reputation
Faculty compensation, gender	3	Input	Equity	External	Client centered
Faculty credentials	4	Input	Quality	Internal	Resource-reputation
Faculty evaluation, tenured faculty	1	Process	Quality	External	Strategic investment/Client centered
Faculty evaluations	1	Process	Quality	External	Strategic investment/Client centered
Faculty gender, race	6	Input	Equity	Internal/External	Client centered
Faculty morale	1	Outcome	Quality	Internal	Resource-reputation
Faculty national awards	1	Outcome	Quality	Internal	Resource-reputation
Faculty publications	4	Output	Quality	Internal	Resource-reputation
Faculty rank	3	Input	Quality	Internal	Resource-reputation
Faculty resignations	1	Outcome	Quality	Internal/External	Strategic investment/Resource-reputation
Faculty, student evaluations	2	Process	Quality	External	Client centered
Faculty teaching, lower division courses	9	Process	Quality	External	Strategic investment/Client centered
Faculty tenure	3	Process	Quality	Internal	Resource-reputation
Faculty tenure, gender and rank	3	Input	Equity	Internal/External	Client centered
Faculty tenure track, race	3	Input	Equity	Internal/External	Client centered
Faculty workload	9	Process	Efficiency	External	Strategic investment/Client centered
Financial aid	17	Input	Choice, equity	Internal/Equity	Client centered
Financial aid, loans	1	Input	Choice, equity	External	Strategic investment/Client centered
Financial aid, merit	4	Input	Quality	Internal/External	Strategic investment/Resource-reputation
Foreign investment	1	Input	Efficiency	External	Strategic investment
Fund balances	1	Output	Efficiency	External	Strategic investment
GED pass rate	1	Output	Efficiency	External	Strategic investment

Appendix to Chapter 3. Reporting Indicators with Indicator Types, Policy Values, Concerns, and Models (continued)

<i>Indicators</i>	<i>No. of States</i>	<i>Type</i>	<i>Policy Value</i>	<i>Concerns</i>	<i>Models</i>
General education graduate satisfaction	1	Outcome	Quality	External	Client centered
Grade average of community college AA transfer students	2	Outcome	Quality	External	Strategic investment
Graduate student quality	1	Input	Quality	Internal	Resource-reputation
Graduate student support	1	Input	Quality	Internal	Resource-reputation
Graduate students with undergraduate degrees	1	Input	Equity	External	Strategic investment/Client centered
Graduates baccalaureate, first generation college	1	Output	Equity	External	Strategic investment/Client centered
Graduates quantitative and writing skills	1	Outcome	Quality	External	Strategic investment
Graduates to advanced degrees	5	Outcome	Quality	Internal	Resource-reputation
Graduates who participated in community service	1	Outcome	Choice	External	Client centered
Graduation rate, 3 years	5	Output	Efficiency	External	Strategic investment
Graduation rate, 4 years	5	Output	Efficiency	External	Strategic investment
Graduation rate, 5 years	6	Output	Efficiency	External	Strategic investment
Graduation rate, 6 years	17	Output	Efficiency	External	Strategic investment
Graduation rate, 7 to 10 years	3	Output	Equity	Internal	Client centered
Graduation rate, graduate programs	1	Output	Efficiency	External	Strategic investment
Graduation rate, transfer students	7	Output	Efficiency	External	Strategic investment/Client centered
Graduation/retention rates	24	Output	Efficiency	External	Strategic investment/Client centered
Graduation/retention gender	1	Output	Equity	External	Client centered
Graduation retention, minorities	9	Output	Equity	Equity	Client centered
High school-college articulation	1	Process	Quality, efficiency	External	Strategic investment/Client centered
High school course, dual credit	1	Input	Quality	External	Strategic investment/Client centered

High school course taking	2	Input	Quality, efficiency	External	Strategic investment/Resource-reputation
High school courses, advanced placement	2	Input	Quality	Internal	Client centered/Resource-reputation
High school exams, advanced placement	3	Input	Quality	Internal	Resource-reputation
High school grade point average	3	Input	Quality	Internal	Resource-reputation
Institutional increase	1	Input	Quality	External	Strategic investment
Job placement	13	Outcome	Efficiency	External	Strategic investment/Client centered
Job placements, salaries and wages	3	Outcome	Efficiency	External	Strategic investment/Client centered
Job placements, salaries by field	3	Outcome	Efficiency	External	Strategic investment/Client centered
Job training contracts	1	Output	Efficiency	External	Strategic investment/Client centered
K-16 collaboration	7	Process	Quality, efficiency	External	Strategic investment/Client centered
Library expenditure	3	Input	Quality	Internal	Resource-reputation
License exams, pass rates	16	Outcome	Quality, efficiency	External	Strategic investment/Client centered
Mission focus	1	Process	Efficiency	External	Strategic investment/Client centered
Non-general fund operating support	1	Input	Quality, efficiency	Internal/External	Strategic investment/Client centered
Participation pre-college program of disadvantaged students	1	Input	Quality, efficiency Equity	Internal/External	Strategic investment Client centered
Patents, licenses disclosures	3	Output	Quality	Internal/External	Strategic investment/Resource-reputation
Preparation of new students	1	Input	Quality	Internal/External	Strategic investment/Resource-reputation
Private fund raising	5	Output	Quality	Internal/External	Strategic investment/Resource-reputation
Privatization of functions	1	Process	Efficiency	External	Strategic investment
Program approval	1	Process	Quality	External	Strategic investment
Program review	1	Process	Quality	Input	Resource-reputation
Public service	6	Output	Efficiency	External	Strategic investment/Client centered
Remedial activity effectiveness	14	Output/Process	Efficiency	External	Strategic investment/Client centered
Research, economic development	2	Outcome	Efficiency	External	Strategic investment/Client centered
Research sponsored	20	Output	Quality	Input/External	Strategic investment/Resource-reputation

Appendix to Chapter 3. Reporting Indicators with Indicator Types, Policy Values, Concerns, and Models (continued)

<i>Indicators</i>	<i>No. of States</i>	<i>Type</i>	<i>Policy Value</i>	<i>Concerns</i>	<i>Models</i>
Research, teaching and learning SAT/ACT scores	1 9	Outcome Input	Quality Quality	External Internal/ External	Strategic investment/Client centered Strategic investment/Resource- reputation
Satisfaction, alumni Satisfaction, employers	8 7	Outcome Outcome	Quality Quality	External External	Client centered Strategic investment/Client centered
Satisfaction, faculty Satisfaction, students	1 9	Outcome Outcome	Quality Quality	Internal External	Resource-reputation Client centered
Space utilization Staff executive management, gender	1 1	Process Input	Efficiency Equity	External Internal	Strategic investment Client centered
Staff executive management, race	2	Input	Equity	Internal/ External	Client centered
Staff gender, race	1	Input	Equity	Internal/ External	Client centered
Standardized admissions test scores	2	Input	Quality	Internal	Resource-reputation
Standardized general education exam scores	3	Outcome	Quality	External	Strategic investment
Standardized test scores, student majors	1	Outcome	Quality	External	Strategic investment
State capital spending	1	Input	Quality, efficiency	Internal/ External	Strategic investment
State operating funding	14	Input	Quality, efficiency	Internal/ External	Strategic investment
Student advisement	2	Process	Quality, efficiency	External	Strategic investment/Client centered
Student-faculty ratio	8	Input	Quality	Internal	Resource-reputation
Student transfer	19	Output/ Input	Efficiency/ Equity	External	Strategic investment/Client centered

Student transfer, gender	1	Output/Input	Equity	Internal/External	Strategic investment/Client centered
Student transfer, race	3	Output/Input	Equity	Internal/External	Client centered
Student transfer, upper division	5	Outcome	Quality	External	Strategic investment
grade average					
Student transfer, credit acceptance	1	Process	Efficiency	External	Strategic investment/Client centered
Students participating in research	3	Outcome	Quality	Internal	Resource-reputation
Study abroad	1	Process	Choice	External	Client centered
Teacher average salary	2	Outcome	Efficiency	External	Strategic investment
Teacher employment	1	Outcome	Efficiency	External	Strategic investment/Client centered
Teacher exam pass rate, race	2	Outcome	Equity	External	Strategic investment/Client centered
Teacher training	9	Process	Quality	External	Strategic investment
Teacher training, race	2	Process	Equity	External	Strategic investment/Client centered
Technology distance learning	13	Process	Efficiency	External	Strategic investment/Client centered
Time to degree, credits on graduation	10	Output	Efficiency	External	Strategic investment
Time to degree, credits on graduation, transfers	3	Output	Efficiency	External	Strategic investment
Training, employed superintendents and principals	2	Output	Efficiency	External	Strategic investment/Client centered
Tuition and fees	18	Input	Equity	External	Client centered
Tuition and fees, percent of family income	2	Outcome	Equity	External	Client centered
Undergraduate access	2	Input	Equity	External	Strategic investment/Client centered
Workforce training	8	Output	Efficiency	External	Strategic investment/Client centered

