

Annual Report

September 1999 – August 2000

Texas Skill Standards Board

AS REQUIRED BY HOUSE BILL 3431, 76TH LEGISLATURE

A Message from the Chair:

I am pleased to present the FY2000 Annual Report of the Texas Skill Standards Board (TSSB). In the past year, the TSSB has made great progress in developing a statewide system of industry-defined and industry-recognized skill standards, as charged by the 76th Texas Legislature. Much has been accomplished toward reaching this goal. Among the highlights are:

- Endorsement of Guidelines for the Certification and Credentialing of Skill Attainment to assist education and training providers in the usage of skill standards.
- Completion of design and development of the TSSB Web site.
- On-line operation of the Texas Skill Standards Repository for storage and public access of TSSB-recognized skill standards.
- Establishment of partnerships with industry groups for the development of skill standards.

In addition, the TSSB has continued its productive relationships with other key stakeholder groups. Processes to facilitate the voluntary usage of skill standards in Texas' technical and community college system were developed with Perkins funding from the Texas Higher Education Coordinating Board and will be piloted in FY01. The TSSB joined with other states to coordinate state skill standards systems toward the goal of achieving portability of credentials across state boundaries.

The TSSB's ultimate goal in designing the skill standards system is to contribute to a strong, qualified workforce, which will lead to increased economic competitiveness for the state of Texas. We hope you will find this report a source of useful information in understanding the system and the progress that has been made thus far.

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Texas Skill Standards Board

Legislative Background, Role, and Major Accomplishments

Legislative Background

The Texas Legislature established the Texas Skill Standards Board (TSSB) as part of the workforce development system. It is an advisory body to the Governor and Legislature on the development of a statewide system of industry-defined and industry-recognized skill standards for all major skilled, sub-baccalaureate occupations that provide strong employment and earnings opportunities. The TSSB was charged with four specific mandates.

“To achieve its statutory charge, the TSSB plays a leadership and system-building role.”

In 1999, the 76th Legislature amended the TSSB mandates with the passage of House Bill 3431. This bill gave the TSSB explicit authority to recognize skill standards defined by industry. The TSSB's mandates are:

1. validate and recognize nationally-established skill standards to guide curriculum development, training, assessment, and certification of workforce skills;
2. convene industry groups to develop skill standards and certification procedures for industries and occupations in which standards have not been established or adopted and recognize the skill standards and certification procedures;
3. review standards developed by other states and nations and enter into agreements for mutual recognition of standards and credentials to enhance portability of skills; and
4. promote the use of standards and credentials among employers.

TSSB Role: Leadership and System Building

To achieve its statutory charge, the TSSB plays a leadership and system-building role. Within that role are several functions.

Catalyst for Industry

“...skill standards become the tool for communicating industry skill requirements to education and training providers.”

The TSSB does not develop skill standards. The authorizing legislation explicitly states that the skill standards shall be defined and recognized by industry. The TSSB serves as a catalyst to convene industry groups for the purposes of voluntarily developing skill standards and certification procedures for industries and occupations in which none exist. As part of this role, the TSSB provides assistance and clarification to industry groups on technical requirements for the skill standards development process needed for TSSB recognition.

Quality Assurance Agent

The TSSB plays a quality assurance role, establishing the criteria to inform industry groups that are developing skill standards of the content and procedural validity requirements for TSSB recognition. The TSSB then evaluates the end product, the skill standards, against the criteria and grants statewide recognition of those standards. In other words, the TSSB determines the standards for the standards, whether they are newly-developed skill standards, already-established national standards, or standards imported from other states and nations. In the latter case, the TSSB review and recognition of standards enables portability of credentials through reciprocity agreements, thereby building a national and even international system of skill standards.

Facilitation of Usage

An essential aspect of the TSSB's system-building role is to facilitate dissemination and usage of the state-recognized skill standards throughout the workforce development system. Without usage, development of skill standards would be a futile exercise. As stated in statute, the Legislature intended the skill standards to "guide curriculum development, training, assessment, and certification of workforce skills." Used in this way, the skill standards become the tool for communicating industry skill requirements to education and training providers. Thus, the TSSB's role includes a liaison function with the Texas system of community and technical colleges and workforce education and training providers.

At the same time, it is essential that employers hire graduates of programs that utilize skill standards as the basis for their curricula. In this way, employers can drive the use of skill standards through the labor market. Thus, the Legislature in its wisdom also mandated the TSSB, as part of its system-building role, to "promote the use of standards and credentials among employers."

“Employers...drive the use of skill standards through the labor market.”

System Vision: Texas Skill Standards Infrastructure

The Texas Skill Standards Board's (TSSB) vision of the Texas skill standards system is defined conceptually under the umbrella of the Texas Skill Standards Infrastructure (TSSI). The TSSI is the system to support and promote the creation and use of industry-defined and industry-recognized skill standards. The aim of the infrastructure is to assist the growth of the Texas economy through the recognition of skill standards and skill attainment to support workforce development efforts.

As illustrated in Figure 1, the TSSI is composed of two key functional areas, each supported by policy and procedural frameworks called guidelines. On the left, *Guidelines for the Development, Recognition and Usage of Skill Standards* define the processes and requirements to be undertaken by industry groups that seek recognition by the TSSB for skill standards. On the right, *Guidelines for Certification and Credentialing of Skill Attainment* define the policies and processes for education and training providers to assess and document the skill attainment of individuals to the standards specified by industry. In the middle, the stakeholders (employers and industry groups, public/private partnerships, education and training providers, and state agencies) implement and use skill standards within their workforce development realms. The two sets of guidelines support the collaboration of these implementation agents and partnerships by ensuring common understanding.

The purpose of this system is to provide a foundation to accelerate the capacity of business and

industry in Texas to build high performance workplaces. Skill standards are key building blocks of high performance workplaces, which focus on building of individuals' competencies through private and public workforce development efforts and the leveraging of those competencies to build organization strength. These workplaces will increase businesses' and industries' competitive capabilities and strategic market placement to ensure that Texas will be globally competitive in the future.

Figure 1

Major Accomplishments

The Texas Skill Standards Board continued to implement and refine the Texas skill standards system. The TSSB has concentrated its initial efforts on system building to provide employers with an avenue for the usage of skill standards in education and training programs. Without such an implementation framework, the development of skill standards would be a futile exercise. As a result of the system-building initiatives undertaken by the TSSB in the past two years, the Texas skill standards system has one of the most developed infrastructures in the nation. The TSSB is now poised to begin a more active promotion of the development of skill standards among Texas industry. System development accomplished in FY00 includes the following:

Guidelines for Certification

“TSSB endorsed the *Guidelines for the Certification and Credentialling of Skill Attainment.*”

The TSSB endorsed the *Guidelines for the Certification and Credentialling of Skill Attainment*, the policy and procedural framework to support the usage of skill standards in education and training programs. The document provides policies and guidance to assist education and training providers in utilizing skill standards for curriculum development, assessment and documentation of their program completers' workforce skills.

Revised Guidelines for Development

In its commitment to continually evaluate and improve the Texas skill standards system, the TSSB revised the *Guidelines for the Development, Recognition and Usage of Skill Standards*. The revisions were a response to the need for maintaining skill standards currency in rapidly-changing industries. To its review and updating processes and procedures, the TSSB added the option of Amendments. This option allows skill standards to be amended at any time when the conditions (tools, resources and equipment necessary to carry out the key activities and their related performance criteria) change but the actual work performed (critical work functions, key activities and performance criteria) does not. Amendments provide employers with the flexibility to maintain skill standards currency in response to rapid technological and other changes in workplace equipment and tools without conducting a costly and time-consuming review and validation process.

TSSB Web Site and Texas Skill Standards Repository Operational

The TSSB completed design and development of its Web site at www.tssb.org. It is now operational. The TSSB Web site displays detailed information on the Texas Skill Standards Board; skill standards news; current skill standards development initiatives; links to other skill standards-related sites; a calendar of events; and the Texas Skill Standards Repository.

“TSSB completed design and development of its web site at www.tssb.org”

TSSB-recognized skill standards are stored in the Texas Skill Standards Repository, where they are also maintained and updated. The repository provides public access to all stakeholders. It provides the existing and impending workforce--incumbent workers, the unemployed, and students--with the skills, knowledge and performance standards needed to succeed in a variety of occupations. Education and training providers may use the skill standards to develop curricula and training programs. Employers can incorporate skill standards into their own in-house training programs.

Outreach and Awareness to Community and Technical Colleges

The TSSB received a federal Perkins state leadership grant from the Texas Higher Education Coordinating Board (THECB). The purpose of the grant was to develop and conduct an outreach and awareness campaign to community and technical colleges regarding skill standards and their usage in technical education program curricula.

As part of the grant, the TSSB conducted outreach and awareness presentations to the following audiences:

WECM Course Review Workshops; Texas Association of College Technical Educators (TACTE) Conference; WECM Campus Leaders Workshop (sponsored by THECB); Texas Association of Continuing Educators (TACE) Conference; THECB Staff In-Service Workshop; STARLINK Telecast: "Texas Skill Standards: Linking Colleges with Business and Industry"; Perkins State Leadership Consortia for Curriculum and Professional Development; Austin Community College District; and North Harris Montgomery Community College District.

Facilitation of Skill Standards Usage in Workforce Education

Under its FY00 Perkins grant from the THECB, the TSSB also developed an implementation process for facilitating the voluntary incorporation of TSSB-recognized skill standards into workforce education courses and programs through the WECM (Workforce Education Course Manual) maintenance process. The WECM, the state inventory of workforce education courses for public two-year colleges, is a tool that allows Texas colleges increased flexibility in responding to business and industry needs. It is designed to contribute to the quality and consistency of learning outcomes in workforce courses across the state.

The project outcomes are crucial links in the systemic usage of skill standards among education and training providers of the technical and community college system. The outcomes included:

- development of processes for triggering the review of programs and courses;
- development of processes and instructions for using skill standards to construct or review WECM programs and courses; and

“The CBC Taskforce, composed of community and technical college workforce education administrators statewide,

advised on the design of the system.”

- recommendations regarding the piloting of the deliverables.

To provide technical assistance with this grant, the TSSB convened a Competency-Based Curriculum (CBC) Taskforce. The CBC Taskforce, composed of community and technical college workforce education administrators statewide, advised on the design of the system. Working with the CBC Taskforce, the TSSB achieved the project objectives. The proposed voluntary process for triggering and reviewing WECM courses and programs utilizing Texas skill standards is illustrated in Figure 2.

Processes and instructions to accompany each step of this process were developed. In its final report to the THECB, the TSSB recommended that the processes and instruction be piloted in FY01 with two sets of TSSB-recognized skill standards: Machining and Heating, Ventilation and Air Conditioning.

Figure 2

Recognized Skill Standards

In FY99, the TSSB granted conditional recognition to skill standards that were developed under interim guidelines, prior to adoption of the *Guidelines for Development, Recognition and Usage of Skill Standards (Guidelines for Development)*. In FY00, the TSSB adopted a grandfather policy to provisionally recognize skill standards that were developed and met all criteria under the interim guidelines, contingent upon their subsequent conversion to the elements and format specified in the TSSB’s *Guidelines for Development*.

Through federal Perkins funding from the THECB, the TSSB continued its successful partnership with Texas State Technical College (TSTC) at Marshall. TSTC Marshall validated with Texas industry and translated according to the TSSB *Guidelines for Development* several provisionally-recognized skill standards. The skill standards were then recognized by the TSSB and deposited in the Texas Skill Standards Repository. The following skill standards are available in the public domain for viewing by any interested party:

“The skill standards are available in the public domain for viewing by any interested party.”

Recognized Skill Standards

- Heating, Ventilation and Air Conditioning Technician
- Telecommunications Maintenance Technician
- Heavy Equipment Maintenance Technician
- Computer Network Technician
- Machinist I
- Machinist II
- Hazardous Materials Management Technician

Conditionally-Recognized Skill Standards

Corrections Officer

Progress on System Implementation

In its leadership and system-building roles, the TSSB continues to implement the Texas skill standards system through a number of key initiatives, projects and partnerships. Progress made on these system initiatives is described below.

TSSB Skill Builder Data Base

“TSSB continued to establish partnerships that leverage existing public- and private-sector funding sources.”

The TSSB, in partnership with Austin Community College (ACC) under federal Perkins leadership funding from the Texas Higher Education Coordinating Board, designed a relational database for entering and organizing job analysis information under the seven skill standards elements and format specified in the *Guidelines for Development, Recognition and Usage of Skill Standards*. In addition, the TSSB-ACC partnership began alpha testing of the database. The TSSB completed beta testing of the database. The Texas skill standards recognized by the TSSB were successfully entered into the database and submitted in the proper format and elements.

Skill Standards Development/Partnerships in Process

To meet its mandate to convene industry groups for skill standards development, the TSSB continued to establish partnerships that leverage existing public- and private-sector funding sources. The TSSB continued its liaison with the Gulf Coast Process Technology Alliance (GCPTA), composed primarily of major petrochemical companies in southeast Texas and the surrounding region. The TSSB entered into partnership with the GCPTA in FY99 to develop skill standards for the occupational area of process technology. A sub-committee of the Alliance met to begin the process of establishing an advisory group to provide expertise and oversight to the process. In FY00, the TSSB continued its pursuit of strategies to develop process technology skill standards. The TSSB entered into partnership with the Capital Area Tech-Prep Consortium.

“The Computer Science 2000/ARIES Alliance project will conduct a statewide validation of six IT skill standards with Texas industry and submit them for TSSB

The Capital Area Tech-Prep Consortium is conducting the Computer Science 2000 Project through the Austin Regional Industry/Education Systems (ARIES) Alliance. The broad mission of the Computer Science 2000/ARIES Alliance Project is to create a regional, competency-based education system to solve the high-technology workforce shortage in the ten-county greater Austin area. As part of that mission, the ARIES Alliance will be developing curriculum for Information Technology (IT) occupations using national industry-recognized skill standards developed by the Northwest Center for Emerging Technologies (NWCET) at Bellevue Community College in Washington State. The skill standards were validated nationally by industry, funded in part by a grant from the

recognition.”

National Science Foundation. The Computer 2000/ARIES Alliance project will conduct a statewide validation of six IT skill standards with Texas industry and submit them for TSSB recognition.

The THECB funded the Texas A&M University System to validate with Texas industry skill standards for the occupations of Webmaster and Database Administrator and translate them into the TSSB format and elements. The skill standards were required to be developed and submitted for TSSB recognition according to the *Guidelines for Development*. The skill standards are scheduled to be submitted to the TSSB for recognition consideration in FY01.

A successful partnership between the National Institute of Metalworking Skills (NIMS), the North Texas Chapter of the National Tooling and Machining Association (NTMA), TSTC Marshall and the TSSB produced the validation and TSSB recognition of Machining I and Machining II skill standards. The TSSB held preliminary discussions with

NIMS about utilizing private sector funds to validate with Texas industry for TSSB recognition additional national metalworking skill standards endorsed by NIMS. The TSSB will pursue this possibility in FY01.

States and National Skill Standards Alignment

The TSSB pursued several initiatives toward fulfilling its mandate to enter into agreements with other states' and nations for review and mutual recognition of skill standards and credentials. At the national level, the TSSB served as a member of the industry-driven voluntary partnerships funded by the National Skill Standards Board (NSSB) to develop skill standards and certification systems. The TSSB participated in meetings throughout the year of the Manufacturing Skill Standards Council (MSSC) and the Sales and Service Voluntary Partnership. The TSSB worked to achieve alignment and coordination between the national core and concentration standards and the specialty skill standards being developed and validated in Texas and other states. The MSSC has completed the core and concentration standards for the manufacturing sector. In FY01, eight to 10 states will be chosen to pilot the standards and accompanying certification systems. The TSSB will pursue, with Texas industry and education partnerships, the establishment of Texas as a pilot site.

“The TSSB gained approval to field-test the NSSB’s Academic and Employability Knowledge and Skills (AEKS) instrument and rating scales in the development of skill standards in Texas.”

The TSSB gained approval to field-test the NSSB’s Academic and Employability Knowledge and Skills (AEKS) instrument and rating scales in the validation and translation of skill standards in Texas. Toward this end, the TSSB met with four Texas skill standards partners and developed preliminary process guidelines for administering the AEKS inventory with industry. The guidelines included identification of process stages and steps and the delineation of participants and roles in the collection of AEKS data. These guidelines were piloted in the development of the Webmaster and Database Administrator skill standards mentioned above which are expected to be submitted for TSSB recognition in FY01.

“TSSB became a member of the Skill Standards States Working Group (SSSWG)... to

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coordinate the state skill standards systems to achieve the goal of portability of credentials between states.”

(SSSWG), supported and funded by the NSSB, to define and establish consistency of standards development processes across states and to share implementation successes. The SSSWG provides state input to the NSSB regarding the national skill standards framework and system implementation, and issues regarding standards and certification alignment between states. In addition, the member states work to coordinate the state skill standards systems to achieve the goal of portability of credentials between states.

The TSSB continued to pursue the development, with other states, of software to translate skill standards between states. This technology tool would enable Texas to quickly and efficiently import other states' skill standards for TSSB recognition, thereby greatly increasing the numbers of recognized skill standards. The TSSB solicited the NSSB and other states to collaborate and mutually fund this tool. Several states and the NSSB indicated interest in participating in the project.

Major Challenges Ahead

In FY00, the TSSB accomplished or made significant progress, as detailed in this document, on the challenges set forth in its 1998-99 Annual Report, including:

- endorsement of *Guidelines for Certification and Credentialing of Skill Attainment*;
- convening of partnerships to validate and recognize industry-driven skill standards;
- development of processes and procedures to facilitate skill standards usage in workforce education;
- conducting skill standards outreach and awareness to Texas' technical and community colleges; and
- completion of the TSSB Web Site and establishment of the Texas Skill Standards Repository.

“TSSB will pilot... processes and procedures... to facilitate skill standards usage in workforce education.”

Major challenges still to address in FY01 and beyond include the following:

Piloting of Procedures & Tools to Facilitate Skill Standards Usage in Workforce Education

The TSSB applied for and received continuation funding of its Perkins project begun in FY00. In FY01, the TSSB will pilot, with the advice and assistance of the CBC Taskforce, the processes and procedures developed in FY00 to facilitate skill standards usage in workforce education. The processes will be piloted in Fall 2000 with the Machining skill standards and in Spring 2000 with the Heating, Ventilation and Air Conditioning standards. Through the project, the TSSB will

also develop technology and other tools to assist colleges who choose to incorporate skill standards content in their programs. Those tools include: 1) Web Site linkages from the WECM courses to the Texas Skill Standards Repository. 2) A course syllabus template to link the WECM courses with more detailed, skill standards-based lesson plans. 3) Research into a possible matrix linking educational course descriptors and numbers to skill standards identifiers.

Refinement of AEKS Process

The TSSB developed preliminary process guidelines for piloting the usage of the NSSB's Academic and Employability Knowledge and Skills (AEK) rating scales in the development of skill standards by industry. Those guidelines, which were piloted with the Webmaster and Database Administrator skill standards in FY00, consist of process steps and the delineation of participants and roles in the collection of AEKS data. The results of the pilot, available in FY01, will be used to refine the process and guidelines and tested further with skill standards such as the Information Technology standards facilitated by the ARIES Alliance of the Capital Area Tech-Prep Consortium.

Texas Skill Builder Data Base

The TSSB finished testing the Skill Builder Database and made it available in electronic format. The Database enables industry groups to enter skill standards data into the Texas elements and format. The next step will be to develop, test and install the database at the TSSB Web Site so that industry groups can enter and organize the skill standards data on-line. A web-based application for recognition will also need to be developed.

Awareness and Outreach to Industry Groups

TSSB partnerships with several industry groups have resulted in full recognition of skill standards in seven occupational clusters with several more expected to be submitted in FY01. The next step will be to develop a more comprehensive plan to accelerate the TSSB's outreach to, and convening of, industry groups for skill standards development and usage. As part of this goal, the TSSB will pursue the hiring of a technical specialist to assist industry groups with translating their job analysis information into the Texas skill standards elements and format. With the Texas skill standards infrastructure established and the processes in place for skill standards usage in the education and training systems, the TSSB is poised to more actively pursue the skill standards development process with industry.

Translation and Importation of Skill Standards from Other States

The TSSB has conceived the idea of a database for translation of skill standards between states. Initial indications of interest from the NSSB and other states have been solicited. The TSSB has secured a source of funding for the Texas contribution to that tool. The TSSB will continue to pursue commitments of funding from other states to design and make operational the database. In addition, the TSSB will continue to work with the State Skill Standards Working Group to develop an overall plan and schedule for importation of skill standards across

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states.

Piloting of National Manufacturing Core and Concentration Standards

As mentioned earlier, the Manufacturing Skill Standards Council (MSSC), funded by the NSSB, completed core and concentration skill standards for the manufacturing sector. In FY01, eight to 10 states will be chosen to pilot the standards and accompanying certification systems. The TSSB will pursue, with Texas industry and education partnerships, the establishment of Texas as a pilot site.
