United States General Accounting Office

GAO

Testimony

Before the Committee on Labor and Human Resources
U. S. Senate

For Release on Delivery
Expected at
10:00 a.m., EDT
Friday, May 14, 1993

OCCUPATIONAL SKILL STANDARDS

Experience Shows Industry Involvement to be Key

Statement of Linda G. Morra, Director
Education and Employment Issues
Human Resources Division

GAO/T-HRD-93-23

SUMMARY OF TESTIMONY BY LINDA G. MORRA
OCCUPATIONAL SKILL STANDARDS:
EXPERIENCE SHOWS INDUSTRY INVOLVEMENT TO BE KEY

Organizations and industries sponsoring skill standards and certification systems believe that the time and resources devoted to developing and managing such systems represent wise investments in the future of their industry. However, sponsors have not systematically evaluated the impact of the systems on workers or employers. The most important element common to the systems we reviewed is industry ownership and control.

Our testimony is based on a forthcoming report on occupational skill standards and certification systems operating in the United States, prepared at the request of the Joint Economic Committee. We reviewed eight standards and certification systems for occupations that require less than a bachelor's degree for entry-level employment.

COMMON ELEMENTS OF CERTIFICATION SYSTEMS. Common elements among systems that we reviewed included industry ownership and control, recertification requirements to keep certificate holders' skills current, national portability of credentials, and integration of industry standards with education providers through some sort of accreditation program.

OBSTACLES TO DEVELOPING AND EXPANDING CERTIFICATION SYSTEMS. Sponsors identified several obstacles to the development and expanded use of skill standards and certification in the United States. The process of identifying occupational skill standards was not seen by certification sponsors as a major obstacle to establishing certification systems, but factors identified as obstacles were: high costs for development and maintenance, long time periods required for acceptance, difficulties in developing industry coalitions and getting them to agree on standards, the lack of a structure for promoting standards across industry, a lack of uniform definition of occupations across employers, and the problems in bringing all stakeholders together to develop these systems.

FEDERAL GOVERNMENT CAN ASSIST, BUT INDUSTRY MUST LEAD. The Departments of Labor and Education are supporting the skill standards and certification processes through grant funding and other research activities. Many of the activities identified in S. 846 for the National Skill Standards Board, which encourage the voluntary development and adoption of skill standards, are consistent with what we were told the federal government could do to foster the development, acceptance, and use of skill standards and certification systems. These include, maintaining a clearinghouse, and facilitating the formation of industry, labor, and education coalitions. However, with regard to any federal role, our discussions with certification sponsors made it clear that industry ownership and control was seen as essential to the development and acceptance of standards and certification systems.

Mr. Chairman and Members of the Committee:

We are pleased to be here today to discuss the results of our recent work where we reviewed the experiences of sponsors of voluntary skill standards and certification systems. We believe these experiences can provide some perspective as the Committee considers legislation (S.846, the "Goals 2000: Educate America Act") related to the development and adoption of a voluntary national system of skill standards and certification.

Our testimony is based on our forthcoming report, prepared at the request of the Joint Economic Committee, on occupational skill standards and certification systems operating in the United States.[1] We identified 20 established certification systems where industry had invested significant resources to provide national credentials to individuals based on industry standards. We selected eight systems for review from this larger group, which set standards for occupations that required less than a bachelor's degree for entry and that were projected to grow. Some of these systems have been successfully implemented, while others are struggling to get established in their industry.

In brief, we found that organizations and industries sponsoring skill standards and certification systems believe that the time and resources devoted to developing and managing such systems were well-spent and represent wise investments in the future of their industry. However, sponsors have not evaluated the impact of these systems on workers or employers. The most important element common to the standards and certification systems we reviewed is industry ownership and control. Contrary to common belief, the process of identifying occupational skill standards was not seen by certification sponsors as a major obstacle to establishing certification systems, but they did see other factors as obstacles, such as high costs and difficulties in developing industry coalitions and getting them to agree on standards.

BACKGROUND

Skill standards identify the knowledge and skills needed to perform satisfactorily in the workplace; certification indicates the attainment of these skills and knowledge by an individual, usually through competency-based assessment. Based on criteria developed with the help of experts, we selected 8 of the 20 standards and certification systems for further review. We chose occupations that represent a variety of areas: automobile mechanic; medical records technician; heating, ventilation, and air-conditioning service technician; operating engineer;

---

[1]Skill Standards: Experience in Certification Systems Shows Industry Involvement to be Key (GAO/HRD-93-90, expected May 1993).

medical or clinical laboratory technician; welder; printing technician; and craftworker (that is, stone mason and carpenter). Sponsors gave us available information on program participants, costs, and funding. We also interviewed Labor and Education officials, reviewed activities of the Secretary of Labor's National Advisory Commission on Work-Based Learning, and reviewed Labor and Education grants for activities related to the development of occupational skill standards and certification systems.

The federal government, through Labor's Office of Work-Based Learning and Education's Office of Vocational and Adult Education, supports the development of these systems through demonstration grants and other activities. The Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 call for the development of statewide systems of standards and measures of performance, including measures of job or work skill attainment. The act, as amended, also authorizes the Secretary of Education to establish a program of grants for industry, labor, and education groups to develop national standards for competencies in industries and trades. As a result, Education and Labor awarded 13 grants totaling $4.7 million to industry coalitions for the development of skill standards and certification systems. In addition, Labor's National Advisory Commission on Work-Based Learning is reviewing issues related to their development, including issues of access to programs related to the Americans With Disabilities Act.

Voluntary systems of industry-driven skill standards with assessment and certification are not common in the United States. However, the industries we reviewed have made an investment in skill standards and certification systems for their workers because they see this to be in their best interests for various reasons. Some of the sponsors perceived a shortage of skilled workers in their fields; others saw the mutual benefits to employers and workers of a higher skilled, credentialed work force; while still others responded to what they considered to be external threats.

BENEFITS CITED BY SPONSORS OF CERTIFICATION SYSTEMS

Sponsoring organizations provided anecdotal information about benefits that accrue to both workers and employers from certification systems. For example, they believe that certification has gained higher wages for certified workers. The International Association of Bridge, Structural, and Ornamental Ironworkers, which represents many ironworkers employed as welders, estimated that certified welders earn $10,000 to $12,000 more per year than noncertified welders.

Certification was reported as also benefiting employers by helping to identify qualified workers, saving money on applicant screening. For example, on-site certification of welders requires testing workers (at an estimated cost of $200 to

$700 per worker) before they can be hired. An official of the Ironworkers union believes that the hiring of workers with standardized and portable certification could reduce, and even eliminate, this expense. In addition, we were told that certification systems can aid employers in recruiting, help them assess the quality of training programs, and improve the public perception of a firm. However, most system representatives we contacted could not provide evidence that their systems facilitated the hiring and promotion of certified workers, led to wage premiums or additional training opportunities, or increased worker mobility. They also had no data to demonstrate the benefit that employers gained by more easily identifying qualified workers.

COMMON ELEMENTS OF CERTIFICATION SYSTEMS

Common elements among systems that we reviewed included industry ownership and control, recertification requirements to keep certificate holders' skills current, national portability of credentials, and integration of industry standards with education providers through some sort of accreditation program. While we expected to find that performance-based assessments were among elements common to these systems, this was not the case.

Industry ownership and control was the most important element of the voluntary skill certification systems we reviewed. We saw that it resulted in substantial and ongoing investments of industry resources and an interest in assuring that the systems were updated. Industry representatives, together with educators and workers, were primarily responsible for setting standards and developing test content. Sponsors from each of the eight systems maintained that their industries' continued commitment of resources and time ensures that the standards and assessment mechanisms keep current with technological changes.

A requirement for recertification, which encourages workers to keep up with technological change, was also a common element of certification systems. Certificate programs were either of fixed duration (for example, 5 years) and required passing another assessment to be recertified or permanent with periodic continuing education required (every 2 to 4 years, depending on the system). For example, the National Institute for Automotive Service Excellence (ASE) provides certificates valid for 5 years for those who pass an examination. After 5 years, workers must pass another exam to be recertified.

Another important element was that individuals' credentials be portable from employer to employer and across states. Workers would then be encouraged to seek certification. All eight systems we reviewed established credentials that are valid nationwide. For example, certified welders can move from state to state as jobs appear and have their certification honored. Without certification, welders

seeking work in another state must forgo wages while waiting to be certified to work on a project.

A final common element was that occupational training providers were linked to the certification system. Most certification systems we reviewed were associated with a unit that develops curricula for training providers or accredits training programs directly. This linkage aids providers in developing updated curricula and training programs and ensures that educational programs are responsive to employers' needs. For example, the Committee on Allied Health Education and Accreditation of the American Medical Association accredits schools for training in medical records technology. Community colleges, hospitals, and other training providers base their programs on the requirements needed for certification by this group. By using the industry standards, the training programs are kept up-to-date and provide training valued by employers in the medical community.

A common element we did not find was performance-based testing to assess competency. Only two of the eight certification systems used such testing; the rest used written exams. Although sponsors believed that their certification programs accurately assessed individual skills and competencies, the assessment measures used are still a significant issue. Some educators and academics maintain that performance-based testing is the best method to measure skill competency. Sponsors said that logistical difficulties, high costs, potential problems with unfamiliar equipment, and inconsistent ratings by performance assessors were reasons for relying on written rather than performance tests for assessment.

OBSTACLES TO DEVELOPING AND EXPANDING CERTIFICATION SYSTEMS

While we observed common characteristics among these systems, we also noted that implementing certification systems was difficult. Certification sponsors faced obstacles in establishing and implementing these systems. Program sponsors identified six specific obstacles: high costs to develop and maintain systems, the long time required for system acceptance, difficulties in developing industry coalitions and reaching agreement on standards, the lack of a structure for promoting standards across the industry, a lack of uniform occupational definitions across employers, and the problems in bringing all stakeholders together to develop these systems. Contrary to common belief, the process of identifying occupational skill standards was <u>not</u> seen by certification sponsors as a major obstacle to establishing certification systems.

High Cost of Developing and Maintaining Certification Systems

Associations and industry groups reported large expenditures over several years to develop such systems. We could not determine, however, exactly how much was spent because many expenditures were in-kind contributions of staff time and

materials over several years and could not be separately quantified. Association and industry groups also noted substantial costs to maintain these systems. For example, they pointed to the costs associated with designing and administering exams at numerous sites and continually updating standards. Three of the eight systems we examined (ASE, Medical Laboratory Technicians, and Medical Records Technicians) were financially self-sustaining through exam and other fees. We were told that other systems lose money but are continued because of the industries' commitment and belief in their potential value.

Long Time Required for System Establishment and Acceptance

The development time for the eight systems we examined ranged from 2 to 7 years. During these periods, program sponsors invest substantial staff time in support of programs, but do not have assurance that the system will sustain itself financially. In addition to the development time, it takes years to gain national credibility and acceptance across the spectrum of employers, workers, and educators.

Difficulty in Developing Industry Coalitions to Develop Systems

Associations and industry groups indicated that employers may share common skill needs, but they often have difficulty organizing to jointly identify and document those needs, overcoming competitive differences, allaying fears of "pirating",[2] and sharing the costs of curriculum development and assessment. Even where coalitions are easier to form, such as in tightly linked industries or segments of an industry, problems may arise in implementing a nationwide program. For example, labor and employer representatives operate local apprenticeship programs for the operating engineers (operators of construction equipment, such as bulldozers, cranes, and roadgraders). The local programs and the International Union of Operating Engineers developed performance-based standards because their individual apprenticeship training programs lacked uniform training methods and materials. Even though these apprenticeship programs are linked together, they ultimately operate independently and the use of the standards is not mandatory. Only about one-third of the training sites use performance-based standards and training materials.

Lack of Structure to Disseminate Information and Promote Certification

For most of the eight industries, we observed that no central body or administrative structure exists to lend credibility to standards and certification developed by industry representatives and to help market them throughout the

[2]"Pirating" occurs when employers not contributing to the costs of maintaining a certification system "steal" certified, trained workers.

industry. Without assistance in advertising, promotion, and organizing industry and labor to support these efforts, new programs find it difficult to convince nonparticipating employers and workers of the system's benefits. In many cases, no single organization or group represents all workers in an occupation spread across various U.S. industries. For example, the American Welding Society (AWS) has 41,000 members, which include welders and other industry members, but the Department of Labor has identified 318,000 welders and cutters nationwide.

Occupations Not Defined Uniformly Across Employers

We found that standards can be specific or general, depending on whether an occupation is defined narrowly or broadly. Experts and industry representatives disagree on the breadth of standards and how occupations and, thus, standards, should be defined. Employers fear that workers receiving broad training will move to competitors; workers fear that specific training will decrease their job mobility. AWS, recognizing the differences among welders by industry, developed general standards but made supplements available for specific industries, such as boilermakers, plastics, and the military.

Inability to Bring All Stakeholders Together in Developing a System

None of the systems we reviewed had developed and maintained a true collaboration of stakeholders: employers, educators, and workers. Although collaboration with workers is said to be key to many of the systems operating in competitor nations, the systems we reviewed--with the exception of the operating engineers--did not seek the involvement of workers or their representatives in the development or maintenance of their certification programs. However, many experts believe that this collaboration is crucial to their success.

SPONSORS SAY FEDERAL GOVERNMENT CAN ASSIST, BUT INDUSTRY MUST LEAD CERTIFICATION EFFORTS

Certification sponsors said that federal support and collaboration could help foster the broad-based development of skill standards and certification systems. However, no consensus was evident on how such federal support should be provided. In addition, they indicated that federal efforts will not be effective without industry ownership and control of standards and certification systems, industry commitment to training, and incentives to workers who attain higher skills. Representatives of the various industries and certification groups suggested several potential federal roles for encouraging the development of standards and certification that include the following.

The federal government could potentially lower total costs of developing such systems and reduce the long time required for system acceptance by providing information services for skill standards and certification, such as

-- maintaining a clearinghouse on existing standards and certification systems,
-- developing and funding promotional materials and funding promotional activities, and
-- providing technical assistance to industry to develop standards.

The sponsors also said that the federal government could potentially help overcome difficulties in developing industry coalitions and a lack of a structure for promoting standards across industry by

-- facilitating the formation of industry, labor, and education coalitions, and
-- mediating disagreements over the composition of industry groups.

In addition, we were told that the federal government might assist in providing a uniform definition of occupations and reduce barriers to bringing all stakeholders together to develop such systems by

-- assisting to develop agreed-upon definitions of industry,
-- integrating standards with federal and state requirements (for example, state highway departments, and military), and
-- providing a mechanism to link standards systems with vocational education through education and training funding.

Finally, the sponsors thought that the federal government could potentially play an oversight role by

-- evaluating the impact of certification on employers and workers in the marketplace,
-- recognizing industry coalitions and resulting standards,
-- ensuring that tests are free from bias and discrimination, and
-- ensuring equal access to certification.

In conclusion, many of the duties and activities identified in S. 846 for the National Skill Standards Board, which encourage, promote, and assist in the voluntary development and adoption of skill standards, are consistent with the activities we were told the federal government could appropriately assume to foster the development, acceptance, and use of skill standards and certification systems. These include, maintaining a clearinghouse, and facilitating the formation of industry, labor, and education coalitions. However, with regard to any federal role, our discussions with certification sponsors made it clear that industry ownership and control was seen as essential to the development and acceptance of standards and certification systems.

- - - - -

Mr. Chairman, this concludes my testimony. I will be happy to answer any questions that you or members of the Committee might have.

(205251)

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1000
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (301) 258-4066.

PRINTED ON RECYCLED PAPER

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100