

# **PERFORMANCE MEASUREMENT AND MANAGEMENT FOR NEXT-GENERATION WORKFORCE SYSTEMS**

by

Christopher T. King

Daniel P. O'Shea

Ying Tang

Ray Marshall Center for the Study of Human Resources

Lyndon B. Johnson School of Public Affairs

The University of Texas at Austin

512.471.7891

**24<sup>TH</sup> ANNUAL RESEARCH CONFERENCE**

**ASSOCIATION FOR PUBLIC POLICY ANALYSIS AND MANAGEMENT**

Dallas, Texas

November 2002

Prepared with funding from the Ford Foundation and the U.S. Department of Labor. A longer version of this paper will be published later this year by the National Governors Association's Center for Best Practices. Helpful comments were provided by Evelyn Ganzglass, Neil Ridley and Martin Simon, Carl Van Horn, Bill Tracy, Bob Sheets, Bob Watrus, and the late Betty Jane Narver, all of whom have been partners in the *Next-Generation Workforce System Project*. A focus group of state workforce leaders held at NGA's *National Workforce Policy Forum* in New Orleans in December 2001, also offered invaluable insights.

"The market-driven workforce system of the future will require new performance measurement and accountability mechanisms that have value in both the education and business communities. These mechanisms will need to be able to document, measure, and convey, in meaningful and understandable terms, performance information for individuals, training providers, firms and the whole workforce system."

Ganzglass et al., *Building a Next-Generation Workforce Development System* (Washington, D.C.: National Governors Association, 2000).

## **Introduction**

Performance measurement and management issues have become central to discussions surrounding all public investments, in sharp contrast to the situation just a few short decades ago. In this paper, we explore performance measurement and management for what we are calling the "next-generation" workforce development system. Our focus is on how performance should be measured in the shifting context of trade, technology, labor market, demographic and other factors affecting workforce development.

We begin by characterizing eras of accountability for workforce programs that span recent decades, leading to our current performance measurement and management framework. We describe the elements of this current framework, followed by a discussion of the changing context and accountability paradigms. We then present the key requirements for next-generation workforce development accountability. We conclude with a series of recommended strategies and actions for governors to move public and private sectors toward more appropriate performance measurement and management approaches.

## **Workforce Accountability Eras**

Accountability for the outcomes of Federal and state workforce development programs has evolved substantially over the past 25 years.<sup>1</sup> The accountability movement began to

---

<sup>1</sup> Not that fiscal accountability had been absent from the minds of policymakers and program administrators early in program design discussions; accountability for *outcomes*—stressing results for those served by workforce programs—was late to the table.

emerge in employment and training programs in the late 1970s. Its momentum grew and eventually spilled over into welfare employment, education and other programs in the late 1980s and early 1990s.<sup>2</sup> Nearly all publicly funded workforce-related programs now contain at least a rudimentary set of outcome-based accountability provisions.

We can identify two eras of outcome accountability to date. The first era, extending roughly from 1978 to 1992, saw the development of reasonably complete outcome accountability structures and mechanisms *within* Federal/state programs for workforce development. Early accountability efforts sought to establish short-run performance indicators that state and local administrators could use to determine whether their programs were producing the immediate performance outputs desired. The first such indicators were established in the early 1980s pursuant to the 1978 Comprehensive Employment and Training Act (CETA) Amendments.

A more complete array of workforce performance measures and an accompanying performance management system, established under the Job Training Partnership Act (JTPA) of 1982, succeeded these earlier measurement indicators. The JTPA approach, with modifications, was in place from 1983 through 2000, and featured a set of national job placement, wages and attainment measures at program termination and eventually post-program employment and earnings measures, all adjusted for differences in local circumstances (e.g., demographics, unemployment). JTPA also introduced performance incentives, authorizing governors to award bonuses to local programs that performed well. Those that did not meet performance expectations were provided technical assistance or reorganized, although the latter rarely occurred.

Other Federally funded programs followed in the footsteps of job training programs in the 1980s and 1990s. Work programs linked with public assistance, including the Job Opportunities and Basic Skills (JOBS) Program associated with Aid for Families with Dependent Children (AFDC), and the Food Stamp Employment and Training Program, adopted performance measurement and management approaches as well. Similarly, the Perkins Acts of 1984 and 1990 introduced performance measures for Federally funded

---

<sup>2</sup> These developments have been reviewed in King (1988), Blalock and Barnow (2001), and Sheets (2001). Behn (2001, chapter 3) reviews the more traditional public administration view of accountability that dates from the work of Frederick Winslow Taylor, Max Weber and Woodrow Wilson.

vocational education. However, process measures like participation rates and enrollments, not labor market outcomes, basically drove performance in these programs.

The second accountability era began in 1993 and has emphasized accountability *across* workforce programs, as well as the application of best practices from the business sector, greater market orientation and more transparency. The JTPA Amendments of 1992 helped to introduce this era by mandating the development of core measures and standards of performance that spanned key workforce programs. The passage of the Government Performance and Results Act (GPRA) of 1993 also contributed to launching this new era. A handful of states — including Illinois, New York, North Carolina, and Texas — worked with the National Governors Association to pursue common workforce definitions and performance measures. Key Federal agencies, including the U.S. Departments of Education, Labor, and Health and Human Services, actively participated and provided funding for this effort (Trott and Baj 1996). These efforts began the shift toward more systemic accountability for workforce programs.

This era also saw the incorporation of business-sector concepts like customer satisfaction and excellence (Osborne and Gabler, 1992; Peters and Waterman, 1984). The U.S. Department of Labor-sponsored Enterprise Initiative recognized performance excellence in local workforce training programs starting in the early 1990s through the newly created Malcolm Baldrige Awards, paralleling similar efforts in the private sector.

The emerging accountability framework stresses more systemic, market-oriented approaches to performance measurement that have been largely adapted from business. One example is the Balanced Scorecard Approach that draws heavily from private sector management practices (Kaplan and Norton, 1992, 1996). The Balanced Scorecard framework consists of a set of performance measures that address the four current Baldrige performance areas:

- customer-focused results,
- financial and market results,
- human resource results, and
- organizational effectiveness results.



Scorecards include measures that balance the needs and desired results of all major customers and stakeholders in the five performance areas. They feature leading and lagging performance measures to manage improvement. Lagging measures are long-term, bottom-line performance results, while leading measures are intermediate outcomes that are predictors or drivers of bottom-line performance results. They also include both objective and subjective measures that directly address the perceptions and evaluations of major customers and stakeholders. Finally, scorecards address three major dimensions of performance: quality, time, and cost.

Issues and concerns remained despite considerable progress made measuring and managing workforce performance toward results over the first two decades. Among these are:

- performance measurement approaches remained largely hierarchical/categorical efforts lacking significant emphasis on customer service and market orientation;
- the validity of the immediate and post-program performance measures (when compared to the net effects on longer-term earnings) was questionable (Barnow, 2000);
- performance measures were disjointed and lacked comparability across workforce programs (except in those states that had created them on their own); and
- these measures were only minimally useful for continuous improvement.

Finally, with new approaches and continuing constraints, there has been a shift to more local control and locally responsive measures. This is signaling the emergence of a new era with vanguard efforts evident in a handful of states that stress more systemic, market-based approaches. This may well lead to next-generation accountability for workforce development.

## **The Current Workforce Performance Framework**

The Workforce Investment Act of 1998 (WIA) and the Perkins Vocational and Technical Education Act of 1998 (also known as Perkins III) are fostering substantive changes in

the current workforce performance measurement and management framework (D'Amico et al., 2001; King, 1999; Stevens, 2001). WIA affected several Federal workforce programs in significant ways. It replaced the Job Training Partnership Act of 1982, establishing a new national system for workforce service delivery (WIA Titles I and V). In addition, it reauthorized adult education and family literacy programs and outlined their workforce development functions and responsibilities (WIA Title II); amended the Wagner-Peyser Act of 1933 that provides for a Federal/state system of labor exchange (WIA Title III); and reauthorized the Rehabilitation Act and linked its services to state and local workforce development programs (WIA Title IV). Changes brought about by WIA, together with those resulting from Perkins III, have altered the accountability framework for workforce development in important respects. This discussion focuses primarily on accountability in WIA, Perkins and adult education and literacy programs, three of the major Federal/state workforce programs.<sup>3</sup> These programs complement and are closely related to each other, but they have different purposes and immediate objectives and serve target populations that are in different circumstances.

WIA provides a range of Federally funded workforce activities and services to increase the employment, retention and earnings, as well as the occupational attainment of participants. It serves adults and dislocated workers through a sequence of core, intensive and training services and youth through a range of activities that are specified in the act. Participation in WIA services is voluntary. The WIA accountability system strives to "assess the effectiveness of States and local areas in achieving continuous improvement of workforce investment activities ... in order to optimize the return on investment of Federal funds" (Section 136). To accomplish this, the act establishes a series of core performance indicators, a customer satisfaction indicator, additional state performance indicators (at state discretion), and state-adjusted levels of performance for each core indicator. Seventeen (17) core indicators have been established for WIA:

- Adult entered employment rate
- Adult employment retention rate
- Adult earnings change

---

<sup>3</sup> For an in-depth treatment, see Stevens (2001), which this section draws upon.

- Adult employment and credential rate
- Dislocated worker entered employment rate
- Dislocated worker employment retention rate
- Dislocated worker earnings replacement rate
- Dislocated employment and credential rate
- Older youth (19-21 years) entered employment rate
- Older youth employment retention rate
- Older youth earnings gain rate
- Older youth credential rate
- Younger youth (14-18 years) skill attainment rate
- Younger youth diploma or equivalent attainment rate
- Younger youth retention rate
- Customer satisfaction (for both participants and employers)

Adult education and literacy programs (WIA Title II) provide services through a Federal, state and local partnership to assist adults in becoming literate and obtaining the knowledge and skills necessary for employment and self-sufficiency; obtaining the educational skills necessary to become full partners in the educational development of their children; and completing a secondary school education. These programs, which are supported through a mix (60/40) of Federal and state funding, only serve adults who choose to participate, including those who are unable to speak, read or write English. The accountability system for adult education and literacy is intended to “assess the effectiveness of eligible agencies in achieving continuous improvement of adult education and literacy activities ... in order to optimize the return on investment of Federal funds” (Section 212). The adult education and literacy accountability system also features core performance indicators, additional indicators, and agency-adjusted levels of performance for each core indicator. The core indicators include:

- Demonstrated improvements in literacy skill levels (in several specified areas)

- Placement in, retention in, or completion of, postsecondary education, training, unsubsidized employment or career advancement
- Receipt of a secondary school diploma or its recognized equivalent

Perkins III seeks “to develop more fully the academic, vocational, and technical skills of secondary students and postsecondary students who elect to enroll in vocational and technical programs” (Section 2). Vocational and technical activities and services are funded almost entirely by states and localities; Federal funding historically accounts for less than 6-8 percent of the total, presenting a very different context for accountability than WIA or adult education and literacy programs.<sup>4</sup> Perkins III essentially builds upon and enhances ongoing state and local efforts. Accountability for Perkins III resides at the state level, and its accountability system is designed to “assess the effectiveness of the State in achieving statewide progress in vocational and technical education, and to optimize the return on investment of Federal funds” (Section 113(a)). Perkins III features its own set of core performance indicators, additional or discretionary indicators, and state-adjusted performance levels. At a minimum, the Perkins core indicators include (Section 113(b)):

- Student attainment of challenging state-established academic, and vocational and technical, skill proficiencies
- Student attainment of a secondary school diploma or its recognized equivalent, a proficiency credential in conjunction with a secondary school diploma, or a postsecondary degree or credential
- Placement in, retention in, and completion of, postsecondary education or advanced training, placement in military service, or placement or retention in employment
- Student participation in and completion of vocational and technical education programs that lead to nontraditional training and employment.

These four core indicators were translated into fourteen (14) sub-indicators for implementation by states in early 2000. State practice with these indicators varies widely. For example, at least six states use external systems to assess career and

---

<sup>4</sup> This ignores Federal funding for Pell grants and related Federal aid that students may be relying on.

technical skills, much like their academic assessments, while many states formally endorse existing assessment and credentialing systems for their skill attainment measures. The majority uses course and program completion as proxies for these measures.<sup>5</sup>

Looking across these and related programs—including those for TANF and Food Stamp recipients—it is clear that we have made considerable progress in the design and implementation of workforce accountability systems. First, accountability frameworks are now far *more consistent* across Federal/state workforce programs in many respects. For example, each features core and discretionary performance indicators that are negotiated between Federal and state actors. Second, financial sanctions and incentives also are linked to state-level performance on core performance indicators *across* Federally funded workforce investment, adult education/literacy, and vocational technical and education programs. While these efforts have not yet become systemically aligned, they are at least linked in ways that represent a first step in that direction.<sup>6</sup> Third, there is much greater emphasis on the use of *market mechanisms* in support of effective service delivery than was the case in earlier programs. Under JTPA, private industry council staff typically negotiated standing contracts for training services with an array of service providers and frequently provided in-house services directly. WIA eliminated standing service contracts with training providers in favor of individual training accounts (ITAs), a voucher-like form of payment that adults and dislocated workers use to purchase training of their choice, subject to several conditions. One condition is that the training must be in a “demand occupation,” i.e., an occupation for which labor market information suggests a current and continuing need for workers. Another is that training providers must be certified as eligible based on past performance before they can receive referrals for training.<sup>7</sup> Fourth, several programs (e.g., WIA, labor exchange) now utilize state-level *customer satisfaction indicators* by which job seekers and employers assess the services they receive. Clearly the nation has begun to move toward more systemic measures and market-based accountability in its publicly funded workforce development programs.

---

<sup>5</sup> Bob Sheets at NIU provided this information.

<sup>6</sup> In fact, interviews conducted as part of a study of WIA and related programs suggests that even in those states that have received performance incentive funds, most state and local officials were largely unaware of the specific measures or levels of performance in the other programs.

<sup>7</sup> Customized training for employers and standard on-the-job training may be provided outside the ITA and provider certification provisions.

Despite considerable progress, issues and challenges remain. First, in many respects, Congress and Federal agencies punted to the governors on the issue of full integration of workforce programs and services, leaving the "*silos*" intact while encouraging greater co-location and coordination via one-stops. Yet, performance measures and approaches remain largely institutional, programmatic and overly hierarchical, stemming far more from a traditional public administration perspective than from any modern vision of performance measurement and management. Second, *employer measures* remain especially weak, despite widespread recognition that employers are major customers of workforce services.<sup>8</sup> Although some state and local boards have augmented the scant required measures of employer customer satisfaction with additional measures (e.g., market share, return or repeat business), there is considerable room for improvement. In addition, Federally required customer satisfaction measures need only be representative of experience at the state level, not the board or provider level. This approach flies in the face of private-sector practice that dictates that customer satisfaction should be measured at point of service to support effective continuous improvement strategies.

Third, *systemic performance measures* are generally lacking or inadequate where they are being attempted. Though Federal law now mandates state-level measures that span three related programs, systemic measurement requires much more. At the local level, where services are actually delivered, most boards lack the authority over a sufficiently wide range of Federal and state workforce programs to adequately achieve system-wide performance. States such as Florida, Michigan, Texas and others have instituted relatively comprehensive reforms that integrate or consolidate major workforce programs at the state level and place them under local control, even though they remain subject to many Federal and state restrictions. Most states have chosen not to institute such broad-based reforms (Grubb et al., 1999; O'Shea and King, 2001). Some states (e.g., Texas, Washington) also have launched systemic performance measurement initiatives with varying degrees of success (e.g., Workforce Leadership of Texas, 2002). It is hard to

---

<sup>8</sup> Most workforce programs (e.g., Food Stamp E&T, Welfare-to-Work Grants, TANF) lack employer-based measures altogether.



imagine local actors responding well to more systemic measurement when they lack the authority to deliver and/or manage the services.<sup>9</sup>

Fourth, there are also major challenges associated with data collection, reporting and records linking, as well as basic labor market information (LMI) required for an effective workforce accountability system. WIA, Perkins, and adult education and literacy programs appear to have designed and implemented data systems that run counter to best-practice in the private sector in key respects. In the private sector, the best-run companies measure tightly what is important (i.e., performance objectives and results) while allowing considerable discretion over the operations that get them there (e.g., Peters and Waterman, 1982). In publicly funded workforce programs, the approach is now to allow wide discretion in how services and results are measured, but to prescribe more tightly the means of attaining them. For example, WIA programs are not held accountable for outcomes until a participant is actually registered for services, a decision over which states and localities have wide discretion. This creates disincentives to reporting actual service provision and may be leading to inflated program outcome numbers as local providers “game the numbers.”<sup>10</sup>

In addition, although Federal agencies appear to be collaborating reasonably well, quicker and improved access to information is needed to support state and local outcome measurement. Some of the data that need to be linked to determine service effectiveness fall under the provisions of the Family Educational Rights and Privacy Act (FERPA). Because of stricter interpretations of FERPA since 2001 by the U.S. Department of Education, state educational agencies have been more reluctant to share student data with their partners. Existing confidentiality procedures and agreements do not appear to be working well.

Moreover, individual job seekers and employers both need better and more timely labor market information if more market-oriented workforce service delivery approaches are to succeed. Job seekers require information on job placement, wage outcomes, and

---

<sup>9</sup> Stevens (2001, p. 13) argues that more systemic measurement may not lead to improved service effectiveness due to important differences in key program parameters (e.g., purpose, target populations).

<sup>10</sup> These statements are based on recent field interviews with state and local officials as well as studies conducted by other researchers (e.g., D’Amico et al., 2001).



education and skills needed, from a broad array of employment and training providers, not just those participating in WIA. Employers require improved access to information on job seeker knowledge, skills and abilities than they now have. Without good and timely information, market performance will be hindered.

Clearly there are substantive concerns with current performance measures and accountability provisions. Looking to the future, we must establish measures that adapt to the shifting realities of our labor markets and our education and training technologies. For instance, training and certification reside in multiple venues, many of which, like e-learning and virtual universities, did not exist a decade ago (e.g., Carnevale and Desrochers, 2001). We must be able to track and document the value of portable credentials that are attained in an ever-widening variety of formats. Moreover, while considerable effort has been devoted to establishing voluntary national and state skill standards (pursuant to the National Skill Standards Act of 1994), few have been implemented. Also, appropriate relationships among program performance standards, systemic outcome measures, and emerging skill standards and certifications by industry and occupation have not been fully addressed. Work on these subjects, as well as skill standards, assessments, and certifications, has begun, but is still in the early stages.<sup>11</sup>

## **Changing Context, Competing Paradigms**

The limitations of the current performance measurement framework become even more serious when considered in light of the dramatically changing context within which workforce services are now being delivered. These changes are having significant effects on the types of performance measures needed, as well as their use in next-generation workforce systems. Major context changes and their implications include the following.

- The rise of contingent, temporary, and short-duration employment relationships reduce job security and increase job instability even in good economic times, while

---

<sup>11</sup> The first major skill standards, for manufacturing, were announced in May 2001. They must still be assessed and implemented (NSSB, 2001; [www.nssb.org](http://www.nssb.org)). Other major voluntary partnerships are working to establish skill standards in sales and service, education and training, and other industries. States have their own voluntary skill standards efforts, though national and state efforts tend to be loosely connected..

giving employers access to a range of options for hiring and production that were not fully imagined a decade ago.

- Rapid advances in technology require continuous learning and skills acquisition for all workers to remain viable in a knowledge-based economy.
- Advanced technology, innovative educational approaches, and certification mechanisms require new ways of measuring skills, knowledge and competencies attained across a variety of public and private learning venues and not captured by certificate, degrees and course completions.
- There are greater demands on consumers for informed decisionmaking, requiring ready access to timely education and training providers, as well as skill requirements and labor market prospects.
- Policy and program devolution has pushed decisionmaking for workforce and related strategies to lower levels, including private entities and individuals. Performance measures devised for more hierarchical programs do not fit as well in a market-oriented world driven by decentralized sets of decisionmakers.
- State workforce reforms increasingly place responsibility and accountability for a broad array of categorical programs with local workforce boards. New measures are needed to assess their effectiveness.
- Local board and one-stop centers established under WIA, along with community and technical colleges, now serve a larger intermediary role in labor markets, a situation that calls for performance measures and approaches that more accurately assess customer satisfaction.
- Elected officials and taxpayers have become more knowledgeable and demanding of performance information that supports decisionmaking, requiring comprehensive performance measures that are more simply stated and more easily understood.

Overall, the context for performance measurement has been transformed in significant ways by these changes. Recent performance measures and management approaches, while an improvement over earlier approaches, are inadequate for the current workforce

context and its array of workforce preparation options, as well as for the next-generation workforce system.

We also are facing a number of competing paradigms for making sense of these changes as they relate to performance measurement and management. When such efforts began in the late 1970s, the dominant paradigm for workforce performance measurement and management—accountability—was derived from *public administration* (Behn, 2001). Rooted solidly in the late 19th and early 20th century work of Max Weber on bureaucracy, Frederick Winslow Taylor on industrial engineering, and Woodrow Wilson on administration, this paradigm emphasized administrative control with clear lines of responsibility and authority within hierarchical public program structures. Moreover, even as it evolved, it continued to stress accountability for finance and fairness, much more so than for performance or results. According to Behn (2001, p. 15):

“Our traditional American mechanisms of holding people accountable may deter malfeasance and misfeasance for finances and fairness. Nevertheless, they may also encourage nonfeasance for performance. Our traditional mechanisms of accountability for money and equity can easily deter public managers from accountability for results.”

Unfortunately, while the public administration paradigm has outlived its usefulness, it remains at the heart of the workforce accountability framework. Not that we have to jettison our concerns for fiscal prudence and equitable access to services, but this traditional approach to accountability is inadequate for achieving high levels of workforce performance for individuals, institutions, systems or corporations in the current economy. We are in a time of transition, and alternative paradigms are available for consideration.

Behn (2001) offers a promising alternative, suggesting a new public management paradigm that stresses “*answerability*” for performance over accountability for finances and fairness. He proposes adopting the 360-degree Feedback Process that has become widely used in business and is beginning to be adopted in the public sector as well. The 360 Feedback Process asserts that all stakeholders have a responsibility for performance and for contributing to improvements in performance over time, displacing the notion of

a more bilateral process of dependent accountability “holders” and “holdees” of authority over them. Under this paradigm, public managers must be granted much greater discretion to act for the general benefit. Behn suggests doing so through mutual, collective responsibility compacts among the key actors and entities at the community level.

A third accountability paradigm that owes a considerable debt to earlier work on reinventing government (Osborne and Gaebler, 1992; Sheets, 2002) is *market-based*. Workforce development is seen as an “industry” with supporting concepts and measures, not the usual collection of Federal/state funding silos and programs. This workforce “industry”—composed of various suppliers (e.g., schools, training providers) and demanders (e.g., employers, job seekers)—can be analyzed and assessed in much the same way as any other industry. To be successful, the workforce industry should have world-class performance goals, adopt market rather than bureaucratic principles, and measure performance from the perspective of employers, workers and broad labor market indicators. Boards should expend efforts to develop and manage strategic plans for regional and local labor markets that focus public and private resources on improved performance. Recommended strategies include the use of sectoral coalitions, supply chains, and enhanced funding stream flexibility.

Following the same well-worn pathways to accountability is unlikely to yield workable approaches in the current and emergent workforce system. The contextual changes are too large and far-reaching. The new accountability paradigms seem more suited to this new environment. This is especially important for governors, given the states’ longstanding roles as “laboratories of democracy.” Before exploring strategies and actions that governors might pursue, we turn to a more detailed discussion of what the next generation requires.

## **Requirements for the Next Generation**

A more market-driven next-generation workforce system recognizes the interdependence of education, job training, and economic development. It responds to the needs of businesses, workers and communities, and engages new technologies, trade, and labor

market practices required for new accountability mechanisms. These mechanisms must be used to produce and communicate performance information for individuals, service providers, firms and other stakeholders in the workforce system. Most importantly, performance measures must move beyond those of earlier eras that were driven largely by legislative and regulatory requirements associated with categorical funding. Rather, they must employ mechanisms that communicate significant outcomes across the entire range of services and resources that will contribute to the next-generation workforce system.

Next-generation workforce performance measures must be:

- *scalable* at the individual, institutional provider, corporate, and market/systems levels.
- *more outcomes- and less process-based*. While process measures remain important for day-to-day program management, a better system of outcome measures must be developed that reflect returns that are valuable to individuals, businesses, communities, states and the nation.
- *linked to leading global, national and state skill standards* to the extent possible. The goal of the workforce development system is to increase the economic viability of employers and employees. Linking to state-of-the-art skill standards is important for attaining and maintaining economic competitiveness through enhanced productivity.

### ***Recognized, Portable Credentials***

Given the numerous options for education and training and the rise of employment that is more project- than firm-based, we must develop mechanisms for consistently validating workers' credentials, *wherever* they have been obtained. We operate within an increasingly decentralized employment and training environment: secondary and post-secondary institutions, proprietary institutions, firm-based training, union and nonunion apprenticeships, self-paced, e-learning and virtual classrooms are all key sources for skills acquisition. In such a context, how should we document and evaluate occupational skills acquisition and learning results?

The emerging O\*NET system, with its emphasis on knowledge, skills and abilities, (KSAs) is one prospective vehicle for benchmarking learning gains across disparate education and training venues in terms that employers and employees find comprehensible and useful. KSA measurement, linked to occupational requirements, could provide the common ground for validating workers' skills across education and training subsystems.

### ***Improved Measurement of Learning Outcomes***

The challenge of improving the measurement of learning outcomes is closely associated with validating workers' skills. Secondary schools are largely uninformed about the career and technology education labor market, and most adult literacy programs are more concerned with contact hours than learning-related outcomes.

Most publicly funded workforce programs still fail to sufficiently emphasize *learning-related outcomes*. Both WIA and Perkins programs measure credentials obtained by adult participants; WIA measures retention, skill attainment and graduation of youth participants. Practice at the secondary level under Perkins III varies widely. Six states currently have external assessment systems to assess career and technical skills, and many states now formally endorse assessment and credentialing systems for their Perkins skill attainment measures. However, the majority of states use course and program completion as proxies.<sup>12</sup> Both Perkins and WIA fail to measure real learning gains.<sup>13</sup> In part, this may reflect problems with attempting to do so under Perkins II. Few other workforce programs even try to gauge learning as an outcome.

Creative application of emerging information technologies may form the core structure upon which to assess learning gains, build effective credentialing mechanisms, and establish system wide recognition. The SCANS 2000 Center at Johns Hopkins University and the EnterTech™ Training Project at the University of Texas at Austin's IC<sup>2</sup> Institute (Haughlie et al., 2002) are different in key respects but quite similar in others. Both are assessing learning outcomes in innovative ways.

---

<sup>12</sup> We are indebted to Bob Sheets for providing this information.

<sup>13</sup> Some go so far as to state that WIA has encouraged "credentialing mills" of narrow, rather meaningless competencies, falsely suggesting positive outcomes.



### ***Independent Accreditation and Certification***

One of the most important elements required by a market-driven workforce development system is independent accreditation and certification processes for all education and training providers. Currently, such processes vary widely and show little consistency from state to state or subsystem to subsystem. In post-secondary education, accreditation usually is firmly in the hands of educational providers and their regional associations (e.g., the Southern Association of Community Colleges). Institutional reviews are typically conducted by teams comprised of their peers. Inadequate weight is given to labor market outcomes for their students, a condition that conflicts with their status as education and job training providers.

In the emerging WIA networks, governors, in consultation with local workforce boards and other key actors, establish eligible training provider certification mechanisms and maintain a list of eligible providers based upon labor market outcomes for each program (occupation) the provider operates, following procedures prescribed by USDOL. Local boards submit lists of providers to the state that meet their standards, which may exceed those established by the state. Continuous improvement efforts may be undermined because providers who do not meet one board's requirements may meet those of another and therefore be placed on the state's eligible provider list. Neither approach is adequate. An effective market-based workforce system at a minimum demands the following.

- Accreditation and certification processes that are largely independent of providers and their associations. Clearly their participation in designing and implementing such processes is important, but the processes must be autonomous.
- The use of generally accepted procedures and common terms and definitions for key elements. The devil is in the details, as many have discovered (e.g., Trott and Baj, 1996), but it is critical that terms and definitions be at least broadly similar so that relevant comparisons can be made by the workforce system's various customers.
- Accreditation and certification standards that are public, readily accessible and easily understood, i.e., transparent. The system's customers, as well as the general public, need to know the performance levels and associated standards that its providers are expected to attain.



- Regular reporting cycles for accreditation and certification.

### ***Enhanced Labor Market Information***

Markets cannot perform well in the absence of well-informed consumers. A handful of states (e.g., Michigan, New Jersey, Texas) have gone to great lengths to design and operate outstanding labor market information (LMI) systems, yet the status of LMI in this country is generally poor for both labor market opportunities and outcomes. In the 1990s, key Federal agencies, such as the U.S. Departments of Labor and Education, began making concerted, if poorly coordinated, investments to improve LMI. Many of these innovative initiatives (e.g., America's Labor Market Information System or ALMIS) were eagerly adopted by states. They shared a common presumption that more market-oriented workforce approaches based on individual choice were going to be the wave of the future.

Despite progress in recent years, information regarding education and training opportunities and labor market outcomes remains incomprehensible and inaccessible to potential consumers. Job seekers and employers must be able to access—and make sense of—critical information about opportunities and outcomes with only minimal restrictions required to ensure proprietary protections. Additionally, it is critical that state and local workforce systems recognize and respond to varying job seeker and employer needs for LMI. Well-educated, highly experienced, dislocated workers and many secondary students may be able to secure all the LMI they require from home or school via the Internet, while other groups (e.g., poorly educated welfare recipients, immigrants) may not (Kuhn and Skuterud, 2000). Similarly, large employers' ability to meet their LMI needs typically exceeds that of small-to-medium-sized employers, especially those lacking active employer associations.

On the opportunity side, data collection and reporting for employment are still focused on occupations and industries. Much of our workforce future lies in flexible skill sets and adaptability. We speak now more in terms of community career ladders and transferable/adaptable skills and knowledge, rather than of firm-based career progression.

Key features of enhanced LMI systems required to support effective, efficient workforce systems under a market-based approach include the following:

- expanded and improved data collection and reporting of employment, education, and training opportunities as well as outcomes;
- better tools to make such information user friendly, readily accessible and comprehensible to its key customers (i.e., job seekers, employers) and providers; and
- improved data sharing across funding streams, with due protection of privacy (e.g., UI wage records for vocational education outcomes).<sup>14</sup>

Considerable work remains to be done to enhance LMI content, tools and access if market-based workforce approaches are to succeed.

### ***Scalable, Performance Outcome Measures***

Most of our attention to date in measuring the performance of our workforce development efforts has focused on programs (Ganzglass et al., 2000). More must be done to measure performance from multiple perspectives, including the individual, provider, corporate and systems levels of the labor market.

***Individual Measures.*** Individual performance measures should concisely and accurately communicate the skills and accomplishments of labor market participants to employers. Next-generation performance measures will stress competencies not easily captured by current measures. Traditional individual measures, such as work history, credentials, certificates, and degrees, can be complemented by measures that reflect new education and training technologies, life-long learning, portable skills and adaptability. These competencies are broadly defined as knowledge, skills, abilities, and personal qualities—the package of attributes that contribute to workforce success—rather than credits accumulated or courses taken.

***Institutional Measures.*** Shifting from an input to an outcome basis for gauging the performance of workforce institutions, including training and other service providers, one-stop career centers and similar institutions, are areas where we have made the most

---

<sup>14</sup> In June 2002, the U.S. Supreme Court ruled that individuals cannot sue colleges for violating a Federal law that protects the privacy of student records. In a 7–2 decision in a case involving Gonzaga University, the justices held that the Family Educational Rights and Privacy Act of 1974 does not give individual students and parents the right to sue education institutions that violate the law's provisions by divulging confidential student information. This decision could have the effect of improving the environment for data sharing among agencies and programs for workforce outcome measurement.

progress in recent years. Performance measures for WIA and Perkins programs are more outcome- than process-oriented. Additionally, WIA provisions for training provider certification based on performance and customer satisfaction measures for employers and prospective employees reinforce this progress, despite their limitations.

Next-generation workforce measures will continue to track important outcomes such as program completions, employment entry, wages and retention, but they must also capture the performance valued by the multiple stakeholders in the changing workplace and labor markets.

*Corporate Measures.* New measures are needed to assess the contribution of human capital to corporate performance, i.e., the impact of training on the bottom line. The first challenge is to design methods that link education, training, and other human capital investments—whether generated internally by firms, externally with public sector initiatives, or through a combination of public/private efforts—with increases in productivity and profitability at the firm or industry sector level. Next, these measures should assess the association between these outcomes and wages, benefits and income at the appropriate spatial scale. The American Society for Training and Development and SABA Software are collaborating on an innovative effort to gauge the relationship between market returns and employer investments in training (Bassi et al., 2000). Next-generation measures may also begin gauging the impact of human resource development on the economy as a whole.

There is also a growing consensus that outcome expectations for workforce services should be benchmarked, to the extent feasible, to best practices in private-sector human resources (HR) departments. One approach is to adapt sets of “metrics” for best practices in HR areas, such as training investment, voluntary separation rates, turnover costs, cost per hire, etc. (Grossman, 2000). While not all these metrics are directly applicable to publicly funded workforce services, they might serve as the basis for key workforce performance outcome measures, in lieu of arbitrarily determined measures that lack a real-world basis. Such metrics also may promote enhanced employer engagement in workforce programs.

*System Measures.* Performance measures for the next-generation workforce system must show how effectively and efficiently workforce services for multiple programs have met customers' needs. In general, what distinguishes systems measures from traditional program measures are a focus on broader concepts of service rather than Federal/state program "silos" and greater emphasis on longer-term outcomes rather than near-term compliance. Among the possible system measures are ROI, market penetration, customer satisfaction and improvements in human capital, income, and corporate competitiveness, as well as general indicators of community or state well-being.

Most training and HR professionals believe that using ROI is necessary to justify continued funding for workforce training, to improve an organization's status, and to influence an organization's future, even though they seldom agree on the best way to calculate it (e.g., Glover et al., 1999; Norris and King, 1997; Phillips, 1994, 1997). Executives often conclude that training will pay off on important bottom-line measures such as productivity and quality, as well as increased customer satisfaction. Frustration arises when evidence is lacking to demonstrate value added or when key benefits cannot be readily quantified.

Practitioners want an approach to measuring ROI that is simple, understandable, user-friendly, and cost-effective. ROI is an extremely attractive measure for workforce systems, but also one fraught with immense challenges. Not only is the full range of benefits difficult to quantify with any degree of confidence, but capturing all of the relevant costs can turn into a lengthy search for consistent expenditure series across agencies. Too often, returns are overstated while costs are underreported, leading to grossly inflated rates of return. Too little has been done to design and implement effective ROI methods in the workforce development arena.<sup>15</sup>

A handful of states and localities have begun to pursue longer-term and more inclusive system outcome measures than those now required by WIA and other legislation. Efforts are underway in Maryland, Texas, Washington, Indiana, Pennsylvania, and Oregon. NGA reports that "almost half of the states have established broad indicators of family,

---

<sup>15</sup> The Workforce Leadership of Texas (2001), the state association of workforce boards, has embarked upon an ROI estimation project in partnership with the Ray Marshall Center.

child and community well-being” ([http://www.nga.org/center/divisions/1,1188,C\\_ISSUE\\_BRIEF^D\\_2571,00.html](http://www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF^D_2571,00.html)). Interest in state-level system outcome measures for workforce development has been gestating for several years. Collectively, as these efforts are being explored, tested, and refined, they are providing an important part of the foundation for next-generation systems measures.

Recent Office of Management and Budget (OMB) action suggests that there is now high-level Federal support for such efforts. OMB recently announced agreement by key cabinet Secretaries (i.e., Labor, Education, Health and Human Services, Veterans Affairs, Interior and HUD) to incorporate common performance measures into statute as opportunities (e.g., reauthorization) arise (NACO, 2002). These common performance measures developed by OMB do not automatically replace existing performance measures. The common measures are as follows:

*Adult Programs—*

- Entered employment<sup>16</sup>
- Retention
- Earnings increase (%)
- Efficiency (annual cost per participant)

*Youth and Lifelong Learning Programs—*

- Placement in employment or education
- Attainment of degree/certificate
- Literacy and numeracy gains (using a standard assessment instrument)
- Efficiency (annual cost per participant)

---

<sup>16</sup> UI wage records will serve as the primary source of information for employment-related measures.

## **Recommended Strategies and Actions for Governors**

Over the next few years, governors should pursue at least two broad strategies and take a number of specific actions to move their states in the direction of next-generation workforce accountability. These strategies and actions should be consistent with and supportive of a more market-based paradigm for delivering workforce services to employers and job seekers. Governors should consider pursuing the following *broad strategies*:

***Expanded Use of Workforce/Education “Flex” Authority.*** So-called “flex” provisions have been a feature of Federal education and workforce legislation since the early 1990s. Under these provisions, the Federal government may grant states added flexibility, when petitioned, to implement selected provisions of the relevant statutes. For various reasons—some clearly political, others more administrative in nature—states have been timid in their use of flex provisions. Performance accountability is clearly a situation that calls for the creative use of flex authority. Pursuing a flex strategy flows from the premise that public entities can be held truly accountable only if they have the discretion to act.

Under this strategy, several states, in collaboration with relevant Federal agencies, could jointly design a common approach to maximize flexibility under the existing provisions of WIA, Perkins, and other related legislation (e.g., WtW, TANF). Key areas of discretion to be pursued through workforce programs might include workforce services, program eligibility, pooled incentive accounts, and new performance measures and definitions that are more systemic in nature. Additionally, individual states should pursue areas in which they may have a comparative advantage in knowledge and experience (e.g., developing system outcomes and cross-program incentive funds for local use).

Even though the WIA reauthorization process is in its early stages, expanded flex authority would be a welcome addition, allowing states to do even more in the future. Note that the ongoing TANF reauthorization process has focused attention on a similar approach with the so-called “super waiver” provisions that are now being debated in Congress. Whether such provisions will make it all the way to the President’s desk for signature remains to be seen, but the concept is similar.



***Enhanced Balanced Scorecard Approach.*** The Balanced Scorecard Approach developed by Kaplan and Norton (1992, 1996) emphasizes a broad and balanced set of leading and lagging measures and represents an attractive strategy for workforce accountability. In recent years, the Scorecard approach has been the focus of limited or pilot efforts in workforce development by such groups as the National Association of Workforce Boards and others (Sheets, 2001). When tried, the approaches have tended to address a limited set of workforce services. Little has yet been done to try the Balanced Scorecard Approach across a broad range of programs and services.

Many related programs provide workforce services to individuals and employers. In addition to WIA and Perkins, these include the Employment Service, TANF-related workforce service, Welfare-to-Work Grants, and Food Stamp Employment and Training programs. Most states also operate relatively large UI- and state-funded training programs (e.g., California's Employment and Training Panel, Illinois' Prairie State 2000 Fund) that might also be included in a Balanced Scorecard initiative. The most rapidly growing funding source for workforce services has been Pell grants and loans to individuals looking for postsecondary education and training. Balanced Scorecard initiatives should be expanded to encompass these as well, and might also benefit from incorporating workforce "industry" concepts, private-sector HR metrics and market-based measurements.

In addition to these two broad strategies, governors should combine parts of the following *specific actions* to move more deliberately toward next-generation workforce system accountability. Many of these actions are closely interrelated and fully consistent with and supportive of a more market-based approach.

***Recognized, Portable Credentials.*** Governors can exert considerable influence in fostering the use of recognized, portable credentials in their states. Their state workforce investment and state skill standards boards are two key players in credentialing. Other major players include various licensing entities, community and technical colleges, employers (e.g., Cisco Systems, Oracle, Microsoft) and some employer associations. The National Skill Standards Board, the ongoing National Assessment of Vocational Education and others also have contributed to our knowledge base on credentials.



Among actions governors can take to foster and promote the use of recognized, portable credentials are the following:

- Governors should direct either the state WIB or the state skill standards board to conduct a comprehensive inventory of the credentials currently in use in their states, especially those in critical/demand occupations that make up much of their states' workforce investments.<sup>17</sup> Key features of these credentials should be identified, along with their strengths, weaknesses, and gaps in coverage by occupation and skill area.
- Governors should work with their state boards and other state leaders (e.g., community and technical colleges, employers) and national players (e.g., NSSB, voluntary skill partnerships) to fill important gaps and to devise strategies for enhanced portability. WIA's certified training provider process is another tool governors can utilize.
- Governors may also consider ways of connecting the attainment of recognized skill credentials to state workforce performance measures and the award of performance incentives across workforce providers and Federal and state workforce programs.

***Improved Learning Outcome Measurement.*** Improving learning outcome measurement is essential to building next-generation workforce accountability systems. Increasingly, business and employer groups recognize the importance of K–14 education and the skills base it provides for their workforce. Without adequate preparation in school and development of “soft skills” (e.g., SCANS) for the workplace, it is far more difficult, time-consuming, and costly for employers to compete effectively in markets.

Among actions governors can take to improve the measurement of learning outcomes are:

- Ensuring that learning outcome measurements for their public educational system are sufficiently rigorous and of high quality to meet employers' needs. Some states implemented such standards-based reforms several years ago; the No Child Left Behind Act of 2002 provides incentives for the rest to move in this direction.

---

<sup>17</sup> Such inventories and analyses may already have been conducted in some states.

- Ensuring that the educational system's learning outcomes are aligned with the measures and standards applied within WIA, Perkins, and related workforce funding streams. Governors should instruct state workforce boards to assess the extent to which such measures are aligned and recommend ways to align them if not.
- Instructing state workforce boards to improve soft skills measurement by capitalizing on developmental work already completed by SCANS 2000, EnterTech and other projects. Employers are very clear about the value of such skills to their productivity and competitiveness and are demanding serious efforts to measure and document them through such devices as electronic career transcripts.

***Independent Accreditation and Certification.*** In a workforce system relying heavily on a market-based service delivery model, independent accreditation is critical. Governors should work with their state workforce boards and education agencies to develop independent accreditation and certification procedures for providers in all major components of their workforce systems, including education, employment and training. Clearly, individual governors acting alone cannot affect all the changes called for in this arena, yet they have considerable leverage in the process. Specific actions governors can take to promote independent accreditation include the following:

- Directing their workforce and education agencies and related boards to critique their existing state accreditation and certification processes and provide options and strategies for bringing them into closer alignment and more independent of service providers.
- Working with their counterparts in other states, and with other interested parties to build support for establishing accreditation processes that are national in scope and truly independent of education and training providers. Providers should actively participate in and provide advice on mechanisms and standards for accreditation, but should not control the entire process as they often do now.

***Enhanced Labor Market Information.*** Governors should work to improve LMI content and tools within their states. Most labor market data collection and reporting stems from Federal/state programs that are largely Federally driven, but states do have some discretion. Governors also can contribute substantially to developing better LMI tools for

education and training providers, employers, and especially individuals pursuing self-directed career strategies. In developing these tools, governors must pay special attention to the needs of low-literacy populations and those without ready access to computers and the Internet.

Governors can improve LMI in their states by the following actions:

- Working with state workforce boards and employment agencies to fill key gaps in labor market information. Employment agencies are responsible for collecting and reporting most labor market data. One key area that they could act upon, after having cultivated employer support, would be enhancing reporting of employers' UI wage records to include occupational identifiers, employment start dates and hours of work. Ultimately, data collection for wages in UI-covered employment should parallel O\*NET, with its reliance on knowledge, skills and abilities rather than occupation. Presently, the usefulness of UI wage records is limited by the absence of these data.
- Joining forces to encourage key Federal agencies, especially the U.S. Departments of Labor and Commerce, to enhance their LMI data collection and reporting efforts for employment and earnings. O\*NET represents a significant step in the right direction because information about KSAs facilitates the development of appropriate training curricula. Other actions could be taken as well, such as reducing time lags between initial data collection and availability.
- Instructing state workforce and education agencies to actively participate in data sharing initiatives (especially the Wage Records Interchange System) for UI wage records. Data sharing is important for reliable, accurate reporting of labor market outcomes in an increasingly mobile workforce that obtains its skills from multiple sources and locations.
- Directing key staff in state workforce and education agencies to use improved tools for accessing and using LMI at the state and local levels. Some states, such as Michigan, Texas, and Utah, have excelled at developing and using such tools, most of which are in the public domain. Technological advances in computers, television and the Internet make it possible to do more with LMI than ever before in ways that can be tailored to a mix of target populations, literacy levels and other factors.

Information regarding labor market opportunities and outcomes should be widely available and readily accessible in an appropriate form to all interested parties, including its consumers—job seekers and employers and the general public.

***Scalable, Multilevel Performance Outcome Measures.*** Governors should strive to establish performance outcome measures at multiple levels that, when feasible, are scalable, i.e., capable of meaningful aggregation from one level to the next. Governors, their state workforce boards, and other key players should develop and institute workforce outcome measures at four levels:

- Individual measures might include learning outcomes and soft-skills attainment.
- Employer measures based more on private sector HR metrics, including reduce screening and turnover costs, increase productivity, and increase returns on employer training investments.
- Program measures emphasizing outcomes over process would include skills and education attainment and employment and earnings standards measured with some conformity across Federal/state workforce programs.
- Market/workforce system outcome measures in specific markets or areas might include ROI across major workforce funding streams, market penetration, increased human capital levels, earnings gains, and other indicators of community well-being.

***Balanced, Systemic Performance Incentives.*** Governors should move beyond WIA, Perkins, TANF, and other measures to create *performance incentives* to reward and encourage more balanced, systemic approaches to workforce service delivery. For example, governors could establish a pooled workforce incentive fund that rewards performance *across* programs and leads to attaining increased systems goals and objectives.

These recommendations for governors' action are grounded in decades of Federal/state workforce experience with performance measures and management approaches. They represent an evolutionary response to changes in the context in which these services have been delivered. Much needs to be done.

## **Conclusions**

Accountability in workforce development programs has come a long way. In just 25 years, we have progressed into a second era of accountability—from having no outcome-based program performance measures or management provisions to having relatively well-developed measures in nearly all programs.

Yet problems remain, one of the most important being that, abundant rhetoric aside, accountability remains on a program-by-program basis and is firmly rooted in an outmoded hierarchical, public administration paradigm. Next-generation workforce development systems require much more, largely because of important changes that have taken place in labor markets. For instance, workforce services are now delivered to job seekers and employers in a more market-oriented world. Both are expected to make their own choices on opportunities and outcomes based on labor market information. And, unlike earlier generations, they make their choices in a more diverse workforce system through a series of multiple employment situations and venues, most likely through several different careers.

Accountability systems for next-generation workforce require:

- recognized, portable credentials;
- accreditation and certification processes for education and training programs that are independent of providers;
- labor market information about opportunities and outcomes that is readily accessible and user-friendly;
- scalable outcome measures that reflect results for individuals, employers, programs, and markets; and
- balanced performance incentives to ensure that all major players in the system are moving in the same direction.

Governors—acting alone or in partnership with other governors, Federal agencies, workforce boards, school districts and other local players—should pursue broad strategies and take specific actions to move toward accountability for a next-generation

workforce system consistent with a market-oriented approach to service delivery.

Strategies include:

- expanding the use of workforce/education flex authority; and
- initiating a Balanced Scorecard Approach to workforce performance measurement and management.

Actions include:

- improving the measurement of learning outcomes, including soft skills;
- developing independent accreditation and certification mechanisms within their states or, in partnership with other governors, across states;
- enhancing their LMI infrastructure as well as the tools available to employers and job seekers to help in their labor market choices;
- ensuring that information about opportunities and outcomes is easily accessible and understandable to everyone; and
- establishing performance outcome measures that are fully scalable at all levels.

Governors, whether acting unilaterally or in partnership, will not be able to immediately design and implement all of the requisite accountability mechanisms to support next-generation workforce systems. But they are in a unique position to lay the groundwork and take the critical first steps in this direction.

## References

- Bassi, Laurie J., Jens Ludwig, Daniel P. McMurrer, and Mark Van Buren (2000). *Profiting from Learning: Do Firms' Investment in Education and Training Pay Off?* Arlington, VA: American Society for Training Development, with SABA.
- Behn, Robert D. (2001). *Rethinking Democratic Accountability*. Washington, D.C.: Brookings Institution Press.
- Blalock, Ann B. and Burt S. Barnow (2001). "Is the New Obsession with 'Performance Management' Masking the Truth About Social Programs?" In Dall W. Forsythe, ed., *Quicker, Better, Cheaper? Managing Performance in American Government*, Albany, New York: Rockefeller Institute Press.
- Carnevale, Anthony P. and Donna M. Desrochers (2001). *Help Wanted, Credentials Required: Community Colleges in the Knowledge Economy*. Annapolis Junction, MD: Community College Press.
- D'Amico, Ronald, Deborah Kogan, Suzanne Kreutzer, Andrew Wiegand, Alberta Baker, Gardner Carrick, and Carole McCarthy (2001). *A Report on Early State and Local Progress Towards WIA Implementation: Final Interim Report*. Washington, D.C.: USDOL, ETA, February.
- Ganzglass, Evelyn, Martin Simon, Neil Ridley, Christopher T. King, Betty Jane Narver and Carl Van Horn (2000). *Building a Next-Generation Workforce Development System*, Seattle, WA: University of Washington, September.
- Glover, Robert W., Donald W. Long, Carl T. Hass, and Christine Alemany (1999). *Return-on-Investment (ROI) Analysis of Education and Training in the Construction Industry*. Austin: The University of Texas at Austin, Center for Construction Industry Studies, Report No. 6, March.
- Grossman, Robert J. (2000). "Measuring Up: Appropriate Metrics Help HR Prove Its Worth." *HR Magazine*, January, pp. 29-35.



- Grubb, W. Norton et al. (1999). *Toward Order from Chaos: State Efforts to Reform Workforce Development Systems*. Berkeley, CA: National Center for Research in Vocational Education, MDS-1249.
- Haughlie, Joseph W., Deaton Bednar, Melinda Jackson, and Jordan E. Erdos (2002). "Research Guides Education for Employment: EnterTech," In *Effective Educational Partnerships: Experts, Advocates, and Scouts*. Westport, CT: Praeger Publishers.
- Indiana Department of Workforce Development. (2000). *Strategic Five-Year Workforce Investment Plan*., Indianapolis, Indiana: DWD. Update.
- Kaplan, Robert S. and David P. Norton (1992). "The Balanced Scorecard – Measures That Drive Performance." *Harvard Business Review*, January/February, Vol. 70, Issue 1, pp. 71-80.
- Kaplan, Robert S. and David P. Norton (1996). *The Balanced Scorecard: Translating Strategy into Action*. Boston, MA: Harvard Business School Press.
- King, Christopher T. (1988). *Cross-cutting Performance Management Issues in Human Resource Programs*. Washington, D.C.: National Commission for Employment Policy, Research Report 88-12.
- King, Christopher T. (1999). "Federalism and Workforce Development Policy Reform," *Publius: The Journal of Federalism*, 29(2), Spring.
- Kuhn, Peter, and Mikal Skuterud. "Job Search Methods," *Monthly Labor Review*, October 2000, pp. 3-11.
- Maryland Governor's Workforce Investment Board [n.d. 2001a]. *System Measures Data Report*. Baltimore, MD: Maryland GWIB.
- Maryland Governor's Workforce Investment Board [n.d. 2001b]. *System Measures Workgroup Report to the Executive Committee*, mimeo.
- National Association of Counties (2002). "Breaking News in Workforce Development," *NACo's Friday Report*, October 4.

- National Skill Standards Board (2001). *An Introduction to the Use of Skill Standards and Certifications in WIA Programs*. Washington, D.C.: NSSB, April 5. Prepared by Rick Spill with David Osman.
- Norris, Davy N. and Christopher T. King (1997). *Return on Investment: A Cost-Effectiveness Measure for the Texas Workforce System*, Austin: Center for the Study of Human Resources, University of Texas at Austin, June.
- Osborne, David and Ted Gaebler (1992). *Reinventing Government: How the Entrepreneurial Spirit Is Transforming the Public Sector*. Reading, Massachusetts: Addison-Wesley.
- O'Shea, Daniel and Christopher T. King (2001). "The Workforce Investment Act of 1998: Restructuring Workforce Development Initiatives in States and Localities," *Rockefeller Report Number 12*. Albany, NY: The Nelson A. Rockefeller Institute of Government, April.
- Peters, Thomas and Waterman (1982). *In Search of Excellence: Lessons from America's Best-Run Companies*. New York: Harper & Row.
- Phillips, Jack J. (1994). *Measuring Return on Investment, Volume 1*. Arlington, VA: American Society for Training and Development.
- Phillips, Jack J. (1997). *Measuring Return on Investment, Volume 2*. Arlington, VA: American Society for Training and Development.
- Sheets, Robert (2001). *Developing and Using Baldrige-based Balanced Scorecard Frameworks for Managing Continuous Improvement in Vocational Education and Workforce Development*. Washington, D.C.: NGA Center, Phase I Report, NGA Continuous Improvement Project, June.
- Sheets, Robert (2002). *Reaching World-Class Labor Market Performance: New Goals and Guiding Principles for Workforce Development in the 21<sup>st</sup> Century – Executive Summary*, discussion draft.
- Stevens, David W. (2001). *21<sup>st</sup> Century Accountability: Perkins III*. Columbus, OH: National Dissemination Center for Career and Technical Education, Center on Education and Training for Employment, The Ohio State University, October.

- Texas Council on Workforce and Economic Competitiveness (2000). *Setting Benchmarks: Implementation of the Texas Workforce Development Strategic Plan in the New Millenium*. Austin: TCWEC, December.
- Texas Council on Workforce and Economic Competitiveness (2002). *Council Meeting Briefing Materials*. Austin: TCWEC, June.
- Trott, Charles E. and John Baj (1996). *Developing a Common Performance Management Framework for a State Workforce Development System: A Guidebook for States*. De Kalb, IL: Center for Governmental Studies, Northern Illinois University, January. Prepared for the National Governors Association.
- Workforce Leadership of Texas (2002). *Improving Performance Measurement for Workforce Development Boards in Texas: Phase One, Summary Report*. Austin, TX: Ray Marshall Center for the Study of Human Resources, Lyndon B. Johnson School of Public Affairs, The University of Texas at Austin. Report prepared by Christopher T. King, Robert E. McPherson, Daniel P. O'Shea, and Ying Tang.

17

18

19

20

21

22

23

24

25

26

27

28

29