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# Ensuring Quality and Productivity in Higher Education

*An Analysis of Assessment Practices*

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Roger Benjamin, Tora K. Bikson, Tessa Kaganoff,  
Dina G. Levy, Joy S. Moini, Ron W. Zimmer

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# Executive Summary

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Those responsible for education and professional development within systems such as corporations, state governments, and government agencies are concerned about the quality of those opportunities. As a result, they increasingly assign responsibility for ensuring the quality and productivity of education within the system to one particular office or agency. Often, such agencies receive little guidance about how to approach their task.

A RAND research team conducted a broad review of the general literature on the assessment of quality and productivity in education and professional development. The team also reviewed the documentation of organizations engaged in such assessment, interviewed experts, attended conferences, and conducted site visits to exemplary organizations. This report synthesizes that information and provides suggestions for approaches that might be useful for agencies given the task of ensuring the quality and productivity of education and professional development activities in a specific system. (*Assessment* as used in this monograph means the start-to-finish process of examining quality or productivity, while *evaluation* is the step in the assessment process in which performance measures are examined and a judgment about performance is made on the basis of that examination.)

## Why Is System-Level Assessment Needed?

Although the main task of assessment focuses on the quality and productivity of specific providers of education and professional development, the study found that a higher-level assessment of the system as a whole is also crucial.

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Such an assessment has two main purposes: (1) to determine whether the stakeholder and system-level needs are being addressed, and (2) to identify opportunities to improve efficiency in existing programs. In the first case, system-level assessment compares the needs of the population served with the programs offered in the system. In a corporate setting, for example, such an assessment might find that certain corporate-level goals are not being addressed by education and training programs run by individual business units. In higher education, a system-level assessment might find that certain geographical regions are not being well served by existing institutions in a state.

To achieve the second aim, the assessment examines whether the system's resources are being allocated efficiently. A number of organizations are improving their productivity through this process.

- The Texas Higher Education Coordinating Board conducts regular program reviews to assess whether a proposed program is based on established needs, whether it duplicates other programs in the same area, and whether it falls within an institution's mission.
- At Lucent Technologies, corporate oversight has streamlined education and professional development by assessing whether limited education and training resources are being used in a way that promotes overall corporate goals. The focus on business needs rather than student demand allowed them to reduce the number of courses taught throughout the corporation from 70,000 to approximately 2,000.
- In the U.S. Air Force, the Air Force Occupational Measurement Squadron surveys every person in a particular occupational specialty to identify the skills used and not used in particular jobs. Based on this information, Air Force managers assess the content of specific training programs to eliminate irrelevant instruction from courses and ensure that graduates acquire the skills and knowledge they need to do their jobs.

A clear trend in all the systems considered in this study is the development of a learning organization of some sort that is responsible for more than just the assessment of existing providers. These organizations promote communications among stakeholders and develop a clear link between education and

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professional development on the one hand and the basic mission of the system on the other. Corporate learning organizations describe this relationship as “becoming a strategic partner” in the corporation. Such an organization facilitates dialogue among key stakeholders, assembles information on workforce needs and existing programs, and serves as an interface between customers and providers.

## What Approaches Are Used to Assess Providers and Certify Students?

In reviewing a wide variety of assessment approaches, this study identified key similarities and differences among the approaches and classified them into four basic models. The first model involves the use of an intermediary organization that is responsible for reviewing the process used by individual providers to assess their own quality and productivity. In the second model, an intermediary organization conducts the actual assessment of providers. In the third model, providers conduct their own assessment with no involvement of an intermediary. The fourth model differs from the other three in that it focuses on the learner rather than the provider and involves the certification of student competencies. Each approach has strengths and weaknesses that make it more appropriate for some circumstances than for others. For that reason, no one approach can be considered a best practice. The best approach depends on the context of the assessment.

## How Does One Choose a Model?

Many organizations whose job is to ensure the quality and productivity of education and professional development activities can be described as *intermediary organizations*. An intermediary is neither a provider of education and professional development nor a direct consumer of the services of such providers; it is an entity that promotes communication between the two. Models One, Two, and Four, described in this report, allow a role for an intermediary and are therefore the most relevant to such entities. Intermediaries might also wish to learn about the best practices under Model Three, however, to

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serve as a clearinghouse of information useful to provider institutions and to remain abreast of new assessment techniques initiated by providers.

The study identified six factors as the most important to consider in choosing an approach to assessing the quality and productivity of providers: (1) purpose of the assessment (accountability versus improvement), (2) level of authority, (3) level of resources, (4) centralization of operations, (5) system heterogeneity, and (6) system complexity. We argue that Model One is particularly well suited to highly complex and decentralized systems. Model One is also most suitable for assessors who have little formal authority over providers and uncertain resources. This model is based on quality improvement concepts that have been used in the business world for the last twenty-five years and were adopted by the International Organization for Standardization (ISO) in the 1980s to promote high-quality standards among manufacturing companies. To qualify for this certification, an organization must define and document its quality standards for producing its goods or services in a policy document or quality manual that is reviewed by a third party.

The academic audit, a new approach to education assessment that has been influenced by the ISO, is another example of Model One. The audit is conducted by an intermediary organization and focuses on ensuring that providers of education have effective processes in place for measuring their own quality and thus can engage in ongoing self-improvement. Because this approach is more sensitive to the different missions and characteristics of institutions than are other approaches, it is particularly useful for systems with a diverse set of providers.

The key advantage of Model One is that it delegates to provider organizations the task of defining goals, measuring outcomes, and evaluating outcomes. As a result, this approach can accommodate a system with many diverse providers. Because they have such control over their own assessment, providers are less likely to resist the process and are more likely to use it to promote improvements.

The primary disadvantage of Model One relative to Model Two is that it emphasizes improvement over accountability. The trade-off between these two purposes of assessment remains an important issue for assessors. Model Two is better suited for accountability purposes, provided that the intermediary has

the authority to ensure compliance. In Model Two, the intermediary sets the goals of the assessment, measures performance on these goals, and evaluates the performance. This model provides the intermediary with control of the assessment process suitable for accountability purposes. In these cases, the intermediary can focus on system-level goals, goals that the provider might otherwise ignore, to ensure that the provider is meeting the needs of the system. For example, many state legislatures mandate that higher education institutions provide data for “report cards” that grade institutions on how well they perform on goals such as graduation rates and contribution to the state’s economic development. The main drawback to Model Two is that any approach imposed from an external organization runs the risk of focusing on inappropriate measures and failing to reflect institutional goals. In this case, providers may fail to comply with the request for information. Even in cases when providers do comply with requests for information, they may not internalize them or perform well on the goals set by the intermediaries. Thus, using Model Two does not necessarily result in institutional improvement.

Although Model Three is better suited for improvement, it does not include a role for an intermediary. Because Model Three is enacted by providers, its use is not constrained by system-level issues of complexity, authority, centralization, or heterogeneity. Despite the provider’s control prescribed by Model Three, some of the most innovative examples of this model incorporate the perspectives of a range of stakeholders. In these cases, even though the provider is responsible for defining, measuring, and evaluating the attainment of its own goals, other stakeholders can be involved in these three steps. For example, administrators of the Urban Universities Portfolio Project use advisory boards comprising business leaders, government representatives, and educational experts to advise them on appropriate goals, indicators, and measures. In addition, intermediaries such as regional accrediting bodies are invited to use the resulting performance information in their assessment processes. Therefore, although Model Three is provider initiated, it can evolve into a process with a role for intermediaries.

Model Four represents a completely different approach to assessment, one that focuses attention on the learner rather than the provider. This competency-based approach can be used in assessment systems for both

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accountability and improvement purposes and may be similarly immune to system-level constraints such as complexity, authority, heterogeneity, and centralization. Although Model Four focuses on student competencies, it indirectly holds institutions accountable by withholding competency status from students who have not received the requisite education from specific providers. These providers must change to maintain their ability to attract students; in this way, the assessment process stimulates improvement while indirectly holding providers accountable for change. This approach is very attractive to employers and others who want to ascertain whether individuals have specific knowledge, skills, or abilities. This assessment can be time-consuming and expensive to carry out, however, especially if the competencies are abstract ones, such as critical thinking or problem solving. This approach may be therefore best suited for cases in which the knowledge required is easy to ascertain and assess, such as in training programs for specific occupations.

## What Is the Three-Step Process of Assessment?

Regardless of the model selected, the study found that three key steps must be included in any provider or student assessment:

- Identifying goals of the education activities under consideration
- Measuring the outcomes related to those goals
- Evaluating whether the outcomes meet those goals.

The literature review revealed several broad lessons concerning these steps. First, each step should be linked to the others, and the process as a whole should be driven by the goals. It is especially important to avoid selecting measures before or without defining goals. Practitioners in higher education, corporate, and government settings stress the tendency of people to value what is measured and focus exclusively on that information rather than linking what is measured to the purpose of the activity.

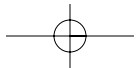
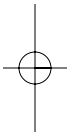
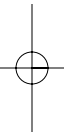
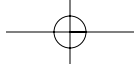
Second, developing measures that relate to goals is a crucial if difficult step. It is often difficult to find an adequate measure of achievement for a particular goal. It is usually better to use an imperfect measure of a specific goal than

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it is to use a perfect measure of something different, however. Engaging a broad range of stakeholders in this process helps to keep it focused on the goals of the undertaking. Such stakeholder involvement and continuous feedback is an explicit element of both the Baldrige Award process and the balanced scorecard.

Third, the trend in assessment is to focus less on input measures and more on process and outcome measures. Measuring outcomes alone may not result in improvement, but considering the intervening processes that use resources to produce outcomes provides information more useful to program improvement.

Finally, except for certificate or licensing programs, providers of professional development courses are not likely to be able to rely on preexisting evaluation tools with known validity and reliability characteristics. Rather, they will most likely have to develop measures of learning outcomes on their own. The literature provides some guidelines for developing such measures and for avoiding major sources of invalidity and unreliability. Intermediaries can play an important role by applying these guidelines to their own assessment processes and acting as clearinghouses of such information for providers engaged in assessment.



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# Foreword

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Each week the *Chronicle of Higher Education* is filled with stories about legislators' and the public's concern about the cost and quality of higher education and the need for the system to respond to more problems of greater complexity, such as the need to resolve international tensions around globalization. In response to these calls for change, many new systems—report cards, a national study of student engagement, assessment, institutional research, and the like—purport to aid higher education in examining its structures and processes. In the last decade, leaders in higher education have come to realize that assessment or some new forms of accountability and improvement are likely to become part of the enterprise. Faculty, administrators, and even students are aware of the pressures to be accountable and to improve higher education. But how do we make sense of all these newly developed mechanisms? Which ones work and how do they work? Although this monograph does not review all these systems, it provides a framework to examine and evaluate these various approaches to accountability and improvement.

The ASHE-ERIC Higher Education Reports have long been committed to understanding and presenting the best research on assessment. This monograph emerged out of an extensive national project conducted by RAND. It is another expression of this long-standing commitment. Susan Gates, Catherine Augustine, and Tessa Kaganoff provide guidance on system-level assessment, which will be invaluable to legislators, trustees, governing boards, state systems, accreditors, and other individuals and groups entrusted to ensure the vitality of higher education. The monograph is also an important contribution because it examines our assumptions about assessment. Most

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assessment efforts focus on accountability and pay only lip service to improvement. Is society willing to spend the time and money to develop extensive assessment practices that do not run deeper than merely understanding whether higher education is meeting its commitment to society? It seems critical to focus on how assessment can be used for improvement and to design systems that are effective in meeting this goal. I applaud the authors for not only asking the hard questions (such as why goals and methods are often unaligned) but also developing constructive solutions. It is easy to say system-level assessment does not work as well as it should, but it is difficult to develop practical and implementable ideas for improving it.

The monograph includes a focused literature review as well as a discussion of research results from a national study. Although the literature synthesizes concepts about system-level assessment, it has implications for assessment at all levels, especially around issues of alignment of goals and design. The authors' work uncovers important principles for advancing our assessment practices, such as the need to more clearly identify the goals of the process up front, choose appropriate measures, and use those measures to evaluate progress toward those goals.

Several other ASHE-ERIC Reports are important supplements for this monograph. Gaither, Nedweck, and Neal, in their monograph *Measuring Up*, focus specifically on performance indicators as a method of accountability among state systems. Alstete reviews approaches to benchmarking, a particular method of assessment used by many campuses for improvement across the institution in programs, departments, schools, and colleges, whereas Creamer examines assessment for a particular group (faculty) in her monograph *Assessing Faculty Publication Productivity*. Each monograph reviews different aspects of assessment that can be used for advancing campus efforts related to improvement and accountability.

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