

## **Awareness, Use, and Perceived Impact of Selected Stakeholders Toward the Implementation of Skills Standards in the State of Illinois**

**Debra D. Bragg**

*University of Illinois at Urbana-Champaign*

**Matthew R. Marvel**

*Western Kentucky University*

### **Abstract**

*This study examined differences in the awareness, use, and perceived impact of educators, employers, and workforce training providers toward skills standards implementation in the State of Illinois. Group differences were revealed on the use of skills standards, with educators displaying significantly higher levels of use than employers or workforce training providers. Group differences were also evident on the perceived impact of skills standards; wherein, educators and workforce training providers were more likely than employers to perceive an impact, particularly with respect to career and technical education (CTE) and private sector human resource functions. The results indicated relatively limited engagement of employers in skills standards, despite their support and encouragement of the educational community to engage in implementation.*

### **Introduction**

Eager to improve the quality of the workforce and enhance economic competitiveness, state officials in Illinois supported the development of skills standards even prior to the formation of the federal government's National Skill Standards Board (NSSB) in 1994. In the mid-1990s to early 2000s, the Illinois Occupational Skill Standards and Credentialing Council (IOSSCC) appropriated over \$5 million in state funding to develop standards in numerous occupational fields. This study examined skills standards to identify the differences in awareness, use, and perceived impact by three key stakeholder groups, including educators, employers, and workforce training providers. Additionally, it considered the implications of the findings for implementation of programs of study under the 2006 federal Carl D. Perkins CTE legislation. The perspectives of the groups were particularly important because they represent constituencies referenced in state and federal policy as central to CTE program implementation.

## The National Skills Standards Movement

During the 1980s, policymakers on both sides of the aisle called for strengthened relationships between school and work (Dykman, 1996). Numerous reports recommended improving the nation's educational system to prepare students for a globally competitive workforce (e.g., Commission on the Skills of the American Workforce, 1990). Similar to the Secretary's Commission on Achieving Necessary Skills (SCANS, 1991; Whetzel, 1992), this Commission advocated for a new system of education that would institute policies, structures, and processes by strengthening connections between education and business. Both commissions concluded that a lack of standards addressing academic and occupational skills achievement was detrimental to preparing students for employment. In comparison to other nations, the U.S. lacked a cohesive system of standards on any level. The U.S. Department of Labor strongly favored the implementation of skills standards, suggesting it would be impossible to prepare a technical workforce or improve the economy without their widespread adoption (Wills, 1995).

Following rancorous debate over the role government should play in skills standards, business representation, and the impact of standards on hiring women and minorities (Kincheloe, 1999), Congress passed the *Title V: The National Skill Standards Act of 1994* to establish the National Skills Standards Board (NSSB). The primary role of the NSSB was to encourage, promote, and assist in the development and adoption of a national system of voluntary occupational skills standards (P.L. 103-227, Title V, National Skill Standards Act, 1994). An underlying theme of the legislation authorizing the NSSB was to engage various stakeholder groups in the implementation of a voluntary skills standards system, with collaborative relationships between education and business being an integral component (NSSB, 2001; Wills, 1997). From the time the NSSB was established, occupational skills standards were perceived as a way to support states, industry groups, and professional associations to prepare students and workers for the modern and increasingly globalized workplace. The National Skill Standards Act included a provision for the sunset of the NSSB five years from its inception, but the NSSB continued until 2003. When active, the NSSB website claimed to have "collected and organized the most comprehensive database of Industry credentials and certifications in existence today" (n.d.).

The NSSB also attempted to establish common language about skills standards, although confusion remains. Terms such as "skills standards" and "occupational skills standards" continue to be used interchangeably. For this study, the term "skills standards" is used in its broadest sense to define workplace performance, including all aspects of employment that are designated through collaborative efforts of states, schools and colleges, business and industry, and other governmental or professional organizations. They reflect an orientation towards job performance that includes occupational-technical, employability, and academic performance. Occupational skills standards define what work is to be performed,

how it will be measured, and how well it should be completed. Employability skills, sometimes called soft skills, refer to the general aspects of work behavior that apply to many occupations, often emphasizing personal qualities (Carnevale & Desrochers, 2001). Academic skills are associated with learning standards, referring to the knowledge and skills students are expected to possess relative to core academic subject matter such as mathematics, English, and science. Academic skills are particularly crucial for K-12 education, but also across the education spectrum because the changing nature of the workplace drives the need for language, mathematics, and scientific literacy. Increasingly, occupational, employability, and academic skills are recognized as essential to students' future successes, whether students progress to college or work (ACT, 2006).

Tucker (2007), a longstanding advocate for standards, recommended measuring student performance against widely accepted standards associated with academics and occupations. The push for standards-based education, focused primarily on core academics, aligns with No Child Left Behind (NCLB). Generally, standards are expected to clarify what knowledge and skills should be taught and guide the measurement of student competence (Darling-Hammond, 2004). Under NCLB, the measurement of student progress on meeting standards through testing has been raised to a new level of importance because of the assumed relationship between student progress towards meeting standards and the effectiveness of the educational system. Federal legislation, whether NCLB or the Carl D. Perkins CTE Act, encourages the alignment of curriculum with standards. It also rewards and sanctions student performance. Policymakers, educators, employers, and many others view standards as crucial to not only holding schools accountable but to aligning education and workforce training systems with employers and the economy (Ganzglass, Simon, Mazzeo, & Conklin, 2002).

### **State Skills Standards Initiatives**

In the early 1990s, prior to the initiation of the NSSB, Wills (1993) reported that 34 states used their funds to develop skills standards. These state initiatives were conducted in association with CTE curriculum development, ranging from a level of \$3,000 to \$20,000 per occupational cluster. Approximately 75% of the states also funded the ongoing maintenance and revision of skills standards and related task lists. The Institute for Educational Leadership documented approximately 700 committees using industry volunteers to assist states, and about 400 professional societies and business and industry associations that promoted or issued skill-based credentials. Potential users of state level skills standards were educators, employers, and workforce training providers such as those who directed Workforce Investment Act (WIA) grants. Even with these many and varied state initiatives, Wills (1995) noted sizable gaps in implementation across the 50 states and by occupation within states, with no one set of skills standards used by all states. Because of the variability

nationally, the study pointed to the need for state level studies of skills standards implementation.

Of all 50 states, Illinois was particularly active in pursuing skills standards (Rahn, O'Driscoll, & Hudecki, 1999). In 1992, a couple of years prior to the start of the NSSB, skills standards were added to Illinois' portfolio of academic (learning) standards. In that year, the Illinois legislature passed the Occupational Skill Standards Act (Public Act 87-1210 or P.A. 87-1210) establishing the IOSSCC, and appropriating substantial state funding to implement three primary purposes: (a) to recognize and develop skills standards and credentialing systems, (b) to market and promote their use in the private sector, and (c) to work with state councils and agencies to promote the application of standards and credentials. The IOSSCC's vision was "to have [a] statewide system of industry-defined and recognized skills standards and credentials for all major skilled occupations that provide strong employment and earning opportunities in Illinois" (2000, p. 4). The IOSSCC members were to play a major leadership and coordination role in establishing and marketing the system for use in hiring, training, and promoting employees. The IOSSCC endorsed skills standards and credentialing systems for occupations that included: (a) requiring basic workplace skills and technical training, (b) providing a large number of jobs with either moderate or high earnings, and (c) providing career advancement in related occupations with moderate or high earnings.

Illinois statute specified the Illinois State Board of Education (ISBE) as the sole administering agency of the federal Carl D. Perkins CTE legislation and charged the ISBE with developing a system of core standards and measures of performance for CTE programs. Public Act 87-1210 addressed occupational skills in education and employment by establishing a nine-member panel composed of representatives from business and industry, with five members appointed by the Governor and four by the State Superintendent of Education. Public Act 87-1210 also specified that the ISBE establish statewide academic, technical, and employability skills standards; establish a credentialing system for certifying the qualifications of individuals on these standards; publish the standards regularly to promote their voluntary use; and coordinate the development of skills standards and credentialing systems with those of other states to promote consistency and increase employment opportunities for students.

According to Rahn et al. (1999), Illinois was unusually deliberate about using business, industry, and labor in the identification, verification, and implementation of skills standards and credentialing systems, designating business and industry to lead the standard-setting process. The state's economy was grouped into 14 occupational categories (e.g., agriculture and natural resources, construction, energy and utilities) that aligned closely, but not identically, with the categories of the NSSB. Similar to the NSSB's process, the IOSSCC created an industry subcouncil for each occupational category that acted as a voluntary partnership charged with conceiving how skills standards benefit multiple stakeholder groups. In Table 1, uses of skills

standards are attributed to educators, employers, and students and workers based on the IOSSCC (2004).

Table 1  
*Benefits of Skills Standards Attributed to Educators, Employers, and Students and Workers*

Stakeholder Group	Benefits of Skills Standards
Educators	<ol style="list-style-type: none"> <li>1. Keep abreast of a rapidly changing workplace.</li> <li>2. Contribute to curriculum and program development.</li> <li>3. Provide students with better career advice.</li> <li>4. Communicate with parents because educators have up-to-date information about industry needs.</li> <li>5. Strengthen the relationship between schools and local businesses.</li> </ol>
Employers	<ol style="list-style-type: none"> <li>1. Focus the investment in training and reduce training costs.</li> <li>2. Boost quality and productivity and create a more flexible workforce.</li> <li>3. Improve employee retention.</li> <li>4. Improve supplier performance.</li> <li>5. Enlarge the pool of skilled workers.</li> </ol>
Students and Workers	<ol style="list-style-type: none"> <li>1. Help workers make better decisions about training they need to advance in their careers.</li> <li>2. Allow workers to communicate better to employers about what they know and can do.</li> <li>3. Improve long-term employability by helping workers move easier among work roles.</li> <li>4. Enable workers to help their children make effective academic and career and technical education (CTE) decisions.</li> </ol>

Source: Illinois Occupational Skills Standards and Credentialing Council (2004)

According to the state’s specifications, educators are expected to use the skills standards to develop education and training programs aligned with the workplace, advise students and parents about these programs, and encourage relationships between schools and businesses. Employers are expected to use the skills standards to enhance employee training, productivity, and retention; and create a larger impact on suppliers and the labor force. Students and parents are expected to use the skills standards to make better decisions about education, training, and career preparation and retention. Additionally, the skills standards are intended to empower employees to communicate their skills and employment situations.

### **Skills Standards and Human Capital Theory**

Gray and Herr (1998) pointed out the relevance of skills standards applied to CTE curriculum to build a competent workforce, arguing that workforce education and training is predicated on the theory of human capital investment. Specifically, human capital investment theory predicts that individuals and, by extension, employers who invest in human capital through investment in education and training are more productive (i.e., produce high quality goods and services more rapidly at lower cost) and, therefore, generate more revenue (i.e., salary for individuals and profit for private firms) than when investment in human capital is limited or missing. Human capital investment theory has particular relevance to this study because it may be associated with the stakeholder groups' awareness of skills standards and with decisions to use them or recognize their impact. If skills standards encourage investment in education and workforce training and enhance the competencies of students and graduates who seek employment, and are viewed as such by key stakeholders, then skills standards may offer a useful mechanism for enhancing the economy. Stakeholders who associate skills standards with human capital investment may value and attribute greater impact to their use. Conversely, stakeholders who are not aware of skills standards, or who know about them but fail to recognize standards as making a valuable contribution to human capital investment, may not attribute a positive impact to their use.

However, while it is possible that skills standards are associated with human capital investment, information that guides decisions about human capital and the labor force is imperfect, therefore, making it difficult for stakeholders to observe specific benefits. Tangible evidence of impact is difficult to discern, possibly explaining why the interest in skills standards of the NSSB and other groups has shifted to the role of education in credentialing. Signaling theory (Spence, 2002) suggested that an individual's ability to perform in the workplace is largely obscured from employers and, consequently, unobservable. As a result, employers seek cues or signals to inform them that individuals possess the ability to perform a job and be productive in the workplace. According to this theory, it is possible that skills standards, operating through credentials, signal competency to employers. Thus, signaling theory may offer a plausible rationale why employers (and other stakeholders) value and use skills standards, and believe them to be valuable in matching graduates' standards-based education to employment.

Extant research presents a mixed picture regarding whether skills standards are recognized by stakeholders as valuable. Numerous scholars postulate the value educators and employers should attribute to skills standards; however, little is known about whether these groups use them or attribute value to their use in a tangible way. Bailey and Merritt (1995) suggested that skills standards benefit employers by helping them identify qualified workers, reduce the costs of screening applicants, support new employee recruitment, and improve the public perception of their businesses. Similarly, Spill (2002) claimed that skills standards enhance employers'

communication of knowledge and skills requirements to new and incumbent employees, and reduce costs and risks associated with the hiring and promotion of employees. Employees and students benefit by being able to make informed investments in education and training, and they are better positioned to communicate knowledge and skills requirements to employers. Public agencies and community groups such as workforce training providers funded by the WIA benefit by becoming involved, enhancing workforce training programs, and enhancing workforce and economic development. Expressing a similar view as Bailey and Merritt (1995), Carnevale and Desrochers (2001) endorsed the use of standards, performance-based assessments, and industry-based certifications. They suggested that failing to adopt academic and occupational skills would leave students with inadequate competencies to perform in future education or jobs.

Bunn and Stewart (1998) expressed optimism for the use of skills standards by various stakeholder groups, suggesting businesses benefit by using skills standards to stimulate employees' career advancement opportunities. Educators benefit by using them to design training and facilitate linkages with complementary initiatives aimed at workforce skills enhancement. Moreover, educators who adapt course content to address academic and occupational skills standards benefit by preparing graduates for productive employment. Speculating on the potential impact of skills standards on CTE, Bunn and Stewart described six themes: (a) improved communication between education and business and industry, (b) improved relevancy of curriculum content, (c) improved teaching and learning processes, (d) enhanced connections between school and employment for graduates, (e) better prepared entry-level workers, and (f) improved accountability. Faulkner (2002) added that skills standards communicate the skill requirements of frontline workers in high performance environments without ambiguity, serving as a means of benchmarking the very best education and training.

Representing one of only a handful of studies of skills standards implementation, Aragon, Woo, and Marvel (2004) investigated awareness and implementation of industry-based skills standards using a nationally representative sample of community college deans. Data were collected across 10 CTE program areas, with findings showing that 75.7% of the deans integrated skills standards into their curriculum. The highest level of integration was in manufacturing, construction, automotive, and health; national industry-based standards were predominant over state level standards. Many community colleges tied certification to skills standards, particularly in health occupations, but a college degree or diploma remained the most common form of credentialing. However, the results of Aragon et al. contrasted with earlier studies by Haimson and Hulsey (1999), Hoachlander and Rahn (1994), and Dykman (1996) who examined employer perspectives toward skills standards. These studies concluded that skills standards faced considerable challenges in winning respect among employers. In particular, Haimson and Hulsey (1999) revealed that employers were neither familiar with the standards nor did they show strong support

for them. They concluded that most employers place little emphasis on skills standards with only the most highly committed adopting them. Questions with respect to the utility and impact of skills standards pertaining to employers remain unanswered, with little empirical investigation on skills standards implementation.

### **Purpose of the Study**

At a time when the U.S. is engaged in implementation of CTE in response to the federal Carl D. Perkins CTE legislation of 2006, this study provides insight into the experiences of one state that emphasized skills standards. The study sought to document the State of Illinois' skills standards initiative from the vantage point of three stakeholder groups identified by state level legislation. The research examined the awareness, use, and perceived impact of skills standards (state and national) by three stakeholder groups: educators, employers, and public-sector workforce training providers funded by WIA. The three research questions that guided the study included: (a) Are there differences in awareness of Illinois' skills standards and national skills standards by employers, educators, and workforce training providers? (b) Are there differences in use of Illinois' skills standards and national skills standards by employers, educators, and workforce training providers? and (c) Are there differences in perceptions of the impact of Illinois' skills standards and national skills standards by employers, educators, and workforce training providers? Knowing the perspectives of these three stakeholder groups may provide insights into skills standards and yield implications for future implementation of the federal Carl D. Perkins CTE legislation.

### **Methodology**

The data were derived from a research study solicited by the Governor's Office of the State of Illinois. A mixed method, concurrent qualitative-quantitative design (Creswell, 2005) was used with the predominant method being a structured e-mail and fax survey to assess awareness, use, and perceived impact of skills standards by selected stakeholder groups. The mixed method design allowed for the collection of quantitative data collected using open-ended telephone interviews and document review, including content analysis of websites and web-based materials. State agency officials were interviewed using a semi-structured protocol, and document reviews were conducted prior to, during, and after the survey was completed to deepen understanding of the results and propose implications for policy and practice. In addition to interviewing state level administrative personnel from the Illinois State Board of Education (ISBE), the Illinois Community College Board (ICCB), and the Department of Commerce and Economic Opportunity (DCEO), officials from six other states identified by state staff as peers of Illinois, were interviewed about skills standards implementation using a semi-structured protocol. Further, NSSB employees and other experts regarding skills standards (e.g., scholars,



policy analysts) were interviewed by telephone, comparing Illinois' approach to skills standards implementation and gathering input into the interpretation of survey results.

### **Sample**

A sample comprised of employers, educators, and local providers of workforce training was chosen. The sampling frame for the employer group was derived from the Governor's Office of the State of Illinois, including employers who had previous involvement in Illinois' skills standards initiative, supplemented with lists of employers identified as Fortune 500 firms or associated with CTE programs offered by Illinois community colleges. The research team worked directly with the ICCB and cooperatively with several Illinois industry groups to obtain a broad-based representation of employers. The respondents were employed in human resources units and perceived to have sufficient knowledge of employee skills to respond to questions regarding skills standards implementation. The educator group, divided evenly between secondary and postsecondary, included all individuals who attended one of three regional workshops pertaining to federal Carl D. Perkins CTE funding, and they were asked to respond to questions about skills standards implementation. The third group, workforce training providers, included the total group of professionals employed by the Illinois Department of Employment Security (IDES) Local Workforce Investment Areas as well as IDES Rapid Response Agencies. These administrators had responsibility for workforce training services and employment associated with WIA.

The total number of persons surveyed was 538; 156 persons responded yielding a response rate slightly under 30%. A response rate was calculated for each subgroup because the rate differed substantially by group. The educator group had a response rate of 58%, the workforce training provider group had a 39% response rate, and the employer group showed a response rate of 15%. Nonrespondents were selected randomly as recommended by Dillman (2007) to determine nonresponse bias. A total of 30 nonrespondents, 10 representing each group, was contacted via telephone and administered an abbreviated version of the survey. A comparison of responses revealed no significant differences between this group and relevant subgroups.

### **Instrumentation**

Alternative versions of the survey instrument were developed by the research team for data collection via e-mail and fax. Named the *Illinois Skill Standards Survey*, the instrument was reviewed for content validity by a panel of experts associated with the IOSSCC and business and industry, and state officials of the ISBE, ICCB, and IDES. Researchers with expertise pertaining to skills standards also

commented on the instrument. A relatively small number of individuals similar to members of the sample participated in a pilot test to estimate reliability.

The Illinois Skill Standards Survey was a comprehensive instrument that contained four sections. In section one on awareness and use, the respondents were requested to respond yes or no as to whether they were aware of national skills standards, whether their organization was using national skills standards, and whether they were aware of Illinois skills standards. National skills standards referred to industry-based skills standards that were facilitated or supported by the NSSB, recognizing that the NSSB did not have authority to mandate skills standards (NSSB, 2001). The respondents who were aware of national standards were asked whether they were using any of 42 skills standards developed or recognized by the state because of their identification with the NSSB. Section one also listed 25 items identified as tasks that use skills standards, and respondents were asked to indicate their level of use on a 5-point scale. Examples of the tasks are developing learning objectives, developing training programs, and communicating business expectations to students or employers. These items were drawn from literature that advanced a rationale for skills standards, particularly IOSSCC (2000) and Rahn et al. (1999). The rating scale was quantified such that 1 indicated *not used*, 2 indicated *seldom used* (associated with use of the task 25% or less of the time), 3 indicated *somewhat seldom used* (associated with 26-50% of the time), 4 indicated *somewhat often used* (51-75% of the time), and 5 indicated *often used* (76-100% of the time). The respondents could also respond *not applicable* (N/A). In addition, respondents selected from a list the ways they became familiar with skills standards and the organizations responsible for familiarizing them.

Section three contained statements of perceived impact of skills standards, divided into statements associated with business impact and academic (educational) impact. These items were consistent with the notion of signaling and credentialing (Spence, 2002), and more specifically reflected the perspectives of Bailey and Merritt (1995), Bunn and Stewart (1998), Spill (2002), and others with respect to potential benefits and impact. The respondents were instructed to rate these statements on a 5-point Likert scale ranging from 1 for strongly disagree to 5 for strongly agree, with a mid-point of undecided. To assess the internal consistency of the impact scales, Coefficient alpha (Cronbach, 1951) was used post hoc for both the business and academic impact statements; the business impact statements had an estimated internal consistency of .95 and the academic impact statements had an estimated internal consistency of .89. Section four addressed the respondents' backgrounds including job and position title, size and type of employing organization, and primary function of the employer. For business functions, the respondents were given a list of 21 business and industry cluster areas, such as construction, information technology, and manufacturing.

### **Data Collection and Analysis**

The data were collected using e-mail or fax depending upon respondent access to various Internet-based technology. Each time the respondents were contacted, the survey was sent as a file attached to an electronic or fax cover letter, providing the respondents two different forms of the survey. The decision to use e-mail and fax to conduct the survey was made because some schools and businesses were perceived to lack the technological capability to complete an online survey.

Chi-square was used to determine if the groups differed on the awareness and use items as reported by either dichotomous yes or no responses. The business and academic impact statements were analyzed by stakeholder group, using descriptive statistics and analysis of variance to determine differences between groups. Tukey's post hoc comparison tests were performed when *F* values were statistically significant. For ease of interpretation, the statements regarding use and impact were displayed according to their ranking from highest to lowest for the employer group, then educators, followed by workforce training providers. Qualitative data were analyzed for themes and patterns to better describe and interpret the quantitative survey results.

### **Findings**

#### **Awareness and Use of Skills Standards**

The findings show differences in awareness, use, and perceived impact of state and national skills standards, including numerous tasks illustrating differences in use of skills standards by the employer, educator, and workforce training provider groups. At least 75.0% of all three stakeholder groups were aware of Illinois skills standards, with 91.9% of educators, 85.7% of employers, and 75.0% of workforce training providers indicating awareness of the standards (see Table 2). However, differences were evident between stakeholder groups on awareness of national skills standards as indicated by a significant  $X^2$  of 14.19,  $p = .001$ . A much smaller percentage of employers (57.1%) indicated awareness of national standards as compared to educators (86.7%) and workforce training providers (78.6%).

The examination of awareness of skills standards by stakeholder group indicated that more employers were aware of state standards (85.7%) than national standards (57.1%); whereas, the percentage of educators and workforce training providers indicating awareness of state and national standards was similar (91.9% for state standards and 86.7% for national standards for educators, 75.0% for state standards and 78.6% for national standards for workforce training providers). The interviews revealed that employers attributed awareness of skills standards rather narrowly, to involvement with state agencies and local education partners. By contrast, educators and workforce training providers learned about skills standards through a multitude of mechanisms, including their relationships with local education partners and employers as well as through mailings and seminars sponsored by state

agencies. Having a greater number and more diverse informational mechanisms may have contributed to greater awareness of skills standards among educators and workforce training providers than employers.

Table 2  
*Awareness and Use of Skills Standards by Employers, Educators, and Workforce Training Providers*

	<i>f</i>	<i>P</i>	<i>X</i> <sup>2</sup>	<i>df</i>	<i>P</i>
Aware of Illinois' Skills Standards			5.11	2	.078 <sup>a</sup>
Employer ( <i>n</i> = 49)	42	85.7			
Educator ( <i>n</i> = 74)	68	91.9			
Workforce ( <i>n</i> = 28)	21	75.0			
Aware of National Skill Standards			14.19	2	.001
Employer ( <i>n</i> = 49)	28	57.1			
Educator ( <i>n</i> = 75)	65	86.7			
Workforce ( <i>n</i> = 28)	22	78.6			
Using Illinois' Skills Standards			16.87	2	<.001
Employer ( <i>n</i> = 40)	11	27.5			
Educator ( <i>n</i> = 66)	43	65.2			
Workforce ( <i>n</i> = 17)	5	29.4			
Using National Skill Standards			29.82	2	<.001
Employer ( <i>n</i> = 48)	6	12.5			
Educator ( <i>n</i> = 72)	41	56.9			
Workforce ( <i>n</i> = 25)	4	16.0			

Note. <sup>a</sup>Cell count less than 5.

A significant difference was found in the use of Illinois skills standards among the three stakeholder groups; a much higher percentage of educators (65.2%) reported using the state's skills standards than either the employer (27.5%) or workforce training provider (29.4%) groups. National standards were used much less than state standards by all three stakeholder groups; this finding was corroborated by interviews with state officials. Because of the level of emphasis and support given state standards through the work of the IOSSCC, state officials anticipated greater use of state rather than national standards, with the findings being consistent with this assumption.

When awareness of skills standards was compared to use by each stakeholder group, awareness of standards was much greater than use for both the state and national skills standards. For example, 86% of the employers reported awareness of Illinois skills standards but only 28% reported using them; 75% of the workforce

training providers were aware of state skills standards as compared to 29% who reported using them. In fact, the incidence of use of state skills standards by the employer and workforce training provider groups was strikingly similar, with both groups indicating use at slightly less than 30%. Only the educator group showed a high level of awareness and a relatively high level of use, 92% and 67%, respectively. However, even for educators, use of the state's skills standards was substantially less than awareness, with a similar pattern evident for national skills standards.

### **Tasks Utilizing Illinois Skills Standards**

Delving more deeply into the use of skills standards, the respondents were asked to rate the extent to which tasks associated with Illinois' skills standards were used (see Table 3). First, none of the mean responses of the three groups placed any tasks at the 4.0 or above level on a 5-point scale, indicating that on average, none of the tasks were associated with using Illinois' skills standards 51% or more of the time the tasks were performed. Recognizing their moderate and lesser use by all groups, educators reported use of several more tasks associated with the Illinois and national skills standards at the moderate level than the other two groups, as indicated by mean ratings between 3.0 and 4.0.

Only four tasks received a mean rating of 3.0 or above by all three stakeholder groups. All four of these tasks were associated with the education and training function, specifically developing learning objectives, designing work-based learning experiences, modifying instructional practices, and developing or revising curriculum. These findings suggested that all three stakeholder groups associated the Illinois skills standards with the education and training function consistent with a priority of the IOSSCC (2000). Tasks receiving lower mean ratings by all three stakeholder groups, only slightly above or falling below 2.0 for use less than 25% of the time were: promoting employees, recruiting employees, assessing or evaluating employees' work experience, and screening applicants for employment. Despite an endorsement by the IOSSCC for using skills standards to support human resource functions such as employee recruitment and evaluation, human resource tasks were not associated with skills standards according to any stakeholder group.

Sixteen tasks were rated at a moderate level of use (25% to 50% of the time) by educators compared to six tasks receiving the 3.0 level by employers and workforce training providers. Educators yielded mean ratings from 3.0 to 4.0 on tasks such as developing training programs, communicating business expectations to students and employees, assessing program outcomes, articulating with two-year schools, and providing certification of skills attainment. Two tasks rated at 3.0 or above by employers and educators were developing training programs and communicating business expectations to students or employees. It is noteworthy that educators also gave these items a rating of 3.0 or above; whereas, workforce training providers did not. Two tasks rated 3.0 or above by workforce training providers were

Table 3  
*Tasks Utilizing Illinois' Skills Standards by Employers, Educators, and Workforce Training Providers*

Tasks Utilizing Illinois Skills Standards	Employer (n = 12)		Educator (n = 45)		Workforce (n = 7)		F	p
	M	SD	M	SD	M	SD		
Developing training programs	3.33	1.61	3.56	1.21	2.50	1.52	1.62	.21
Developing learning objectives	3.25	1.58	3.95	0.94	3.67	1.51	1.46	.24
Communicating business expectations to students or employees	3.18	1.33	3.45	0.95	2.67	1.03	1.67	.20
Modifying instructional practices	3.17	1.47	3.60	1.05	3.20	1.64	0.59	.56
Developing or revising curriculum	3.14	1.35	3.98	0.93	3.33	1.63	2.52	.90
Designing work-based learning experiences	3.00	1.67	3.59	1.15	3.40	1.52	0.94	.40
Assessing individuals' outcomes	2.82	1.33	3.44	1.08	3.67	1.51	1.52	.23
Designing employee development	2.78	1.30	2.80	1.23	2.14	1.57	0.77	.47
Marketing educational program to business and industry	2.75	1.91	3.33	1.02	2.20	1.30	2.40	.10
Assessing program outcomes	2.67	1.66	3.28	1.18	2.43	1.27	1.92	.16
Collaborating with educational institutions	2.60	1.78	3.42	1.16	1.43	0.79	7.97	<.01
Attaining program or school accreditation	2.50	1.64	2.97	1.54	2.67	1.53	0.28	.76
Collaborating with business and industry	2.50	1.62	3.53	1.10	2.57	1.27	4.43	.02
Marketing educational program to students or employees	2.44	1.81	3.07	1.19	2.00	1.10	2.34	.11
Articulating with two-year schools	2.43	1.81	3.15	1.16	2.00	0.89	2.92	.06
Benchmarking to compare skill levels of potential and current employees	2.40	1.17	2.66	1.20	1.83	1.60	1.10	.34

Table 3 (continued)  
 Tasks Utilizing Illinois' Skills Standards by Employers, Educators, and Workforce Training Providers

Tasks Utilizing Illinois Skills Standards	Employer (n = 12)		Educator (n = 45)		Workforce (n = 7)		F	p
	M	SD	M	SD	M	SD		
Partnering with workforce development programs	2.38	1.60	3.28	1.22	2.29	1.50	2.83	.07
Assessing or evaluating employees work performance	2.30	1.34	2.69	1.44	1.80	1.30	0.97	.39
Promoting employees	2.20	1.14	2.19	1.11	1.50	0.58	0.73	.49
Providing certification of attainment of skills	2.00	1.05	3.07	1.18	3.00	1.63	3.17	.05
Articulating with four-year schools	2.00	1.41	2.69	1.35	1.33	0.82	3.08	.06
Screening applicants for employment	2.00	0.82	1.96	1.25	1.71	1.11	0.15	.86
Recruiting employees	2.00	1.00	1.88	1.07	1.50	0.84	0.46	.64
Assessing or evaluating employees work experience	2.00	1.05	2.63	1.50	1.83	1.17	1.31	.28
Articulating with secondary schools	1.80	1.79	3.63	1.05	2.00	1.00	9.31	<.01

assessing individuals' outcomes and providing certification of skills attainment. Here too, educators rated these tasks 3.0 or above, while employers did not.

Finally, the results of the analysis of variance indicated that the three stakeholder groups differed statistically on four tasks associated with using the Illinois skills standards (see Table 3). Two of these tasks were concerned with collaboration among groups. First, there was a significant difference with respect to collaborating with educational institutions ( $F = 7.97, p \leq .01$ ), with a Tukey post hoc comparison test revealing a significant difference between the mean response of educators ( $M = 3.42$ ) and the mean response of workforce training providers ( $M = 1.43$ ). These results suggested that educators associated using skills standards with the task of collaborating with other educational institutions more than workforce training providers. Collaborating with business and industry revealed a significant difference between groups ( $F = 4.43, p = .02$ ). However, the difference was between educators ( $M = 3.53$ ) and employers ( $M = 2.50$ ). These results suggested that educators were associating skills standards with collaborations with business and industry; employers were not associating skills standards and collaborations with educators.

Another task that revealed a statistical difference on mean ratings was providing certification of attainment of skills, reporting an  $F = 3.17, p = .05$ . In this case, the Tukey post hoc comparison test indicated a significant difference between the educator and employer groups ( $p = .04$ ), with educators providing an average rating of  $M = 3.07$  compared to employers' average rating of  $M = 2.00$ . This result parallels an earlier finding that suggested educators were associating use of skills standards with certification of skills more than employers. Finally, the task of articulating with secondary schools revealed a significant difference among the stakeholder groups ( $F = 9.31, p < .01$ ). The Tukey post hoc comparison test indicated that educators differed significantly from employers and workforce training providers. Educators yielded a mean rating of  $M = 3.63$ , employers  $M = 1.80$ , and workforce training providers  $M = 2.0$ .

### **Perceived Impact of Skills Standards**

The data pertaining to the perceived impact of Illinois' skills standards for employers, educators, and workforce training providers are presented in Table 4. A total of 11 statements were associated with academic impact and 10 with business impact. The results are listed in descending order according to the mean ratings of employers on the 5-point Likert scale for educators and workforce training providers. Overall, employers and educators rated more impact statements at a level of 3.0 or above than workforce training providers. A total of 20 items were rated by employers and 17 were rated by educators at 3.0 or above compared to the workforce training provider group that rated only 7 items at this level. All three groups rated the academic impact statements higher than the business impact statements.



Table 4  
*Perceived Impact of Illinois' Skills Standards by Employers, Educators, and Workforce Training Providers*

	Employer (n = 14)		Educator (n = 47)		Workforce (n = 9)		F	p
	M	SD	M	SD	M	SD		
Illinois' skills standards encourage alliances between education and business/industry. (A)	4.14	0.53	3.91	0.69	3.78	0.67	0.97	.39
Illinois' skills standards provide a basis for educational goals. (A)	4.07	0.73	3.83	0.77	3.33	1.12	2.28	.11
Individuals from programs with industry certification have higher level skills than those from programs without industry certification. (A)	3.93	0.73	3.76	0.82	3.56	0.73	0.61	.55
Illinois' skills standards encourage individuals to take more ownership of their skill development. (A)	3.93	0.62	3.57	0.81	2.78	1.09	5.56	.01
Illinois' skills standards enhance CTE programs. (A)	3.86	0.66	4.07	0.65	3.67	0.87	1.54	.22
Illinois' skills standards demand more accountability of occupational education programs than what is presently required. (A)	3.86	0.77	3.59	0.93	3.33	0.87	0.98	.38
Illinois' skills standards help identify competent individuals for employment in my organization. (B)	3.73	0.90	3.47	1.02	2.43	1.51	3.65	.03
Illinois' skills standards provide a benchmark for my organization to compare skill levels of employees. (B)	3.73	1.01	3.49	0.89	2.29	1.25	5.45	.01
Individuals who meet Illinois' skills standards have a smoother school-to-work transition than those who do not. (A)	3.64	0.84	3.83	0.76	3.11	1.05	2.97	.06
Illinois' skills standards have a positive effect on the productivity of my organization's workforce. (B)	3.58	0.79	3.38	0.82	2.57	1.51	2.86	.07
Programs that use Illinois' skills standards are more effective than programs that do not. (A)	3.57	0.76	3.57	0.83	2.89	1.05	2.58	.08

Table 4 (continued)  
 Perceived Impact of Illinois' Skills Standards by Employers, Educators, and Workforce Training Providers

	Employer (n = 14)		Educator (n = 47)		Workforce (n = 9)		F	p
	M	SD	M	SD	M	SD		
Impact of Illinois' Skills Standards								
Individuals who complete training/education using Illinois' skills standards meet my organization's requirements for entry level jobs. (B)	3.50	1.17	3.34	0.84	2.43	1.13	3.16	.06
From the experience in my organization, Illinois' skills standards encourage alliances between education and business/industry. (A)	3.50	1.09	3.57	0.90	2.43	1.27	3.97	.03
Illinois' skills standards will lower my organization's recruiting costs. (B)	3.33	0.49	2.82	0.87	1.86	1.07	7.00	<.01
Illinois' skills standards decrease my organization's time to screen prospective employees. (B)	3.25	0.97	2.21	0.84	1.86	1.07	7.39	<.01
In my organization it is common to hear that educational programs that use Illinois' skills standards have a better reputation than programs that do not. (A)	3.25	1.06	3.14	1.02	2.00	1.29	3.74	.03
Illinois' skills standards lower my organization's training costs. (B)	3.17	0.72	3.00	0.95	2.29	1.25	2.07	.14
Illinois' skills standards are used by business and industry to determine who should be promoted. (B)	3.07	1.07	2.98	0.95	2.56	1.13	0.82	.45
Illinois' skills standards provide a basis for career goals in my organization. (B)	3.00	1.28	3.56	0.94	2.00	1.00	7.12	<.01
In my organization, employees who meet Illinois' skills standards receive higher wages than those who do not. (B)	2.83	0.83	2.68	1.09	2.14	1.07	1.03	.36

Note. (A) indicates items that were identified with academic impact. (B) indicates items that were identified with business impact.

The results revealed statistical differences among the three groups for eight items, three items pertaining to academic impact and five items to business impact, based on Tukey's post hoc comparison. First, the results revealed a significant difference between employers and educators and workforce training providers on the academic impact item specifying that Illinois skills standards encourage individuals to assume more ownership for their skills development ( $F = 5.56, p = .01$ ). On the 5-point scale ranging from *strongly agree* to *strongly disagree*, educators and employers had item mean ratings of 3.93 and 3.57, respectively, compared to the mean rating of 2.78 by workforce training providers. The second academic item showing a difference between groups suggested that educational programs that used Illinois' skills standards had a better reputation than programs that did not. The mean ratings of employers and educators were significantly higher than the mean ratings for workforce training providers ( $M = 3.25$  for employers,  $M = 3.14$  for educators, and  $M = 2.00$  for workforce training providers;  $F = 3.74, p = .03$ ). However, it is noteworthy that all these ratings were lower than the other two academic items.

While examining group differences for the business impact statements, a similar pattern emerged for the three academic items in that employers and educators rated the business items similarly and higher than workforce training providers; however, some differences appeared by item. Specifically, employers differed from workforce training providers with respect to the mean rating that Illinois' skills standards helped to identify competent individuals for employment, with the mean rating for employers being 3.73 compared to 2.43 for workforce training providers ( $F = 3.65, p = .03$ ). Both the mean ratings of employers and educators differed from workforce training providers on the statement that Illinois' skills standards provide a benchmark to compare skill levels, with employers yielding a mean rating of 3.73, educators 3.49, and workforce training providers 2.29 ( $F = 5.45, p = .01$ ). On the item specifying Illinois' skills standards lower recruiting costs, the employers' mean rating was 3.33 and the educators' mean rating was 2.82, which did not differ significantly but did differ significantly from the mean rating of 1.86 for workforce development providers ( $F = 7.00, p \leq .01$ ). The item specifying Illinois' skills standards decrease my organization's time to screen prospective employees indicated a significant difference between employers and educators and between employers and workforce training providers; employers' mean rating was 3.25, educators' mean rating was 2.21, and workforce training providers' mean rating was 1.81 ( $F = 7.39, p \leq .01$ ). No significant difference was found between educators and workforce training providers on this item. Finally, a significant difference was found between educators and workforce training providers, but not between educators and employers on the statement that Illinois' skills standards provide a basis for career goals. The mean ratings for educators and workforce training providers were 3.56 and 2.00, respectively ( $F = 7.12, p \leq .01$ ).

## **Conclusions and Implications for Policy and Practice**

This study examined the differences in awareness, use, and perceptions of the impact of skills standards from the perspective of three stakeholder groups. The different experiences of stakeholders with skills standards were evident in the results, paralleling the literature as well as Illinois' statute that recognized the unique benefits for different stakeholder groups. Indeed, the disparity of responses reflected wide variability of use and perceived benefits, raising questions in regard to skills standards implementation in relation to the federal Carl D. Perkins Act of 2006.

The findings revealed that while awareness and use of skills standards varied by employer, educator, and workforce training provider, all three groups reported relatively high levels of awareness but lower levels of use. All groups indicated higher levels of awareness and use of state standards than national standards, suggesting the preference of the state (via Illinois administrators) to implement its own skills standards. While the merits of curriculum and credentialing in alignment with skills standards was recognized as important by all three groups, the higher ratings of academic impact over business impact implied that the groups perceived direct application of skills standards to education. All three stakeholders perceived that skills standards were most applicable prior to employment, possibly acting as an indicator of the skills possessed by future employees and their employability and work readiness. In this sense, human capital theory and signaling theory provided a useful means of interpreting different stakeholder findings, with employers perceiving themselves as a beneficiary of individuals trained by education and training providers.

Of the three stakeholder groups, educators were the most aware, the most likely to claim use, and the most likely to perceive impact. According to the state's legislation, educators are expected to use the skills standards to develop education and training programs aligned with the workplace, to advise students and parents about these programs, and to encourage relationships between schools and businesses. The results suggested that educators play additional roles in skills standards implementation, including making employers aware and informing them with respect to how skills standards may be useful to their businesses. Educators act as mediators between states and employers, helping business and industry understand the relevance of skills standards in the workplace. Without this role, employers play a relatively modest part in skills standards implementation. Employers are expected to use skills standards to enhance employee training, productivity, and retention; and create a larger impact on suppliers and the labor force (Bailey & Merritt, 1995; Spill, 2002). However, they reported limited use and impact on their own human resource policies and practices. These results were predicted by Dykman (1996) and others who were concerned that the vagueness of skills standards may lead employers to undervalue them. However, Dykman's study suggested a slightly different phenomenon was at work. That is, employers understand the value of skills standards but they associate the responsibility for implementing and using them with education

and training providers. Without a clear incentive to adopt skills standards, employers may not perceive the need to invest their own resources. Rather, they rely on education and training providers to inform them about skills standards. Further, they expect them to train their future employees according to recognized standards.

The findings suggested that education and training providers should assist employers to understand skills standards and their potential contributions. The findings revealed the importance of CTE educators communicating what skills standards are intended to do, how skills standards are developed and implemented relative to CTE curriculum, and how skills standards relate to employee (future and incumbent) competence and human resource development. Recognizing this special informational and training role for educators is an important contribution of this study.

It is assumed that the State of Illinois (as well as other states) intends to advance skills standards implementation in association with the federal Carl D. Perkins CTE Act. Accordingly, the findings of the study underscore the need to engage employers, educators, and workforce training providers fully and consistently in information sharing and supporting their roles in dissemination and utilization at the local level. Second, skills standards implementation has been associated with few rewards and incentives for employers and workforce training providers, and only modest rewards and incentives for public education. More consideration should be given to rewards and incentives to encourage local implementation and utilization. Additionally, increased attention should be focused on evaluating whether skills standards have a positive impact on Illinois' workforce. Understanding the actual impact of skills standards and proceeding beyond rhetorical claims, would help to lay the groundwork for documenting the benefits to various stakeholder groups and guiding future state policy. Third, states should increase their technical assistance delivery at the local level, including secondary schools, community colleges, and four-year colleges and universities, recognizing that partnerships between these educational entities are essential to skills standards implementation. Without comprehensive planning, implementation of skills standards under the federal Carl D. Perkins CTE Act of 2006 may not exceed implementation under previous legislation.

### **References**

- ACT. (2006). Ready for college and ready for work? Same or different. Iowa City, IA: Author. Retrieved December 30, 2007, from <http://www.act.org/path/policy/pdf/ReadinessBrief.pdf>
- Aragon, S. R., Woo, H.-J., & Marvel, M. R. (2004). *Analysis of the integration of skill standards into community college curriculum*. St Paul, MN: National Research Center for Career and Technical Education. Retrieved October 24, 2007 from <http://www.nccte.org>

- Bailey, T., & Merritt, D. (1995). *Making sense of industry-based skill standards*. Berkeley, CA: National Center for Research in Vocational Education, University of California at Berkeley.
- Bunn, P., & Stewart, D. (1998). Perceptions of technical committee members regarding the adoption of skill standards in vocational education programs. *Journal of Career and Technical Education, 14*, 7-17.
- Carl D. Perkins Career and Technical Education act of 2006. *The Library of Congress*.
- Carnevale, A. P., & Desrochers, D. M. (2001). *Help wanted... credentials required: Community colleges in the knowledge economy*. Washington, DC: Educational Testing Service and American Association of Community Colleges.
- Commission of the Skills of the American Workforce. (1990, June). *America's choice: High skills or low wages!* Rochester, NY: National Center on Education and the Economy.
- Creswell, J. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). New Jersey: Pearson Prentice Hall.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.
- Darling-Hammond, L. D. (2004, June). Standards, accountability, and school reform. *Teachers College Record, 106*, 1047-1085.
- Dillman, D. A. (2007). *Mail and Internet surveys: The tailored design method* (2nd ed.). New York: Wiley.
- Dykman, A. (1996). Setting the bar for what students must know. *Techniques: Making Education & Career Connections, 71*(8) 30-32, 68.
- Dykman, A. (1996). Setting the bar for what students must know. *Techniques: Making Education & Career Connections, 71*, 30-33.
- Faulkner, S. (2002). National skill standards can meet local needs [Electronic version]. *Learning Abstracts, 5*(3), 1-2.
- Ganzglass, E., Simon, M., Mazzeo, C., & Conklin, K. (2002). A governor's guide to creating a 21<sup>st</sup>-century workforce. Washington, DC: National Governor's Association. Retrieved January 3, 2008, from: <http://www.nga.org/Files/pdf/AM02WORKFORCE.pdf>
- Gray, K., & Herr, E. (1998). *Workforce education: The basics*. Boston: Allyn and Bacon.
- Haimson, J., & Hulsey, L. (1999). *Making joint commitments: Roles of schools, employers, and students in implementing national skill standards (MPR Reference No. 8466-400)*. Princeton, NJ: Mathematica Policy Research, Inc.

- Hoachlander, G., & Rahn, M. (1994). National skill standards: Everyone agrees on the destination. Getting there is another story. *Vocational Education Journal*, 69(1), 20-22, 47.
- Illinois Occupational Skill Standards and Credentialing Council (IOSSCC). (2000). *Progress report 2000 and beyond*. Springfield, IL: Author. Retrieved November 23, 2004, from: [http://www.ioes.org/cte\\_curr/oss/index.html](http://www.ioes.org/cte_curr/oss/index.html)
- Kincheloe, J. (1999). *How do we tell the workers? The socioeconomic foundations of work and vocational education*. Boulder, CO: Westview Press.
- National Skills Standards Act. Public Law 103-227, Title V, 1994.
- National Skill Standards Board. (2001). *Annual report*. Washington, DC: Author.
- Occupational Skill Standards Act. Public Act 87-1210, 1992.
- Rahn, M. L., O'Driscoll, P., & Hudecki, P. (1999). *Taking off! Sharing state-level accountability strategies*. Berkeley, CA: National Center for Research in Vocational Education.
- Secretary's Commission on Achieving Necessary Skills. (1991). *What work requires of schools: A SCANS report for America 2000*. Washington, DC: U. S. Department of Labor.
- Spence, M. (2002, June). Signaling in retrospect and the informational structure of markets. *The American Economic Review*, 92(3), 434-459.
- Spill, R. (2002). An introduction to the use of skill standards and certifications in WIA programs. Washington, DC: National Skill Standards Board.
- Tucker, M. (2007). Charting a new course. *Educational Leadership*, 64(7), 48-52.
- Whetzel, D. (1992). *The secretary of labor's commission on achieving necessary skills* (Report No EDO-TM-92-1). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED339749)
- Wills, J. L. (1993). *Overview of education and industry skill standards systems in the United States – Volume I*. Draft report for the Institute for Educational Leadership, U.S. Department of Education.
- Wills, J. L. (1995). *Voluntary skill standards and certification: A primer*. Washington, DC: Department of Education, Employment and Training Administration.
- Wills, J. L. (1997). Standards: Making them useful and workable for the education enterprise (NSSB Database No. 01000105). Washington, DC: Center for Workforce Development.

**The Authors**

**Debra D. Bragg** is a Professor within the Department of Educational Organization and Leadership at the University of Illinois at Urbana-Champaign. Contact by E-mail: dbragg@uiuc.edu or Phone: 217.244.8974

**Matthew R. Marvel** is an Assistant Professor within the Department of Management at Western Kentucky University. Contact by E-mail: matt.marvel@wku.edu or Phone: 270.745.4343