SPR
SOCIAL POLICY RESEARCH
ASSOCIATES

Evaluation of Technology-Based Learning Grants

Final Report
December 2011

Prepared by:

Kate Dunham
Rachel Estrella
Jill Leufgen
Jennifer Henderson-Frakes

CONTENTS

SPR

Able-Disabled Advocacy (A-DA

College of Southern Nevada (CSN)

Dillard University

Greenville Technical College (GTC)

The Guidance Center (TGC)

Gulf Coast Community College (GCCC)

Hillsborough Community College, Florida (HCC)

Illinois Department of Commerce and Economic Opportunity (IDCEO)

Madisonville Community College (MCC)

North Central Texas College (NCTC)

Northern Virginia Community College (NOVA)

Ogden-Weber Applied Technology College (OWATC)

Orange County Workforce Investment Board (OC WIB)

Reno Community Services Agency (Reno CSA)

Research Foundation of the State University of New York (RF SUNY)

Temple University Center for Social Policy and Community Development (Temple CSPCD)

University of Colorado, Denver (UCD)

Wake Technical Community College (WTCC)

West Virginia University at Parkersburg (WVUP)

Western Governors University (WGU)

SPR

ACKNOWLEDGEMENTS

SPR

EXECUTIVE SUMMARY

In 2006, the U.S. Department of Labor, Employment and Training Administration (ETA) launched the Technology-Based Learning (TBL) Initiative, which seeks to "expand access to training resulting in an increased number of workers trained, particularly in high-growth, high-demand occupations, and to meet the needs of industry for skilled employees" (Notice of Availability, 2008). TBL is usually defined as learning that takes place via some form of electronic technology, typically a computer, with materials accessed over the Internet or on a computer in a computer lab. TBL is essentially synonymous with several other terms in common usage, including *e-learning*. Practically speaking, TBL is becoming increasingly inseparable from the Internet, but in a strict sense TBL is broader and more inclusive than terms referring to learning that occurs via the Internet, such as *online learning*.

Soon after the TBL Initiative was launched, several small TBL projects were funded as demonstrations. Due to the promise shown by these early projects, ETA decided to provide systematic support for TBL on a national basis. Consequently, in June 2008, ETA released a Solicitation for Grant Applications (SGA) to provide $10 million in funding for TBL projects throughout the country. Based on responses to this SGA, ETA awarded funds in January 2009 to 20 grantees in 16 states to develop and implement TBL projects over a three-year period. These twenty grantees included nine community colleges, five universities, four private non-profit organizations (one of which was affiliated with a university), a state workforce agency, and a local workforce investment board (WIB). Each grantee planned a project focused on a particular high-growth industry; the most common of these were health care and information technology (IT).

In June 2008, ETA awarded Social Policy Research (SPR) Associates a contract to evaluate the projects funded by these TBL grants. The evaluation featured the collection and analysis of both qualitative and quantitative data. Qualitative data collection occurred primarily through two sets of site visits to grantees. The six grantees that implemented their programs within the first ten months of the grant were visited in fall 2009 (these grantees are referred to herein as Cohort I). The 14

remaining grantees (referred to herein as Cohort II) were visited during the spring and summer of 2010. Quantitative data collection consisted of requesting copies of the quarterly performance reports submitted by grantees to ETA.

This final report, completed in December 2010 at the conclusion of the SPR contract, presents findings based on all data collected during the first two years of the grants and focuses on program design, training methods, and partnerships. It also provides a brief discussion of preliminary outcomes and lessons learned that have emerged from the implementation of the programs.

Overview of Training Programs

The characteristics of TBL programs varied considerably. Depending on the program, the duration of training could be anywhere from thirty minutes to two years. TBL programs also provided training that led to a variety of occupational skill certifications, professional licenses, and college degrees (including associate's, bachelor's, and master's degrees).

Programs targeted a variety of groups in their recruitment efforts, including incumbent workers, underemployed and unemployed individuals, and dislocated workers. To recruit these participants, program operators employed numerous strategies, such as placing advertisements on their Web sites, in print, or on the radio; providing materials to partner organizations and employers; and obtaining referrals from partners.

Once recruited, individuals from targeted groups had to meet certain other requirements (e.g., prerequisite computer skills) established by program operators. However, programs varied greatly in the extent of their requirements: some programs had no prerequisites while others had very specific eligibility criteria.

Most programs provided newly enrolled participants with orientation sessions covering program policies, course structure, and program technology. These orientations were typically conducted as in-person group sessions, though the duration of sessions varied from twenty minutes to four days.

To provide access to course materials, nearly all of the programs used a Learning Management System (LMS), most commonly Blackboard Learn or Angel; the LMS allowed participants to access training materials, receive and submit assignments, complete tests, and communicate with peers and instructors. Most program operators made some accommodations to ensure that disabled participants could access materials

on their LMSs. Because these systems were complex and had occasional problems, all program operators provided some sort of technical support to participants.

All program operators employed at least four staff members and all but one employed at least one instructor. The non-instructional staff members typically included a grant administrator/program manager, an instructional designer, an LMS/online programs director, and a liaison to students.

TBL programs provided participants with a number of non-training services. These services primarily included employment services such as career advising, job placement, job readiness/soft skills training, and internships or other work experience. Three programs also provided case management and supportive services; most TBL participants who received case management, however, received it from partner programs.

Design and Development of TBL Programs

TBL programs were designed with many interrelated interests and considerations in mind. A primary consideration was to meet industry needs—specifically to provide targeted industries with sufficient numbers of trained workers in targeted occupations. Grantees also considered the expressed needs of employers in these industries, creating TBL programs with relatively short durations and offering courses that did not require workers to be offsite during work hours.

In acknowledgment of participant needs, grantees and program operators designed programs that targeted high-demand, high-growth sectors in which trainees could presumably find sustainable employment. Grantees and program operators also kept in mind the characteristics and perceived barriers to training of target populations—most notably geographic distances, work schedules and other life obligations, finances, prior educational levels, technological proficiency, and access to appropriate technology.

The needs of grantees and program operators themselves also figured into program design decisions. For example, the TBL Initiative often served as an opportunity for program operators to advance their TBL and online learning capacity, as well as a way to meet other goals such as expanding lab space or acquiring more equipment.

In designing and developing their TBL programs, grantees and program operators typically engaged in a two-phase process, with the first phase focused on making overall design decisions, and the second phase aimed at designing, implementing, and testing new or upgraded curricula. During the first phase, which usually began before

SPR

the TBL grants were awarded, it was typically the case that a grantee staff member or a representative of a key grantee partner approached an eligible training program (usually within the grantee's organization), regarding interest in the grant. The grantee then pulled together a small group of stakeholders, often including representatives from employers and other key partners, who together determined the specific occupations and populations to target for the grant and what needed to be done in terms of curricula. About half of these design groups determined that the best use for the grant would be to convert existing traditional curricula to an online or blended format, while eight design groups determined that the program operator needed to acquire or develop new curricula.

For most program operators, the second phase of the design and development process—the implementation of the plans developed during the first phase—typically began immediately after they were awarded a TBL grant. Grantees and program operators generally adopted one of four approaches to this implementation process. The most common approach (used by at least 15 TBL programs) was to pair training program instructors with instructional designers or other program operator staff members who were knowledgeable about TBL methods.

Another approach to implementing the design decisions made during phase one was to rely solely on instructors to make these changes. However, this approach was problematic, as instructors did not have sufficient time on top of their regular teaching duties to complete this work on their own.

At least four grantees/program operators opted to contract out some or all of the development of the necessary curricula. In three of these cases, the contractor also operated the training program. Finally, another three grantees and program operators implemented the design developed in phase one by accessing already-developed curricula, in one case paying for it and in the other two cases gaining access via partnership agreements or membership in an organization.

Once curricular changes or additions were implemented, most program operators piloted their TBL curricula, either formally or informally. All of these program operators indicated that this piloting process provided them with an important opportunity to identify and solve problems before the courses were made available to a wider audience.

To guide the implementation of these curricular changes, nine program operators regularly consulted with employers and other partners, often through TBL advisory

boards. At least two program operators also received input and feedback from consultants.

The average duration of TBL programs' design and development processes was about two years. In general, programs that developed or made changes to a large amount of curricula, created curricula from scratch, used complex technologies, or had more experience with TBL spent more time on design and development. In a few cases, major unexpected events occurring well after the TBL grants were awarded caused changes that also extended the length of design and development.

Training Methods

Instructional delivery methods and course structures varied tremendously across TBL programs. Sixteen programs used a blended approach to instruction, while four used a completely online approach and only one used a completely in-person approach. Ten programs used a combination of synchronous (learning is in real time at a specific time and place, whether in classrooms or via online or another mechanism) and asynchronous (learning is not constricted by time or place, rather learning takes place independently) activities; nine incorporated only asynchronous activities into their coursework; and two employed only synchronous activities. (Chapter I will explain that the 20 grantees/program operators offered 26 TBL training programs, but only 21 of these programs were analyzed for this evaluation.) Choices for instructional delivery approaches and timing structures used within different courses were largely influenced by the perceived needs of participants and employers, which included time flexibility, the ability to have instruction and learning occur over distances, hands-on approaches to training to satisfy licensing or certification requirements, and encouragement for maintaining a productive learning pace.

Recognizing that not all participants could be expected to have the requisite drive and self-discipline necessary for success in TBL endeavors, TBL program designers incorporated different mechanisms into their courses to help students maintain a productive pace. These included frequent assignments, regular check-ins with instructors, and guidelines for expected course progress rates.

Level of instructor experience with TBL methods varied across programs, but almost all programs offered instructors some form of training and support for effective teaching in TBL environments. Despite this support, some instructors felt challenged by teaching in a TBL environment, with some specifically noting concerns about using technologies

that did not provide effective two-way communications, thereby impairing instructors' ability to develop rapport with their participants or gauge whether or not participants were able to understand course lectures.

Creating opportunities for effective communication and interaction among participants and between participants and their instructors was considered an important pedagogical practice by instructors across multiple TBL programs. TBL programs used a wide range of tools and practices to encourage this communication. One practice was to require in-person sessions, wherein communication and interaction would naturally occur; another was to encourage or require the use of various online communications tools, most commonly e-mail. Intriguing uses of technology to foster communication and interaction included one program's use of a social networking platform and another's use of virtual reality software, both of which provided participants with opportunities to communicate and interact in engaging ways. While many participants felt satisfied with the levels and means of communication afforded to them, some participants and instructors expressed a desire for more in-person interaction.

TBL programs measured participant achievement in a number of ways: they assessed individual projects, tested practical skills, and conducted quizzes, tests, mid-terms, final exams, and certification exams. Frequency and mode of testing varied according to learning goals and course structure. Instructors and course designers endeavored to maintain academic integrity by providing multiple layers of assessment and/or by structuring assessments in such a way that cheating would be difficult. In programs where grades were not issued, instructors were not worried about academic integrity; instructors in programs wherein industry-recognized certification was the final goal noted that it was in participants' best interests not to cheat if they wanted to gain the knowledge necessary to pass certification exams.

Partnerships

Developing or maintaining partnerships with employers was a major focus for nearly all TBL programs at the time of the site visits. These partnerships provided numerous benefits to TBL grantees and program operators: employers reviewed curricula, provided information on future hiring and training needs, and helped programs keep up with industry changes. Some employers also provided internships or clinical experiences, space for training programs, or funding, while others allowed their employees to be recruited as participants or instructors for programs or hired program graduates. Employers, in turn, benefited from partnerships with TBL programs: they

received skill upgrades for current employees, avoided recruiting costs, and had larger pools of skilled workers from which to hire employees.

Grantees and program operators noted that regular communication—particularly in the form of giving employers opportunities for providing feedback—was essential in establishing effective employer partnerships. Advisory boards were one of the primary vehicles for communication with employers. Employer attendance at advisory board meetings guaranteed at least a minimum level of communication between program staff members and employers.

However, employers sometimes had difficulty attending regular advisory board meetings due to their busy schedules. To deal with this challenge, one program operator radically decreased the number of advisory board meetings and switched to one-on-one communication, a strategy that resulted in stronger employer relationships. At least seven other programs attempted to deal with the challenge of employers not being able to attend TBL advisory board meetings by using already-existing employer advisory groups for their TBL programs. Just under half of all TBL grantees solidified their partnerships with employers by developing formal agreements.

Program staff members conducted outreach to potential employers by identifying and contacting employers in targeted industries, either on their own or with the help of existing employer partners, employer intermediaries, or alumni. Many of these programs also attracted employers by charging little or nothing for their services, with one even customizing those services for specific employers. Nearly half of all programs did not have to engage in much outreach because they could rely on already-existing partnerships with employers. In at least two cases, outreach was unnecessary because the idea for the TBL program originated with employers.

A few TBL programs had difficulty recruiting employer partners. In two cases, this was due to the impact of poor economic conditions on employer budgets and hiring needs, and in another two cases, it was due to the program operator's lack of experience working in a particular field or sub-field.

Nearly all TBL programs either developed or strengthened partnerships with agencies in the public workforce system, particularly local WIBs, local Workforce Investment Act (WIA) program providers, and One-Stop Career Center operators. These public workforce agency partners played a number of roles in the implementation of TBL grants: they helped programs understand the needs of local employers, identified gaps

SPR

in the availability of training, connected programs with possible employer partners, and, in one case, contributed funding.

A number of programs received referrals of participants from local One-Stop Career Centers and WIA program providers. Many of these participants were also co-enrolled in a program operated by a workforce system partner. As a result of this co-enrollment, these participants typically received a number of wrap-around services from the workforce partner program that supported the participant while in training. Staff members from four programs complained about being unable to co-enroll more of their participants in WIA programs, usually because too few of their applicants were WIA-eligible.

TBL grantees and program operators involved public workforce system agencies via TBL advisory boards. A number of TBL program staff members also regularly attended local WIB meetings. Just over half of TBL programs further supported their partnerships with public workforce agencies through formal agreements.

A number of TBL programs formed strong relationships with one or more types of other organizations, including educational institutions, community-based organizations (CBOs), non-workforce government agencies, employer intermediaries, and labor unions. TBL programs developed these partnerships for a variety of reasons. Partnerships with educational institutions and labor unions were usually aimed at expanding the geographic scope or target population for TBL programs or at allowing TBL participants to receive additional training beyond that provided by the TBL program. Partnerships with government agencies often provided programs with access to key populations of potential participants. Finally, partnerships with CBOs commonly resulted in additional wrap-around services for TBL participants, while partnerships with employer intermediaries were aimed at helping programs develop new employer partnerships.

Preliminary Outcomes

While TBL grantees/program operators were still implementing their programs at the time data were collected for this report, available preliminary data suggest that programs were mostly on track to achieve a number of expected outcomes. Fully operational TBL programs appeared to have succeeded in improving access to training for individuals who would not have been able to participate otherwise. Through their use of technology, these programs made training accessible for participants residing too

far from training providers and for participants with family and work commitments that would have prevented enrollment in traditional courses.

Due to this expanded access to training, program operators were expected to increase their enrollment relative to pre-TBL Initiative levels. Even though programs were only midway into the grant period when data were collected, a few programs had already met the enrollment goals they had set for their TBL programs and many appeared to be likely to meet their targets by the end of their grants. Only three programs had not yet been implemented and thus had not enrolled any participants.

Demographic information from only half of the programs indicates that the gender ratios for programs focused on specific industries—nursing, IT, and manufacturing—that typically reflected traditional gender roles. Although only one of the grantees that reported demographic data served people of color predominately, a few of the other non-reporting programs also focused on serving this population. With the exception of Able-Disabled Advocacy, Inc., most programs reported serving few veterans or persons with disabilities.

Due to limited data on whether participants successfully completed training programs or credentials, assessments of these outcomes cannot be made. However, many program operators had in place various strategies designed to produce successful outcomes and reduce program attrition. These strategies included preparing participants for the time commitments required of TBL programs prior to enrollment, actively monitoring participant progress so that program staff members could intervene and provide support if someone was at risk of failing or dropping out, and screening participants prior to enrollment to ensure that they possessed the self-motivation and other personal characteristics necessary for success in TBL courses. Most TBL program operators also designed their course materials in ways that accommodated different learning styles and paces.

Overall, students reported being satisfied with their TBL training. They noted that training methods were convenient, and that the use of asynchronous methods allowed them not only to integrate training into their already busy schedules, but also to master program content. Generally, students reported that the skills they learned in their programs were relevant to their current jobs or would be relevant to their future careers.

While only a few TBL programs had any participants who had completed their training and entered employment at the time data were collected, the few employers

interviewed during the site visits expressed satisfaction with the training received by the program graduates they hired, stating that their training had adequately prepared them for employment. Employers of incumbent workers appreciated that their employees had learned industry-relevant skills while being able to fulfill work obligations.

Conclusion

While this evaluation cannot provide definitive information about the outcomes of the TBL Initiative, it can offer some potentially valuable lessons learned based on the experiences of grantees and program operators during their first year and a half of implementation. These "lessons learned" are listed below:

- Involving employers and WIB partners in TBL program design and development ensures that programs will be aligned with industry needs.

- Program planners need to keep the technological capacity of their target groups in mind when they design their programs.

- Employing instructional designers or partnering/contracting with organizations with experience using TBL methods aids the curriculum development process.

- Using existing curricula can speed up the design process, but it may also pose problems in program implementation.

- Piloting or testing new curricula is critical to smooth implementation.

- Certain factors can significantly lengthen the duration of TBL program design and development. These factors include whether curricula is being created from scratch or based on existing materials; the amount of curricula to be revised or developed; the complexity of the technology to be used; and the program's experience with TBL methods.

- Online and asynchronous approaches are critical in allowing participants to overcome training barriers related to time, transit, and distance, but they generate various challenges.

- A number of effective approaches are available for mitigating the challenges and limitations of online, asynchronous instruction. These include:
    - using technology in innovative ways to create effective practical skills training online;
    - including in-person components in online courses;
    - offering synchronous online activities in addition to asynchronous ones;

- providing guidance and check-ins to manage the pace of course progression; and

- incorporating asynchronous online activities that require interaction.

- For some participants, asynchronous online materials provide improved opportunities for content mastery.

- TBL methods may pose threats to academic integrity, but it is often possible to mitigate these threats.

- Many instructors—especially those new to TBL—require extensive support in using TBL methods effectively.

- It is important to assess prospective participants' computer skills prior to enrollment.

- Participants and instructors need extensive technical support in using program technology.

- Some participants need assistance accessing computers with Internet connections.

- Partnerships with employers are critical to the success of TBL workforce training programs. These partnerships:

  - ensure the employability of TBL students;

  - provide resources for TBL programs; and

  - result in many prospective participants being referred to TBL programs.

- Outreach to prospective employer partners can be challenging, but several promising practices may increase the effectiveness of outreach efforts:

  - Use employer intermediaries or other partners with established employer relationships to facilitate outreach to new employer partners.

  - Use existing employer partners to contact new employer partners.

  - Use program alumni to facilitate contacts with new employer partners.

  - Offer training and placement services to employers free of cost, at least initially.

  - Customize training services for individual employers.

SPR

- Relationships with public workforce system agencies and other partners can offer TBL programs many benefits. These benefits include the following:
  - an understanding of the local labor market and training system;
  - wrap-around services to co-enrolled participants;
  - referrals/recruitment of eligible participants;
  - opportunities for further training for participants; and
  - resources that support TBL programs.

- Regular communication is a key factor in developing and maintaining productive relationships with partners.

- Self-motivated, independent learners do best in TBL programs.

- Participants with family and work responsibilities need both forewarning of program rigor and active monitoring of progress.

- Accommodating different learning styles allows more participants to be successful in completing TBL programs.

I. INTRODUCTION

Technology-based learning (TBL) is defined as learning that takes place via some form of electronic technology. In a typical TBL program, a variety of technologies can be employed to facilitate learning. These technologies can play a number of different roles. They can serve as (1) the medium through which content is delivered (computers, mobile devices); (2) the source or repository of the content (the Internet, CD-ROM); (3) the means through which learners discover, manipulate, and create (computer software); or (4) the means through which learners and instructors are connected over distances (the Internet, Intranets). Commonly, technology serves in two or more of these roles simultaneously. TBL is essentially synonymous with several other terms in common usage, including *e-learning*. Practically speaking, TBL is becoming increasingly inseparable from the Internet, but in a strict sense TBL is broader and more inclusive than terms referring to learning that occurs via the Internet, such as *online learning*.

In 2006, the U.S. Department of Labor, Employment and Training Administration (ETA) launched the TBL Initiative, which sought, through development of innovative models and uses for TBL, to "expand access to training resulting in an increased number of workers trained, particularly in high-growth, high-demand occupations, and to meet the needs of industry for skilled employees" (Notice of Availability, 2008). Soon after this initiative was launched, several small TBL projects were funded as demonstrations. Due to the promise shown by these early projects, ETA decided to provide systematic support for TBL on a national basis. Consequently, in June 2008, ETA released a Solicitation for Grant Applications (SGA) to provide $10 million in funding for TBL projects throughout the country. Based on responses to this SGA, ETA awarded funds in January 2009 to twenty grantees to develop and implement TBL projects over a three-year period.

In June 2008, ETA awarded Social Policy Research Associates a contract to evaluate these grants. The evaluation featured one round of phone reconnaissance, one site

SPR

visit to each grantee in either fall 2009 (Cohort I) or spring/summer 2010 (Cohort II), and collection of grantee quarterly reports. Completed in December 2010[1], this final report is based on all data collected during the first two years of the grants and presents the results from the examination of this data.

Overview of the Grantees

Due to the broad nature of the initiative's goals, the twenty TBL grantees were a diverse group. Grantees varied in terms of the communities in which they were located, the types of organizations they represented, the industries or sectors that they focused on, and the amount of funding they received from ETA to carry out their programs. On the next page, Exhibit I-1 provides a summary of the key characteristics of the TBL grantees. Grantees included nine community colleges, five universities, four private non-profit organizations (one of which was affiliated with a university), a state workforce agency, and a local workforce investment board (WIB). These grantees were located in sixteen states. The size of the TBL grants also ranged widely, from a low of $154,018 to a high of $969,090.

Six high-growth industries were represented among the TBL grants, with health care and information technology (IT) the most common industries of focus. Even when programs targeted the same industrial sector, the specific foci within their programs varied greatly. For example, among the nine grantees targeting the health care sector, specific programs ranged from refresher programs for nurses who needed to renew their certifications to a program specifically designed to provide training for direct-care mental health workers.

While the grantees and their programs were diverse, ETA required that grantees incorporate a particular set of key features into their programs to provide some underlying commonality. These requirements included the following: (1) develop innovative technology-based programs that could be shown to work toward achieving the initiative's goals; (2) provide effective user support for all clients, including those from underserved populations and individuals with low levels of computer and technical proficiency; (3) ensure that TBL training programs lead to recognized credentials; and

---

[1]   For reasons external and internal to ETA related to contract legalities, clearance of data collection methodologies, and editorial and clearance processes required by ETA before public release of a report, ETA released this report in December 2011.

(4) make use of existing demand-driven strategic partnerships in developing and implementing their TBL programs[2].

Exhibit I-1:
Key Characteristics of TBL Grantees

Grantee	Type of Organization	Industry/Sector	TBL Grant Funding
Able-Disabled Advocacy, Inc., San Diego, California (A-DA)	Nonprofit	Information Technology	$584,600
College of Southern Nevada, Las Vegas (CSN)	Community College	Health Care	$420,727
Orange County Workforce Investment Board California (OC WIB)	Workforce Investment Board	Health Care	$500,000
Dillard University, New Orleans, Louisiana (Dillard)	University	Green Construction	$969,090
Greenville Technical College, South Carolina (GTC)	Community College	Health Care	$154,018
The Guidance Center, Detroit, Michigan (TGC)	Nonprofit	Health Care	$500,000
Gulf Coast Community College, Panama City, Florida (GCCC)	Community College	Manufacturing	$499,583
Hillsborough Community College, Winter Haven, Florida (HCC)	Community College	Manufacturing	$498,815
Illinois Department of Commerce and Economic Opportunity, Chicago (IDCEO)	State Workforce Department	Information Technology	$500,000
Madisonville Community College, Kentucky (MCC)	Community College	Health Care	$425,181
North Central Texas College (NCTC)	Community College	Health Care	$538,947
Northern Virginia Community College (NOVA)	Community College	Information Technology	$492,458
Ogden-Weber Applied Technology	Community College	Information	$500,000

---

[2] According to ETA's SGA for the TBL grants, grantees were selected based on the following system of criteria and scoring: 30 points for "Expanding Training Opportunities," (including 10 points for showing how the use of TBL would expand employment and training options, 10 points for showing how the TBL program would overcome barriers of distance and time, 7 points for "sustainability and scalability," and 3 points for demonstrating the need for Federal investment); 20 points for demonstrating appropriate "demand-driven partnerships" (including eight points for demonstrating the strength of those partnerships, seven points for having partnerships with "high-growth/high-demand" industry partners, and five points for demonstrating the relevant organizational capacities of partners); 20 points for "program design, user support, and outcomes (including 10 points for proposed outcomes, 5 points for "user support," and 5 points for "evaluation and data collection); and 10 points for demonstrating that the grants would provide training leading to an "industry-recognized credential." *Federal Register*. Vol. 73, No. 120. Friday, June 20, 2008. Pp. 35155-35163.

SPR

Grantee	Type of Organization	Industry/Sector	TBL Grant Funding
College, Utah (OWATC)		Technology	
Reno Community Services Agency, Nevada (Reno CSA)	Nonprofit	Information Technology; Green Technology	$499,900
Research Foundation of the State University of New York (SUNY), Albany (RF SUNY)	Nonprofit	Health Care	$365,666
Temple University Center for Social Policy and Community Development , Philadelphia, (Temple CSPCD)	University	Information Technology	$695,569
University of Colorado, Denver (UCD)	University	Energy Management	$502,596
Wake Technical Community College, Raleigh, North Carolina (WTCC)	Community College	Information Technology	$383,686
West Virginia University at Parkersburg (WVUP)	University	Health Care	$469,164
Western Governors University(WGU), Salt Lake City, Utah (serves all 50 states)	University	Health Care	$500,000

Overview of the TBL Evaluation

The TBL evaluation had two primary goals: (1) to understand the design and implementation processes undertaken by the various grantees; and (2) to examine the outcomes, such as the number of credentials and degrees earned, that grantees produced through their TBL programs.

These goals guided the development of a conceptual framework for the evaluation. This framework outlined the central features of the TBL grants and served as an important foundation for the evaluation. It included contextual factors, program planning and design, recruitment and intake, training delivery, program administration, partnerships, and key outcomes.

The evaluation's conceptual framework was particularly useful in developing the evaluation's research questions. These questions were organized into the nine categories summarized below (the questions themselves are presented in Appendix A):

- **Contextual Factors.** These questions were aimed at understanding how existing employer needs in targeted industries, overall economic conditions, and the characteristics of targeted participants affected the development, implementation, and success of the programs.

- **Planning and Design.** Questions in this category focused on the planning and design processes for each program and the grantees' TBL program objectives in terms of industry and participant focus.

- **Program Administration, Organization, and Leadership.** These questions examined TBL programmatic features, staffing structures, and reporting.

- **Linkages and Partnerships.** These questions were focused on the partnership arrangements established by TBL programs, the ways in which resources were leveraged, the referral systems that were used, and the strategies relied on for inter-partner communication.

- **Recruitment and Intake.** These questions examined the nature of outreach/recruitment efforts, intake/admissions processes, criteria for participation, and the equipment and skills needed to participate in programs.

- **Training Delivery.** Questions in this category were focused on issues such as faculty involvement in training programs, the types of training programs developed and implemented, delivery modes and methods, and learning management systems (LMS).

- **Additional Services.** This category included questions related to other services that grantees made available to the TBL participants, such as placement assistance, career counseling, job readiness training, and case management.

- **Outcomes.** These questions focused on a variety of outcomes such as the number of participants enrolled, the credentials or degrees attained by participants, and the level of participant and faculty satisfaction with the program.

- **Implementation Challenges and Promising Practices.** This final category included questions aimed at examining major challenges in design and program delivery and how those challenges were addressed; it also included questions designed to detect the emergence of promising practices.

Division of Grantees into Two Cohorts

Grantees were grouped into two cohorts based on their implementation status at the beginning of the evaluation. Grantees that had implemented their programs by the fall of 2009 were placed in Cohort I. This cohort included six grantees (please see Exhibit I-2).

SPR

Exhibit I-2:
Cohort I

Grantee	Program Name(s)	Specific Focus	Program Operator
A-DA	CareerLink TBL program	IT training (leading to certification in networking, desktop support, server support, java programming, and Microsoft Office)	Grantee
TGC	Care and Training Supports (CATS) and *Direct Support Provider Certification*	Training for mental health direct care workers	Grantee
NOVA	Geospatial Career Pipeline Initiative Career Studies Certificate in GIS (GCPI) and *GIS High School Program*	Geographic information systems (GIS)	Grantee
UCD	Global Energy Management (GEM)	Energy management	Grantee
GTC	Nurse Return to Work through Technology Expansion project (Nurse Return to Work)	Recertification of registered nurses (RNs)/licensed practical nurses (LPNs)	Grantee
OWATC	TBL IT Program	IT training (leading to certification in A+, networks, Linux, IT security, servers, Internet design and technology, Java programming, and overall IT)	Grantee

Note: *Italicized programs (Direct Support Provider Certification and GIS High School Program) were not included in the analysis of program structure and content provided in subsequent chapters of this report because these programs were either insufficiently implemented at the time of the site visits or were too small to allow site visitors to collect the required information to conduct such an analysis.*

The 14 remaining grantees were placed in Cohort II (see Exhibit I-3). As with the grantees in Cohort I, each of these grantees offered one or more programs with a specific focus, but unlike the grantees in Cohort I, five hosted programs administered primarily by a separate organization that served as the program operator.

Data Collection

To answer the research questions, the TBL evaluation made use of several distinct data collection activities. First, to capture basic information on grantee implementation plans and timelines, evaluation staff members conducted phone reconnaissance calls with grantee representatives in the summer and fall of 2009. Second, to observe program operations and conduct face-to-face interviews, evaluation staff members visited grantee sites. Grantees in

Exhibit I-3:
Cohort II

Grantee	Program Name(s)	Focus	Program Operator
CSN	Associate Degree in Registered Nursing (ADN) and Nurse Refresher (Refresher)	RN training and recertification of RNs	Grantee
GCCC	Computer Integrated Manufacturing Certificate of Graduation program (CIM)	Computer integrated manufacturing	Grantee
WVUP	Expanded Access Program (EAP)	Certified Nursing Assistant (CNA) training	Grantee
MCC	Integrated Nursing Program (INP)	LPN and RN training	Grantee
IDCEO	Microsoft Digital Literacy and Microsoft Unlimited Potential Training Programs* (MDL/MUP Training)	IT training (focused on basic concepts of overall computer and Internet structure, web design, word processing, databases, spreadsheets, and presentations)	TEC Services Consulting, Inc. (TEC)
WGU	Multi-State Approach to Preparing Registered Nurses (MAP-RN)	Pre-licensure RN bachelor's degree	Grantee
CSA Reno	New Way Diesel Software Development project (New Way Diesel) and Clean Diesel Training**	Development and use of a knowledge base[†] on clean diesel conversion, housed on the Web	Education Design Group (EDG)
WTCC	Online Information Technology Certificate program	IT training (leading to certification in networking and Java and C++ programming)	Grantee
NCTC	Online Licensed Vocational Nurse (LVN) to RN Transition program (LVN to RN Transition)	RN training	Grantee
RF SUNY	Public Health Nurse Ready (PHN Ready)	Introductory public health nursing training	University at Albany, SUNY, Center for Public Health Continuing Education (CPHCE)
Temple CSPCD	TBL program in IT (CSPCD TBL)	IT training (leading to certification in A+, Microsoft Office, Medical Office and Accounts)	Grantee
HCC	TBL Project in Manufacturing Essentials and TBL Project in Manufacturing Fundamentals*** (Manufacturing Essentials)	Manufacturing (leading to Manufacturing Skills Standard Council Certified Production Technician)	The Employ Florida Banner Center for Advanced Manufacturing at Polk Community College (Banner Center)

Grantee	Program Name(s)	Focus	Program Operator
Dillard	TBL Worker Training program	Green building and construction training (including weatherization, and hazardous materials)	Deep South Center for Environmental Justice (Dillard DSCEJ)
OC WIB	Virtual Hospital: English-as-a-Second-Language (ESL) for Nursing and Related Health Care Occupations (Virtual Hospital)	ESL training for practicing nurses	Coastline Community College (Coastline)

*   As all participants had to complete both programs, MDL/MUP Training is treated as a single program for this analysis.

** The italicized program, Clean Diesel Training, was not included in the analysis of program structure and content provided in subsequent chapters of this report because these programs were either insufficiently implemented at the time of the site visits or were too small to allow site visitors to collect the required information to conduct such an analysis.

*** As Manufacturing Essentials is a shorter version of Manufacturing Fundamentals, the two programs are treated as a single program for this analysis.

† A knowledge base is a special kind of database for information management, providing the means for the computerized collection, organization, and retrieval of information.

Note: In total, there are actually 26 programs. In Cohort II, the occurrence of combining two similar training programs was required twice for the purposes of this analysis (i.e., Microsoft Digital Literacy Training and Microsoft Unlimited Potential Training or MDL/MUP Training were combined and Manufacturing Fundamentals was combined with Manufacturing Essentials). Also, three other programs (Direct Support Provider Certification and GIS High School Program (Cohort I) and Clean Diesel Training (Cohort II) were either too small or insufficiently implemented at the time of the site visits to be included in this analysis.

Cohort I were visited between August and November 2009, and those in Cohort II were visited from April to July 2010.

- Site visits included both a virtual component and an onsite component. Site visitors first carried out the virtual component,[3] which typically consisted of the following activities:

- a thorough examination of the grantee's LMS and all grant-related online courses and materials;

- convening of a virtual focus group of two to four current program participants; and

- observation of a synchronous virtual activity[4].

---

[3]   WVUP was the only grantee where the site visitor did not conduct a virtual site visit. This was because WVUP's program used videoconferencing to broadcast live lectures to remote sites, with no material available online.

[4]   A synchronous virtual activity is an activity that occurs via the Internet in real time. By contrast, an asynchronous virtual activity is an activity that is available at any time.

Thereafter, site visitors conducted the onsite component, traveling to the grantee's primary location to collect additional data over a period of a day and a half. During this onsite visit, evaluation staff met with multiple respondents, including, as appropriate, the grant administrator, project director, director of e-learning, instructional designer, instructors, case managers, and program partners. This latter category typically included employers, members of the local public workforce system, educational institutions, and community-based organizations (CBOs). When possible, site visitors also observed a program activity, such as an in-person training session.

The third data collection activity was to request copies of required quarterly reports submitted to ETA by grantees. Of particular interest was the quarterly report (ETA-9134) which was required of and submitted by all grantees and based on the reports collected by the High Growth and Community-Based Job Training Grants (HGCJTG) Initiatives. These quarterly reports primarily contained cumulative aggregate-level data on participant demographics, services provided, and outcomes.

Due to delays in the clearance of data collection methodologies[5] originally planned for the evaluation, the following activities were postponed for completion at a later date: (1) gathering detailed participant-level administrative data from grantees' management information systems (MIS) to supplement data collected from quarterly report submissions; and (2) conducting an online survey of TBL participants. Ultimately, ETA received approval but after conclusion of the SPR contract (to view the conclusion of the Office of Information and Regulatory Affairs, please see: http://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201005-1205-004). A third report on the collection and analyses of these data is anticipated in late 2012.

Deliverables

The TBL evaluation included two primary deliverables. The first was an interim report, which was based primarily on data collected during site visits to Cohort I grantees. This interim report was first submitted in draft form to ETA in January 2010 and underwent three rounds of revisions. The report is now available on the ETA Research Publication

---

[5]   For more information on the Information Collection Review process under the Paperwork Reduction Act, please see http://www.reginfo.gov/public/jsp/PRA/ICR_info.jsp.

SPR

Database Web site[6]. The second deliverable is this final report based on all data collected during the first two years of the grants, including findings from both sets of site visits and grantees' quarterly reports.

Overview of this Final Report

The remainder of this report summarizes the findings from the evaluation. Although this is the evaluation's final report, the findings presented here should be considered preliminary because they are based on data and results from only the first year and part of the second year of the three-year TBL grants. In addition, two planned quantitative data collection activities did not take place, with the consequence that these results are almost entirely based on the data collected during the qualitative site visits.

The report begins with Chapter II, which presents an overview of TBL training programs. Chapter III then presents a discussion of the program design and development processes used by TBL grantees and program operators. Chapter IV discusses the training methods and approaches used by grantees and program operators. Chapter V then describes the partnerships grantees and program operators developed to support their programs. Chapter VI provides a brief discussion of program outcomes to date. Chapter VII concludes the report by highlighting a number of lessons learned from the implementation of the TBL grants thus far. Brief summaries on the TBL grantees are included as Appendix B.

---

[6]   See ETAOP 2011-07 at:
        http://wdr.doleta.gov/research/keyword.cfm?fuseaction=dsp_resultDetails&pub_id=2464&mp=y.

II. OVERVIEW OF TBL TRAINING PROGRAMS

The programs administered by the 20 TBL program operators varied significantly in structure. This chapter provides an overview of the key characteristics of the 21 programs analyzed in this evaluation.[1] These key characteristics include program length, credentials offered, recruitment activities, eligibility criteria, program orientation, use of learning management systems, staffing structures, and non-training services.

Length of Program

Because the programs varied greatly in content and objectives, program lengths also varied considerably (please see Exhibit II-1). On one end of the spectrum, the CATS program offered a training course that lasted only 30 minutes. Other training programs, such as those in which participants could earn college degrees, took up to two years to complete. In addition, some program operators offered multiple programs, each of which varied in length. For example, the Nurse Refresher and ADN programs offered by CSN required one and two years of full-time study, respectively.

Credentials Offered

Most programs offered occupational skills certificates, credentials, or industry-recognized certificates (please see Exhibit II-2). GEM awarded the only master's degree granted by a TBL program, and MAP-RN the only bachelor's degree.[2] Only two programs—Virtual Hospital and New Way Diesel—did not offer a recognized credential. Because Virtual Hospital is the first

---

[1]   For lists of program names, abbreviated names, and corresponding grantees and program operators, see Exhibits I-2 and I-3 in Chapter I. The necessity of combing training programs and eliminating programs, as presented in the footnotes of these exhibits, brings the number of programs included in this analysis to 21.

[2]   Several programs offering associate's degrees had articulation agreements with universities that made it easier for their TBL program graduates to go on to earn bachelor's degrees.

Exhibit II-1:
Length of TBL Programs
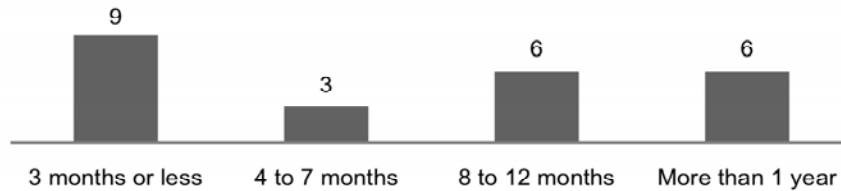
Note: Because some programs offered more than one study option (e.g., full- or part-time), the length of training was counted per option rather than per program; consequently the number of programs in this exhibit exceeds 21, the total number of TBL programs included in the analysis.

program of its kind, it offered participants only a certificate of completion. Virtual Hospital staff members hoped that even though their certificate of completion was not acknowledged professionally, it would provide a "mental benefit" to participants (e.g., increase their knowledge base in addition to their English language proficiency).

Exhibit II-2:
Types of Credentials Offered by TBL Program Operators
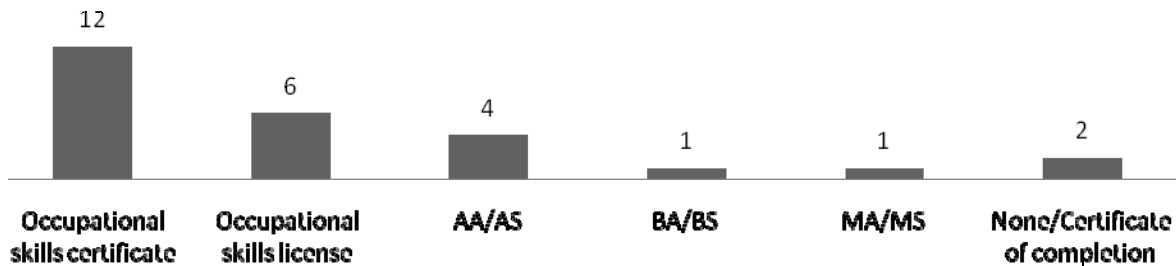
Note: Because some programs offered more than one type of credential, the number of programs in this exhibit exceeds 21, the total number of TBL programs included in the analysis.

Twelve TBL program operators offered participants the opportunity to earn more than one degree or credential through their TBL programs. These included all of the IT programs and most of the nursing programs.

Recruitment and Eligibility

In their program recruitment activities, most TBL programs targeted certain groups of individuals such as unemployed or underemployed workers or workers in a specific field. To enroll in the TBL programs, though, individuals in these targeted groups typically had to satisfy a number of eligibility requirements. This section describes the groups targeted for recruitment into TBL programs, the methods used to recruit these groups, and program eligibility requirements.

Recruitment

As indicated in Exhibit II-3, most TBL program operators identified specific groups of individuals to recruit for enrollment in their TBL programs. Many program operators targeted individuals who were working or had worked in the specific industries or occupations in which they offered TBL training. In particular, four of the programs—CATS, CIM, PHN Ready, and Virtual Hospital—served only incumbent workers.[3] Many TBL programs also focused on serving workers who were unemployed or underemployed or who had been dislocated. A few programs specifically targeted disadvantaged individuals for recruitment, such as low-income participants and persons with disabilities. Only one program, GCPI, indicated that it did not target any specific population.

Exhibit II-3:
Specific Groups Targeted by TBL Programs
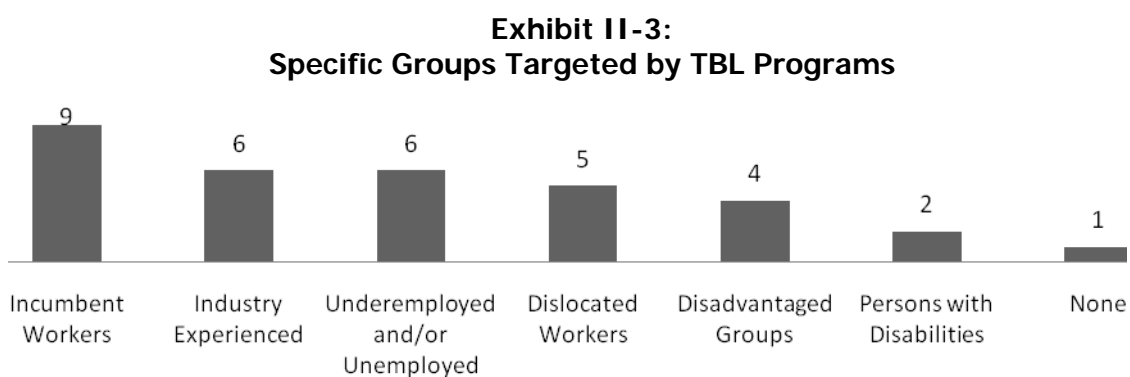
Note: Because some programs targeted more than one type of participant, the program count exceeds 21, the total number of TBL programs included in the analysis.

Program operators used a number of strategies to recruit individuals from these target groups for their TBL programs. The most common strategy was to advertise directly to the public (please see Exhibit II-4). This type of advertising typically consisted of placing information about the program on program operator Web sites, placing advertisements in print or on the radio, and making presentations to neighborhood groups or local high schools and colleges.

Many program operators also recruited by obtaining referrals from partners, mainly local public workforce agencies. These partner agencies often allowed TBL program

---

[3]   Four other programs targeted incumbent workers in addition to other groups of individuals. In addition, although it was serving only incumbent workers at the time of the site visit, GCCC planned to target other worker groups (such as unemployed adults, dislocated workers, and middle and high school youth) in the future.

operators to place recruitment materials in their offices or make presentations to their clientele. For instance, TEC was able to successfully recruit a number of participants through its partnership with the Chicago Housing Authority (CHA) because CHA allowed TEC to give presentations to its residents who needed to fulfill a work or job search requirement. Other program operators formed strong agreements with employers that served as primary sources of referrals, sending advertisements to these employers to share with their employees.[4]

Finally, some program operators targeted participants they had served before or were serving through other programs. This targeting of existing participants often occurred when the TBL program was part of a larger organization such as a college or university.

Exhibit II-4:
Recruitment Strategies used by Program Operators

Recruitment Strategy	Count
Not yet started	2
Advertising to the public	12
Referral from partners	11
Advertising with partners	10
Employer referrals	7
Recruited existing clients/students	6
Advertising targeted to industry orgs	4
Word of mouth	3
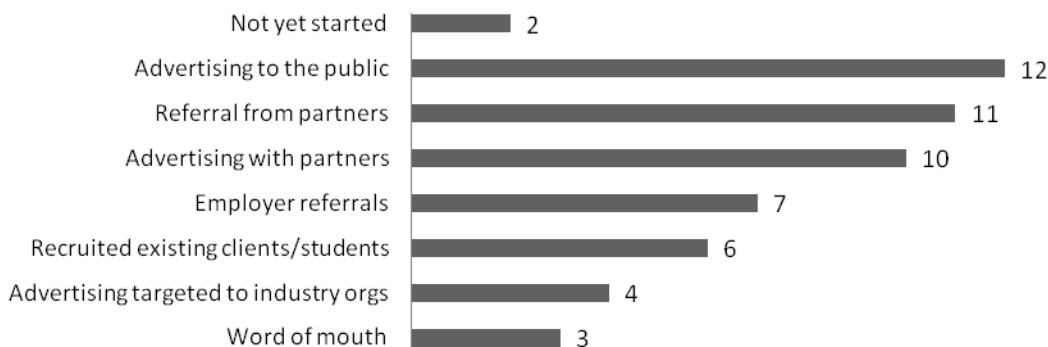
Note: Because some program operators used more than one type of recruitment strategy, the number of programs counted in this exhibit exceeds 21, the total number of TBL programs included in the analysis.

Most program operators indicated that they did not face significant challenges to recruitment. In the cases where enrollment was slower than expected, program operators stated that this was because of delays in program implementation rather than unsuccessful recruiting efforts. Of the few programs that noted recruitment challenges, most indicated they struggled because many recruited applicants did not meet program eligibility requirements.

---

[4]   More information about employer partnerships is provided in Chapter V.

Eligibility Requirements

To ensure that they were enrolling individuals who had the ability to succeed in their programs, nearly three-quarters of all TBL programs had certain eligibility requirements. Because most programs required participants to make extensive use of computers in the course of their studies, the majority of TBL programs required that students have at least a basic understanding of computers prior to enrollment (please see Exhibit II-5). A few of these programs offered participants who did not meet the program requirements assistance bringing their computer skills up to a basic level. Programs did this by including basic computer skills training early on, for example during the orientation, or by offering additional stand-alone courses. An example of the latter is OC WIB, which collaborated with Coastline, to offer workshops on basic computer proficiency at local One-Stop Career Centers for nurses who might participate in the Virtual Hospital program.

Three TBL programs required an advanced set of computing skills. In two of these programs—CareerLink and New Way Diesel—participants needed strong computer skills upon entry because the curricula focused on programming and other forms of sophisticated computer training.

Exhibit II-5:
Level of Computer Skills Required by TBL Programs
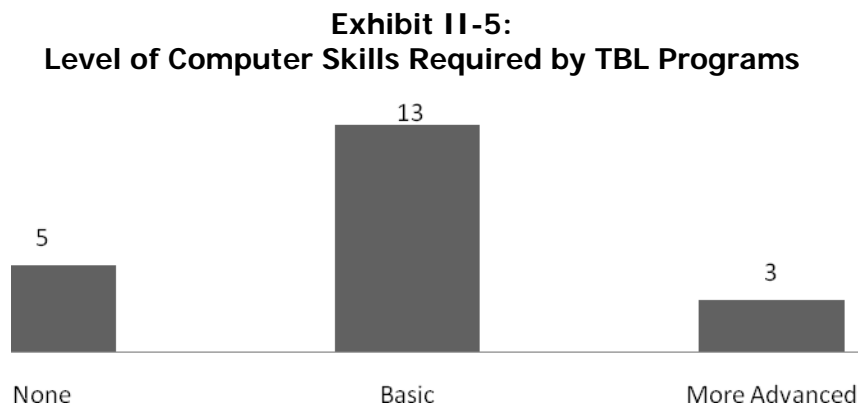
All but five TBL programs also imposed eligibility requirements not related to computer skills (please see Exhibit II-6). Some programs required participants to have a pre-existing degree or licensure. Examples of this requirement occurred with the programs that catered to nurses who needed to re-activate their licenses to return to the workforce, namely the Nurse Return to Work and Nurse Refresher programs. In addition, nursing programs often required the completion of prerequisite courses, a minimum grade-point average in all or some courses, and completion of nursing assessment tests. Other programs simply required participants to demonstrate a

minimum level of competency in reading and/or math. A few programs had geographic requirements, stipulating that participants had to work or live in the geographic areas the program targeted for services. Two TBL programs—CIM and Manufacturing Essentials—relied heavily on employers to recruit and select participants and did not impose any additional eligibility requirements.[5]

Exhibit II-6:
Eligibility Requirements of TBL Programs

Category	Value
None	5
Pre-existing degree/license	4
Prerequiste courses	4
Minimum GPA	4
English and/or math competencies	4
Assessment test scores	3
Work location/residency requirement	3
Employer referral	2
Disabled person	1
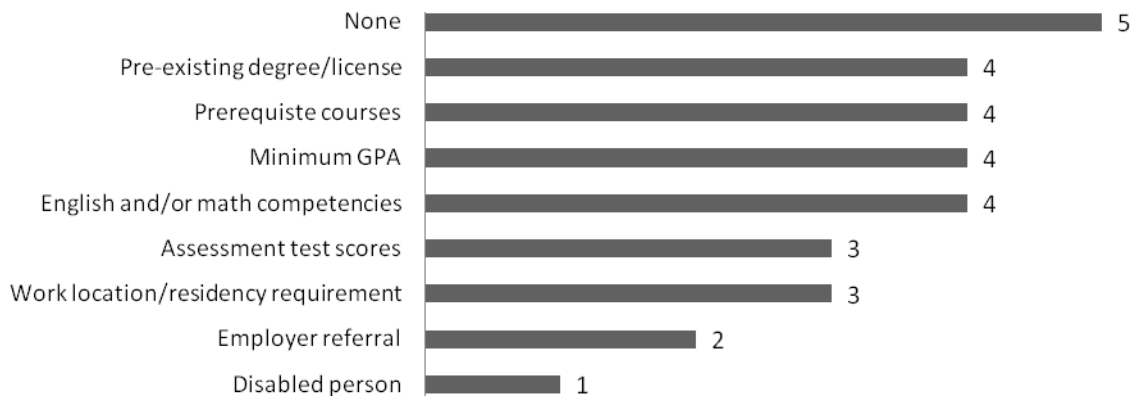
Note: Because some programs had multiple eligibility requirements, the number of programs counted in this exhibit exceeds 21, the total number of TBL programs included in the analysis.

Program Orientations

Following enrollment, most TBL programs conducted orientation sessions for incoming participants. Program staff members indicated that having orientation sessions was critical because participants spent much of the time working on their own and were not always able to access help from an instructor or other staff members easily. The two programs that did not offer orientation sessions used basic technology and offered courses that did not require any interaction with instructors or peers. In both cases, these programs made tutorials or instructions accessible to the user, either electronically or in printed form.

As shown in Exhibit II-7, the majority of program orientations were conducted in a group setting. Although most located their instructional content mainly online, 12 of the 14 programs with group orientations required in-person attendance at orientations.

---

[5]   After testing the CIM curriculum through the TBL grant, GCCC plans to expand training opportunities to other worker groups, such as unemployed adults, dislocated workers, and middle and high school youth.

Staff members from multiple programs indicated that in-person group orientation sessions were especially beneficial to TBL participants because they gave students the opportunity to develop personal relationships with peers and faculty. This relationship-building helped facilitate effective online interactions and collaboration for the duration of the program. One of these programs, however, had trouble securing a location with sufficient space to hold in-person group orientations. Of the other two programs with group orientations that did not require in-person attendance, one was taught completely online, while the other offered the option of attending an in-person orientation or doing the orientation online.

Exhibit II-7:
Characteristics of TBL Program Orientations
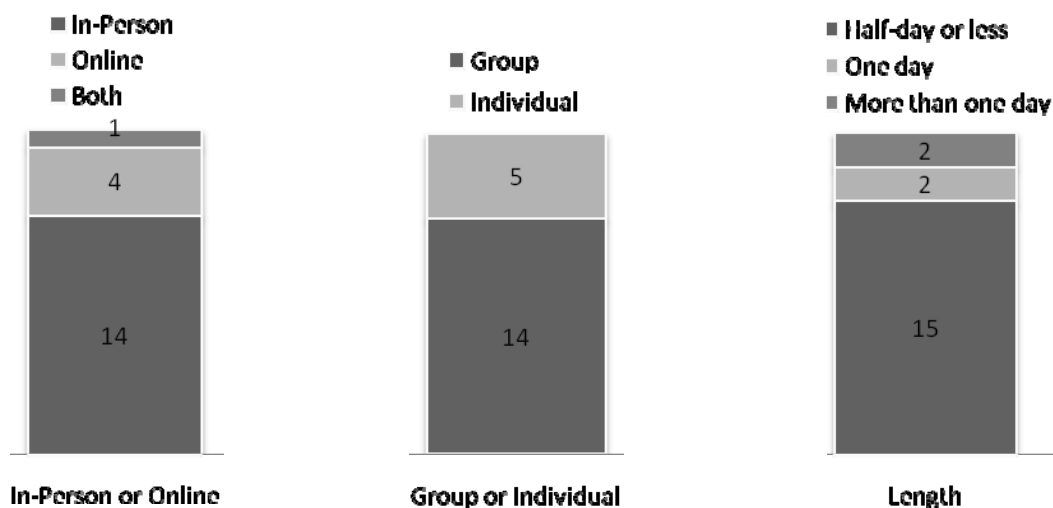
Note: The charts above exclude the two programs that did not offer orientation sessions.

The remaining five programs requiring orientations provided them to participants individually—three online and two through in-person meetings. One reason three of these programs provided orientations one-on-one was that they used such sessions as opportunities to provide students with individualized academic advising and/or career counseling along with a program overview. In the case of OWATC, individual orientations were necessary because participants entered the program on a rolling basis and thus it was not feasible to conduct formalized group orientations at fixed points in time.

Regardless of whether orientations were conducted in a group or individual setting, staff members indicated that in-person sessions provided participants with a more comfortable environment in which to gain an understanding of how TBL learning environments were to be used and to address any potential technical challenges.

Most programs' orientation sessions lasted a day or less, with some taking as little time as 20 to 30 minutes. During this time, most sessions gave overviews of program structure and requirements (schedules and syllabi), expectations of students (attendance and grading policies), and the technology that would be used in the program. Some programs provided deeper introductions to program technology than others, with a portion allowing students to log-on to program computer systems during the orientation to gain familiarity with them and to troubleshoot any problems related to accessing these systems.

Only four programs' orientation sessions lasted a full day or longer. GEM and INP provided the longest orientation sessions (four and three days, respectively). GEM's orientation required students to attend four day-long sessions at the beginning of each quarter that included both instructional and social activities. GEM students were also required to stay overnight in the hotel where the orientation was held (even if they resided locally), so that they would have more opportunities for interaction among their peers. INP called its one-time, three-day orientation session a "boot camp" that was aimed at introducing participants to online courses, reviewing basic computer applications with them, and providing them with strategies that would assist them in succeeding in an online learning environment. Both GEM and INP students expressed satisfaction with their programs' orientations, despite (or perhaps because of) their length. To illustrate the benefit of thorough orientation sessions, a few students in a program with only a half-day orientation indicated that they would have liked the session to have been longer and more comprehensive.

Learning Management Systems

All but one of the TBL program operators used an electronic learning management system (LMS) to house and manage its TBL training program. The only program operator that did not use an LMS was WVUP, which used videoconferencing exclusively.

Half of these program operators—all attached to institutions of higher education—used an LMS owned by Blackboard, either Blackboard Learn or ANGEL (which was purchased by Blackboard in 2009). Because the costs of the Blackboard LMS were borne by the

college or university as a whole, programs had to pay little or nothing for its use. In most cases, these institutions, either individually or as part of a consortium, had purchased a Blackboard LMS to host their online programs prior to the awarding of the TBL grants.

Most of the other program operators were using custom-designed LMSs. Three employed contractors to design LMSs specifically for their TBL programs. In the case of A-DA and HCC, the contractor that designed the LMS also helped develop the content of the online training programs. The other six program operators used custom-designed systems that were developed prior to the awarding of the TBL grants. For example, Coastline designed its custom LMS, Seaport, over six years ago because, according to staff members, it had the in-house talent to do so and was tired of paying for Blackboard Learn.

EDG, the program operator for the CSA Reno grantee, used Moodle, an open-source LMS that can be obtained free of charge. Moodle has similar functionality to and is compatible with commercial products such as Blackboard Learn.

LMS Functions and User Interfaces

LMS users—students, faculty, and staff—typically accessed these systems by using their web browsers to call up the LMS Web site and log onto the system using an assigned user name and password. Once users entered the LMS, they could navigate the system in ways similar to most standard Web sites. Generally, users indicated that navigation of their programs' LMS using tabs and menus was quite easy (please see Exhibit II-8 for an example of an LMS home page).

SPR

Exhibit II-8:
LMS Example: New Way Diesel's Moodle Homepage

Typically, programs used their LMSs to perform the following functions:

- allow students to enroll in classes;

- allow students access to training materials, including recorded lectures and PowerPoint presentations;

- inform students of assignments;

- provide a place for students to submit work;

- assess/test students;

- track student progress, grades, and/or certifications; and

- provide avenues for communication between peers and with instructors.

Most programs also used their LMSs to track participant usage, including attendance, students' use of chat functions, and the time participants needed to move through training materials or exams. In some cases, programs also used the LMS to automatically grade student quizzes or tests and provide automatic feedback for each wrong answer. Additionally, some programs used the LMS to collect and store limited

demographic, background, and contact information for students, though most of these programs also used one or more administrative data systems to capture more extensive participant information.

Challenges in Using LMSs

A few program operators noted some minor challenges with their LMSs, such as particular links or features that did not work properly. For instance, a staff member at one program reported that the student tracking functionality did not work. Staff members in other programs reported that Blackboard Learn was sometimes challenging or confusing to use. For example, staff members from a few programs mentioned that they had difficulty using the system's communication tools. One instructor mentioned that she found Blackboard Learn so cumbersome that she had to redesign some aspects of the course she was moving online.

Other program operators faced more sizeable issues with their LMSs. Staff members at one program noted that some students had difficulty setting up accounts and logging in. At another program, students reported that they were unable to view online videos, so they had to settle for just listening to the audio feed. One program operator experienced server problems that caused students to be without access to course materials and tests for days at a time. While the source of this problem was unclear, the program operator addressed this issue by using Blackboard, rather than its own server, as the college's Web host.

Technical Support

Most TBL programs offered students multiple avenues for receiving support for dealing with computing and LMS access issues. One avenue was the LMS itself. Most LMSs had built-in support features that gave students access to online user guides and tutorials and allowed them to contact technical support personnel through e-mail, live chat, or telephone. Typically, staff members at these organizations were available even after business hours, at least by e-mail. Many program operators associated with larger organizations, such as colleges or universities, also provided dedicated technical support through help desks that were available to all affiliated students, including TBL participants, with the hours of operation varying depending on the program operator.

TBL participants also received technical assistance directly from program staff members or instructors. This technical assistance often included help with addressing issues related to the LMS, as well as general computing support. Nearly all program operators

SPR

indicated that they had at least one program staff member who served as a technical assistance resource for participants. These staff members typically provided participants with their e-mail addresses and/or phone numbers so that participants could easily contact them for assistance.   Participants in programs with regular in-person requirements or onsite computer labs could also receive computer or LMS assistance from onsite program staff members.

TBL program staff members or instructors seemed to be the preferred source of technical support. Participants indicated that these staff members were best at answering questions about program-specific technology as well as questions related to the LMS. Participants who attended in-person sessions or used onsite computer labs also said that the most direct route to receiving effective help was to ask the staff members or instructors who were present.

In addition to helping with computing issues, many programs also assisted participants with obtaining the technology needed to participate in the program. This type of support usually consisted of allowing participants access to computer labs onsite or at partner facilities. For participants in its online IT Training program, WTCC coordinated with local workforce partners to provide students with access to courses via the computer labs in One-Stop Career Centers. Using grant funds, these centers were also equipped with assistive technology to ensure that individuals with disabilities could also access the program. At least two program operators also helped participants obtain computer hardware or software. For example, at Temple CSPCD, staff members noted that participants had challenges simply accessing computers, so they developed a lending library of laptop computers for participants to check out and use for accessing course materials.

Accommodations for Disabled Students

All TBL program operators indicated that they were compliant with the provisions of the Americans with Disabilities Act (ADA) or were able to provide technical accommodations for students with disabilities as needed. The most commonly provided accommodations were screen readers and closed captions for online videos. Blackboard Learn, used by a number of program operators as an LMS, enabled all of its content to be heard via a screen reader.

Some TBL programs also provided additional accommodations for disabled participants. For example, A-DA, an organization that specialized in providing services to persons

with disabilities, ensured that its onsite computer lab was wheelchair accessible. As discussed above in reference to *Technical Support*, part of WTCC's grant funds were spent on purchasing assistive technology for 22 local One-Stop Career Centers, to ensure that disabled individuals could access TBL courses.

Staffing

To operate their TBL programs, nineteen program operators employed at least five staff members who worked part- or full-time on the program. Although there was some variation in the roles that staff members played, five positions were common (please see Exhibit II-9).[6]

- **Grant Administrator/Program Manager.** All of the programs had at least one person serving as a manager of the grant and/or program. Typically, the administrator/manager supervised coordination of the program and served as a liaison to ETA.

- **Instructional Designer.** Most of the programs employed an instructional designer to assist with designing or editing online materials and course content. In some cases, the instructional designer was an employee of a sub-contractor who helped design the materials for the TBL program or was part of the grantee or program operator's e-learning/online programs department. In other cases, program operator staff members and instructors served as the instructional designers. Often these staff members also assisted with designing other online programs offered by the program operators. The six program operators that did not employ instructional designers had pre-existing course materials that they were already using or that had been developed by other entities.

- **LMS/Online Programs Director.** Most of the program operators had a staff member who oversaw the program's technology, including its LMS. In many cases, the staff member in this position worked with the program operator's other online programs, serving as head of online programs or e-learning for the program operator as a whole. In a few cases, the staff person who oversaw the program's technology did so only for the TBL program, though most of these people served another function—such as course instructor—within the program as well.

---

[6]   Staffing information for Cohort I program operators was gathered during the first round of site visits (fall 2009); staffing arrangements might have changed by the time of the writing of this report.

SPR

- o **Liaison to Students.** A few program operators employed at least one staff member who served as a liaison to students. These individuals were typically academic counselors or case managers. In the MAP-RN program, for example, participants were assigned mentors who advised them on how to navigate through the program and monitored their academic progress.

- o **Instructors.** Nineteen program operators employed at least one instructor. The only program that did not have an instructor, PHN Ready, used only pre-existing courses gathered from third-party sources. The number of instructors employed by program operators varied quite a bit. Some only required one instructor, while others, especially those with multiple program tracks or considerable in-person requirements, had numerous instructors. For example, because CSN had two nursing programs with in-person laboratory and clinical requirements, the program operator employed more than 15 instructors.

Exhibit II-9:
Types of Staff Member Positions Among Program Operators

Grant/Program Manager	Instructional Designer	LMS/Online Programs Director	Liaison to Students	Other Staff	Instructors
20	14	12	7	18	19
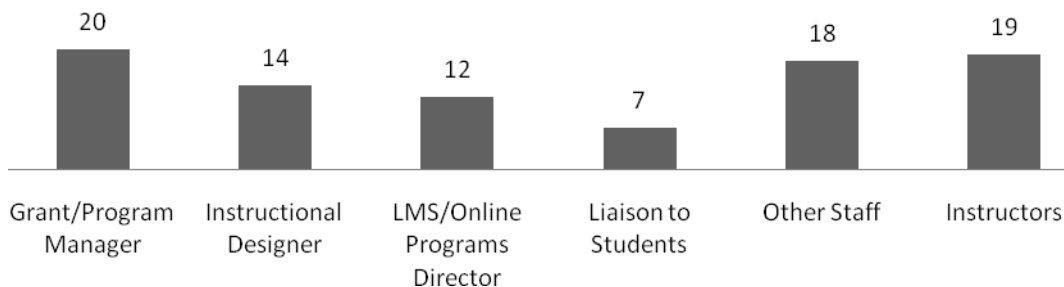
Non-Training Services

Many program operators provided non-training services aimed at supporting TBL participants' efforts to complete training and find employment. Nearly all of these services fit into one of the following categories: employment services, case management, and support services.

Employment Services

Assisting program graduates with securing employment was a goal of many TBL programs. However, the extent to which programs provided career counseling or other employment-related services to participants varied. Not surprisingly, TBL programs that targeted incumbent workers tended to provide few or no employment services to program participants, while those targeting unemployed or underemployed participants were much more likely to do so.

Among those programs that offered employment services, most provided participants with access to a job developer and/or career counselor who assisted them with finding a job. For instance, in the CSPCD TBL program, participants were assigned to a career advisor who helped them design career plans. These career plans were later used by a job development specialist to help participants find employment after they completed training.

Most of these programs also conducted job development with employers to generate possible placement opportunities for participants. One example of a program that conducted job development was A-DA, which worked closely with its partners to identify employers that could offer jobs to its TBL program participants. As a result of its efforts, A-DA staff members reported that there were a number of open positions waiting for TBL participants who completed their training.

Other programs did not specifically offer employment services, but operated in an environment in which such services were available to participants. For example, most TBL program operators that were institutions of higher education operated career centers that were available to all students, including those enrolled in TBL training programs. However, these centers provided employment services that were not focused on the specific TBL fields, so few TBL students made use of them.

A few program operators had strong partnerships with public workforce agencies or other community service organizations to which they referred clients for employment services. In some instances, TBL participants received career counseling and other employment services through local WIA program providers because their training was supported by WIA Adult, Dislocated Worker, or Youth program funds.[7]

The majority of the TBL programs indicated that students were provided with some job readiness and/or soft skills training. When conducted by program operators, this training was typically incorporated into the program's required course of study. For example, at OWATC, participants were required to take a job readiness course that covered resume writing and interviewing skills. Most nursing programs included some soft skills training within courses to prepare students for working with patients, doctors, and nursing supervisors in clinical sessions. Other programs made job readiness and soft skills training available, but did not require all participants to take part. For

---

[7] Co-enrollment with public workforce system partners such as WIA program providers is further discussed in Chapter V.

SPR

example, New Way Diesel participants could attend CSA Reno's workshops on job search and interviewing skills, but were not required to do so. Finally, TBL participants who were co-enrolled in public workforce system programs, such as WIA, typically received job readiness and/or soft skills training from those programs.

At least seven TBL programs required that their students participate in internships or work experience with employers as part of their course of study. These experiences, both paid and unpaid, allowed participants to gain needed work experience and establish employer contacts, with the possibility that employers might hire them after graduation. These internships also provided employers with the means to try out potential employees at little or no financial expense.[8]

Case Management and Support Services

Case management services were provided to relatively few TBL participants, all of whom were low-income and unemployed or underemployed. Because only three TBL programs provided this service directly, most of the participants who received case management did so from a partner program in which they were co-enrolled, such as the WIA Adult program.

Case managers typically worked with TBL participants to ensure that they had the supports necessary to complete training and find and maintain employment. For example, in the MDL/MUP TBL program, case managers (called "administrators") helped participants create employment and training plans and detailed the supports—such as additional tutoring or housing—that participants would need to complete training and find a job. If these supports were not available through TEC, case managers referred participants to outside agencies.

When outside agencies provided case management, TBL staff members tried to communicate regularly with these case managers to help develop training plans and keep case managers abreast of participants' progress in the program. Typically this communication was via e-mail.

Participants who received case management services were also usually eligible to receive support services, and case managers typically facilitated access to these services. The most common support services received by TBL participants were

---

[8]   This topic is further discussed in Chapter V.

transportation assistance (often in the form of bus passes) and childcare subsidies. For example, many CareerLink participants, who were co-enrolled in a program funded by California's Department of Vocational Rehabilitation, received bus passes, were assisted in making paratransit arrangements, or were provided with funding for modification of their personal vehicles so that they could travel to program activities.

Summary

The characteristics of TBL programs varied considerably. Depending on the program, the duration of training could be anywhere from 30 minutes to two years. TBL programs also provided training that led to a variety of occupational skill certifications, professional licenses, and college degrees (including associate's, bachelor's, and master's degrees).

Programs targeted a variety of groups in their recruitment efforts, including incumbent workers, underemployed and unemployed individuals, and dislocated workers. To recruit these participants, program operators employed numerous strategies, such as placing advertisements on their Web sites, in print, or on the radio; providing materials to partner organizations and employers; and obtaining referrals from partners.

Once recruited, individuals from targeted groups had to meet certain other requirements (e.g., prerequisite computer skills) established by program operators. However, programs varied greatly in the extent of their requirements; some programs had no prerequisites while others had very specific eligibility criteria.

Most programs provided newly enrolled participants with orientation sessions covering program policies, course structure, and program technology. These orientations were typically conducted as in-person group sessions, though the duration of sessions varied from 20 minutes to four days.

To provide access to course materials, nearly all of the programs used an LMS, most commonly Blackboard Learn or Angel; the LMS allowed participants to access training materials, receive and submit assignments, complete tests, and communicate with peers and instructors. Most program operators made some accommodations to ensure that disabled participants could access materials on their LMSs. Because these systems were complex and had occasional problems, all program operators provided some sort of technical support to participants.

All program operators employed at least four staff members and all but one employed at least one instructor. The non-instructional staff members typically included a grant

administrator/program manager, an instructional designer, an LMS/online programs director, and a liaison to students.

TBL programs provided participants with a number of non-training services. These services primarily included employment services such as career advising, job placement, job readiness/soft skills training, and internships or other work experience. Three programs also provided case management and supportive services; most TBL participants who received case management, however, received it from partner programs.

III. PROGRAM DESIGN AND DEVELOPMENT

By and large, the goals of individual TBL grantees[1] and program operators mirrored the TBL Initiative's broad goals of increasing access to quality education and training while at the same time addressing the needs of high-growth industries. These goals determined the parameters of the design and development process, dictating what grantees and program operators had to consider in designing their TBL programs. This chapter begins by discussing the considerations that affected the design of TBL programs; then it describes the process of designing and developing program curricula.

Program Design Considerations

TBL programs were shaped in large part by the perceived needs of both the industries and the populations that were targeted. During the design phase, grantees and program operators devoted time to identifying these needs and considering how they might be addressed through their respective TBL programs. In addition to these primary concerns, the needs of grantees and program operators themselves also shaped TBL program design.

Meeting Industry Needs

Meeting industry needs was a primary consideration across all TBL programs. Specifically, grantees and program operators aimed to increase the quantity and quality of the workforce in certain high-demand industries—most notably health care and IT. The program developed by WTCC is a good example of this responsiveness to the workforce needs of industry. WTCC's employer partners communicated that they had difficulty filling entry-level programming and networking positions, so WTCC decided to

---

[1]   As noted in Chapter I, six grantees had agreements with other organizations to conduct most or all program activities. However, four of these grantees (IDCEO, HCC, OC WIB, and CSA Reno) were involved in at least some portion of design activities. Consequently, this chapter refers to both grantees and program operators, which in the case of these four grants were different organizations.

increase the number of entry-level workers trained in these occupations by using the TBL grant to move four of its networking and programming certificate programs online.

Employers also emphasized the importance of considering timeframe in program design. Specifically, they expressed the need for shorter training programs so that participants could move quickly into positions of employment to meet industry demand. CSPCD's TBL program exemplifies responsiveness to this particular need. After employers complained about the difficulty they had filling entry-level medical billing and coding positions, CSPCD decided to design its TBL program so that students with no prior IT background could acquire the skills necessary to fill these positions in only 15 to 18 weeks.

Some employers also communicated that they needed training programs that did not require their workers to be off-site or absent from work for long periods of time to receive training. Such a need was expressed by direct-care employers in Wayne County, Michigan, so CATS program designers created courses that could be completed entirely online.

Meeting Participant Needs

TBL grantees and program operators were equally concerned about meeting the needs of program participants. First and foremost, by training their participants in the skills needed by high-growth, high-demand industries, grantees and program operators increased the likelihood that participants would find new or improved employment after training. However, participants had various more immediate needs that program designers had to take into account as well. In attempting to meet these needs, grantees and program operators carefully considered certain characteristics of their programs' target populations, such as the distance participants lived from the program operator's location, their academic backgrounds, and their computer skills.

Armed with that information, grantees and program operators tried to design programs that would enable participants from these target populations to overcome challenges related to accessing training. Specifically, they focused on helping participants overcome challenges related to geographic distances, work schedules, life obligations, and finances. Other characteristics of participants were also considered by TBL programs, including academic skills and technological literacy. With respect to the distance challenges, grantees were able to expand access to training simply by offering all or key portions of their TBL programs online.

To address the challenges posed by participants' work responsibilities and other life commitments, program designers acknowledged the fact that participants with pre-existing work commitments would be unable to commit to the schedule of a traditional, in-person training program. For example, many of the nursing students in the LVN to RN Transition program were single mothers who could not afford to attend traditional classes and work only part time. Consequently, flexibility—in terms of both participation and pacing—was incorporated into programs' design to acknowledge the time constraints of participants, including those working in particular occupations such as nursing.

To help participants with limited incomes overcome the financial challenge of paying for training, a number of programs were offered free of charge. As previously discussed, other programs also acknowledged the financial circumstances of their unemployed and under-employed students simply by designing programs that would lead to employment as quickly as possible.

Program designers also attempted to be mindful of the academic backgrounds of target participants as well as their levels of technological proficiency. In acknowledgement of the concern that some target groups might have academic skills deficiencies that would need to be overcome in order to participate effectively, some programs designed specific components to address this issue. A majority of the enrollees at MCC, for example, required placement in at least one remedial course in mathematics, writing, or reading. This led program designers to create the Virtual Academic Nursing Assistant position to provide academic intervention when needed.

TBL program designers were also sensitive to the varying levels of technological proficiency of their participants, and those participants' access to appropriate technology. For example in programs such as CATS, where there were no formal degree requirements for participation and levels of technological proficiency were assumed to be relatively low, the program was designed to be correspondingly simple. WVUP program designers, being mindful of the fact that many rural West Virginians lack the high-speed access to the Internet necessary to participate in an online course, opted to use videoconferencing technology, which was readily available, to broadcast EAP courses to rural locations. GCPI, realizing that its participants would be unable to purchase and run most of the program's required GIS software on their home computers, installed desktop virtualization on a computer server at NOVA, thereby allowing students to access required software from this server, rather than from their

own hard drives. As discussed in Chapter II, other programs that planned to serve participants who might not have ready access to computers with Internet access, worked out arrangements with local One-Stop Career Centers to allow participants to have access to Center computer labs, or arranged to provide computers or other required hardware to participants themselves.

Addressing Organizational Needs

Finally, program operators considered the needs and goals of their own organizations in designing their TBL programs. In many cases, the TBL Initiative served as an opportunity for program operators—particularly colleges and universities—to advance their TBL and online learning capacity; these organizations often saw such capacity building as critical to their future success. CSN, for example, viewed the development of online sections for all of its ADN courses as critical to remaining competitive with other nursing schools, many of which already offered online programs. Similarly, the TBL grant provided Coastline with the resources and opportunity to increase its capacity to use Second Life[2] for course delivery. This had long been an interest of the Coastline curriculum development team, which had used this software in only limited ways prior to the TBL Initiative. If the piloting of Virtual Hospital, an environment with in Second Life, proved successful, Coastline planned to expand its use in other health-related arenas.

Other program operators considered various other organizational goals in designing their TBL programs. For example, at OWATC, TBL funds enabled the IT program to expand its lab space and purchase more computers. For NCTC, the TBL program allowed the college to build its simulation capacity through the purchase of robotic life-sized patients and software to create patient care scenarios.

Design and Development Process

In designing and developing their TBL programs, grantees and program operators typically engaged in a two-phase process. The first phase, which usually occurred prior to the awarding of TBL grants, was focused on making "big picture" design decisions, such as determining which industries, occupations, and populations would be targeted,

---

[2]   Second Life is a virtual world developed by Linden Lab that is accessible via the Internet. In Second Life, users interact with one another through avatars, or computer-generated versions of themselves, to explore, socialize, create, and trade virtual properties and services.

and whether and how existing curricula would be upgraded or if new curricula needed to be developed or acquired. The second phase of the process, which typically began after the TBL grants were awarded, involved designing, implementing, and testing the curricula upgrades or new curricula that were planned in the first phase. Both of these phases are described below.

Phase One: Big-Picture Design

For many grantees, the first phase of the design and development of their TBL programs started when ETA's SGA was released in June 2008 and was typically completed when the grantee submitted its grant proposal to ETA. Often the process began when a grantee staff member read the SGA and decided that one of the organization's existing training programs (most TBL grantees were training providers) would be appropriate for the grant. For example, upon learning of the grant, NCTC's Vice President of Institutional Advancement contacted the college's nursing department to discuss whether department leaders and faculty would be interested in pursuing it.

In other cases, a key grantee partner or employer brought the idea for the grant to a training program operator for consideration. For example, a private-sector nursing executive and a representative of the local WIB brought the idea for the TBL program to CSN's nursing department, seeing it as a way to help the employer deal with a shortage of RNs.

For still other grantees, the idea to pursue the grant came from their awareness of a need for training in a particular high-growth industry. IDCEO, for example, chose to pursue the TBL grant largely in response to a report issued by the Illinois IT Task Force. This report cited data that identified IT as a high-growth industry in Illinois and outlined the workforce training needed to meet the needs of this industry. After reviewing the findings of this report, IDCEO staff approached TEC to explore the company's willingness to develop and provide a TBL training focused on IT. Similarly, TGC chose to pursue a TBL grant with a focus on the direct care industry as a result of an

> **Using Internal Data to Select a Target Industry: the CATS Program**
>
> The specific focus for the CATS program was identified after TGC began capturing member data from those registering for its annual Recipient Rights course. From these data, TGC discovered that a far greater proportion of the Detroit-Wayne County mental health workforce was composed of direct care workers (44 percent) than previously thought. From this discovery came the joint determination by TGC and the Detroit-Wayne County Mental Health Agency (the primary funder of TGC's online training programs and a key partner) that there was a large unmet need for entry-level and ongoing training opportunities for this segment of the mental health workforce. Thus, the mental health direct care sector became the targeted industry for TGC's TBL program.

SPR

analysis of data it had collected from users of one of its pre-grant online training programs. These data indicated that there were far more direct care workers employed in Wayne County than previously thought and that these workers were in need of additional training to maintain their licenses and employment. (Please see the accompanying textbox, *Using Internal Data to Select a Target Industry: the CATS Program*.)

After making the decision to pursue a TBL grant, grantees typically pulled together a small group of key stakeholders and met with them as often as weekly to determine on which specific occupations the TBL program should focus, what group or groups should be targeted for participation, and what curricular changes or development needed to occur. Participants in these groups usually included training program instructors, LMS/online program managers, grant writers, and other grantee or program operator organizational leaders. To ensure a clear understanding of industry needs, a number of grantees also included local WIB representatives and employers in these groups. For example, at CSN, the phase-one design group consisted of the college's Dean of Health Sciences, the Director of Nursing, the Dean of E-learning, a representative of one of the area's largest hospital systems, and a representative from the local WIB.

These phase-one design groups generally used two primary methods to determine the occupations within the target industry on which they would focus their TBL programs. Most commonly, they consulted with employer and WIB partners to identify the occupations that were most in demand in the local labor market, and whether there was sufficient training capacity to meet those needs. Some groups, such as the one organized by Temple CSPCD, also utilized labor market data and forecasts to make this decision.

Once they had determined which occupations to target, most design groups then reviewed the proposed training program operator's existing curriculum to determine how TBL methods might be used to increase access to training for the selected occupations. Design groups for eight TBL programs determined that the best way to do so would be to create online versions (usually with some remaining in-person requirements) of some or all of the program operator's courses related to the targeted occupations.

Design groups for at least four other TBL programs decided that the best way to increase access to training in targeted occupations was to upgrade or make slight changes to the proposed program operator's existing curriculum. For example, the

design group at GTC decided that the best use of the TBL grant would be to upgrade the already-online[3] Nurse Return to Work program with new equipment and updated videos and software.

Similarly, the Rural Health Alliance in West Virginia, the design group for EAP, realized that it could expand access to WVUP's CNA training by making use of existing local technology that was not being used. Videoconferencing technology (Polycoms) had been given to nine members of the design group as part of a previous grant, although the members had not yet used it. WVUP's Vice President of Academic Affairs hit upon the idea of using that technology to train nursing students in the rural areas where the design group members were located.

Design groups for the eight other TBL programs, by contrast, realized that the proposed program operator did not have existing curricula that could be used to provide training for the targeted occupations, or that the existing curricula had significant gaps. Consequently, new curricula would have to be either developed or purchased.

In contrast to the selection of occupations and the determination of what changes or additions were needed to curricula, the process of selecting the target populations for TBL programs generally involved little or no discussion by design groups. Instead, this decision appeared to have been largely dictated by the grantee or program operator's mission and orientation (e.g., A-DA's focus on the disabled) or by the nature of the program (e.g. nurses whose licenses had lapsed for Nurse Refresher). Other times, selection of target populations aligned with the needs of the areas served by program operators. WVUP, for example, chose to focus on rural residents for EAP because of a shortage of CNAs in the rural areas surrounding the university.

Although these big-picture design groups did generally determine how TBL program curricula would change as a result of the grant, they left most of the details of those changes—what they would look like and how they would be implemented—to the second phase of the design and development process, which is described below.

Phase Two: Designing and Developing Curricula

For most TBL programs, the second phase of the design and development process began immediately after the TBL grants were awarded and focused on implementing

---

[3]   As will be explained in Chapter IV, Nurse Return to Work is actually a *blended* course, meaning that some portions of the course are conducted online, while others occur in person.

SPR

the big-picture design decisions made during phase one. There were four primary approaches used by program operators to carry out this second phase of the design and development process. The first and most common approach (used by at least 15 program operators) was to pair training program instructors with instructional designers or other program operator staff members who were knowledgeable about TBL methods. Often these instructional designers were employees of the program operator's online programs department and were responsible for working with instructors teaching courses with online components.

This pairing of instructors with instructional designers was effective because it brought together individuals who were knowledgeable about training content but often knew little about TBL methods (instructors) with individuals who were knowledgeable about TBL (instructional designers). Generally, the less knowledgeable instructors were about TBL methods, the more involved were the instructional designers. In the case of CSN's ADN program, where the instructors had almost no prior TBL experience, an instructional designer was very involved in the development of blended online sections for each course (please see the accompanying text box, *Development of Blended-Online Sections for CSN's Nursing 101*).

Despite the heavy involvement of CSN's instructional designer, course instructors ultimately determined the structure and layout of each course, as long as it did not violate the college's basic guidelines for online instruction. Consequently, each ADN course's blended online sections were structured slightly differently. By contrast, in other programs, the instructional designer had the final say regarding TBL course structure. For example, GEM's instructional designer, in collaboration with the program's advisory committee, created a template for course instruction that required, among other things, audio-video recordings of instructor lectures and weekly discussion board assignments. For the sake of consistency, the program then required all instructors to adhere closely to this template.

Another approach to implementing the design decisions made during phase one was to rely solely on instructors to make these changes. For example, OWATC relied

---

Development of Blended-Online Sections for CSN's Nursing 101

During fall 2009, when the ADN program's pilot online blended sections for Nursing 101 were developed, the instructional designer met weekly with the course's two primary instructors. During these meetings, the instructional designer first explained all of the features of CSN's LMS (ANGEL) as well as the typical structure for an online course. She then worked with the two instructors to define the overall structure for Nursing 101's online sections and the layout of course materials on the LMS. She also assisted instructors by recording, editing, and uploading their course lectures in video and MP3 format.

on its IT instructors to add additional online components and methods to the IT courses in its TBL program. However, the college ran into serious challenges with this approach because its TBL instructors became too overwhelmed by the demands of their TBL students to have time to move forward with some of these changes. Similarly, GCCC originally intended for one of its faculty members to revise the CIM program's course materials for the online environment and to create the Mobile Laboratory Kits. However, due to the amount of time required for this work, GCCC eventually had to hire an additional staff person and make extensive use of an engineer who worked for an employer partner to complete the curriculum revisions and create the kits.

At least five grantees and program operators used yet another approach to implementing the program design developed during phase one: they opted to contract out some or all of the development of the necessary curricula. In two of these cases, the grantee was a WIB or a state workforce agency and not a training provider, so it lacked any in-house capacity to develop a TBL training program. In the other two cases, the Banner Center and CSA Reno, the grantee was a training provider but lacked TBL experience and found it easier to contract out the development of the TBL program's curriculum to a provider that did have such experience. For CSA Reno, the contracted provider also operated the training program, while the Banner Center chose to operate its TBL training program itself.

Finally, at least three grantees or program operators implemented the program design developed in phase one by accessing already-developed curricula. For example, TGC used TBL grant funds to provide its CATS participants with access to the College of Direct Support's online continuing education library. In the other two cases, the grantee or program operator was able to gain access to already-developed curricula through partnership agreements (CPHCE) or through membership in a particular organization (A-DA's membership in the Association of Rehabilitation Programs in Computer Technology).

Once a new curriculum was available and/or upgraded, most program operators piloted it, either formally or informally, during the first term it was used by participants. For example, CSN's ADN program considered the first semester that Nursing 101's online sections were offered (spring 2010) as a pilot semester. To try to provide students enrolled in the pilot online sections somewhat more cohesion with their peers, enrollment was limited to entering part-time students. In addition, instructors tried to

regularly collect feedback from students during the pilot semester and made several immediate changes as a result.

Some programs used more formal testing procedures. For example, the TBL Worker Training program had all of its partner training sites log in to the Adobe Connect Pro platform for a mock run of the training prior to the first actual training cycle. Besides ensuring functionality of the platform, this also allowed partner sites to suggest changes. NCTC required the LVN to RN Transition program to go through a review and testing process conducted by the college's e-Learning Department to ensure functionality and an easily used interface before student participation occurred.

All of these program operators indicated that piloting their TBL curricula was important because it gave their staff members an opportunity to identify and solve problems before the courses were made available to a wider audience. Indeed, staff members of one program stated that the program delays that caused an unplanned pilot semester were "blessings" in disguise because they allowed the staff members to iron out a number of "wrinkles" before the program was fully implemented.

To receive guidance and feedback on the implementation and piloting of these curricula upgrades and development efforts, nine program operators regularly consulted with employers and other partners during this phase. Typically, this consultation occurred as part of regular TBL advisory meetings, although TBL staff members also sought input from key partners via e-mails and phone calls. At least two program operators also received input and feedback from hired consultants. For example, Coastline made use of contracted subject matter experts in the development of Virtual Hospital, including an expert on ESL and several nurse-educators affiliated with other local colleges.

Duration of the Design and Development Process

The duration of design and development processes for TBL programs ranged from about a year to more than three years, with most lasting for about two years. There were a number of key factors that influenced the duration of these processes. One factor was the amount of curriculum material that was being developed or upgraded with TBL methods. Program operators that used their TBL grants to create online sections for multiple courses typically developed these online course sections on a rolling basis over several semesters, and this took considerable time. For example, WTCC created online sections for 20 courses between the fall of 2009 and the summer of 2010, completing a few each semester.

Another factor affecting the duration of design and development processes was whether TBL curricula were being created from scratch, converted from traditional curricula, acquired from another source, or being upgraded. Programs that relied on curricula acquired from other sources or that merely made upgrades to existing curricula generally completed the design and development process more quickly than those that were converting their courses to an online format or creating entirely new curricula with new content, such as Virtual Hospital.

The kinds of technology used to develop TBL programs also affected the duration of design and development processes. For Virtual Hospital and CIM, for example, the sheer complexity of the technology used to create the programs demanded that considerable time be devoted to design and development. The development of Virtual Hospital required that program designers spend a significant amount of time creating the program's virtual environment within the Second Life virtual world. Similarly, designers of the CIM program had to create six custom-designed mobile laboratory kits to allow program participants to conduct hands-on experiments related to hydraulics, instrumentation, industrial networking, robotics, and other subjects. These kits, which were mostly the size of large briefcases (one was housed in a large crate), included a laptop computer and various other hardware components, including processors and switches.

The extent of a program operator's experience with TBL also affected the duration of design and development processes. At least 13 TBL program operators could be characterized as having strong prior experience with TBL. All but two of these organizations were colleges or universities, most of which had extensive online learning programs that had been in existence for years.

Having prior experience with TBL would be expected to shorten the duration of design and development, as experienced organizations do not have to figure out how to develop TBL curricula from scratch and are likely to have strong TBL infrastructures already in place. However, this did not seem to be the case as a number of program operators with extensive TBL experience actually required a longer development process than other operators. NOVA, for example, which had offered distance learning in some form since 1975 and administered all of its online and blended programs through a "campus" called the Extended Learning Institute, had a detailed, two-semester-long process for converting traditional curricula into an online format. Although twice as long as that used by many operators, this process ensured that

online courses could be implemented with a minimum of problems. (Please see the accompanying text box, *NOVA: Established Processes for Online Course Conversion*.)

Finally, a few programs experienced unexpected changes or difficulties that significantly extended the duration of their design and development processes. For example, one

program had its initially approved program plan rejected because it did not target an industry that relied on a large number of H-1B visa holders[4] and therefore had to redesign its program to focus on a different industry.

Summary

TBL programs were designed with many interrelated interests and considerations in mind. A primary consideration was to meet industry needs—specifically to provide targeted industries with sufficient numbers of trained workers in targeted occupations. Grantees also considered the expressed needs of employers in these industries, creating TBL programs with relatively short durations and offering courses that did not require workers to be offsite during work hours.

NOVA: Established Processes for Online Course Conversion
Having offered distance Learning since 1975, NOVA had a well-established process for converting traditional courses into online courses. Typically, the instructor of the traditional class was assigned an instructional designer and, together, they worked to design the online interface. The course had to be completely designed—with all content, lesson plans, and materials approved by the college—before students could register online. The process of online course approval was stricter than that for traditional courses, as it began two semesters before the course was to be offered to students, and instructors had to have the course plan for the entire semester laid out prior to the beginning of the first semester of enrollment.

In acknowledgment of participant needs, grantees and program operators designed programs that targeted high-demand, high-growth sectors in which trainees could presumably find sustainable employment. Grantees and program operators also kept in mind the characteristics and perceived barriers to training of target populations—most notably geographic distances, work schedules, other life obligations, finances, prior educational levels, technological proficiency, and access to appropriate technology.

---

[4]   The Foreign Labor Certification Program defines the H-1B program as follows: "an employer [is allowed] to temporarily employ a foreign worker in the U.S., on a nonimmigrant basis, in a specialty occupation or as a fashion model of distinguished merit and ability" (http://www.foreignlaborcert.doleta.gov/h-1b.cfm).

The needs of grantees and program operators themselves also figured into program design decisions. For example, the TBL Initiative often served as an opportunity for program operators to advance their TBL and online learning capacity, as well as a way to meet other goals such as expanding lab space or acquiring more equipment.

In designing and developing their TBL programs, grantees and program operators typically engaged in a two-phase process, with the first phase focused on making overall design decisions, and the second phase aimed at designing, implementing, and testing new or upgraded curricula. During the first phase, which usually began before the TBL grants were awarded, a grantee staff member or a representative of a key grantee partner, typically approached an eligible training program (usually within the grantee's organization), regarding interest in the grant. The grantee then pulled together a small group of stakeholders, often including representatives from employers and other key partners, who together determined the specific occupations and populations to target for the grant and what needed to be done in terms of curricula. About half of these design groups determined that the best use for the grant would be to convert existing traditional curricula to an online or blended format, while eight design groups determined that the program operator needed to acquire or develop new curricula.

For most program operators, the second phase of the design and development process—the implementation of the plans developed during the first phase—typically began immediately after they were awarded a TBL grant. Grantees and program operators generally adopted one of four approaches to this implementation process. The most common approach (used by at least 15 TBL programs) was to pair training program instructors with instructional designers or other program operator staff members who were knowledgeable about TBL methods.

Another approach to implementing the design decisions made during phase one was to rely solely on instructors to make these changes. However, this approach was problematic as instructors did not have sufficient time on top of their regular teaching duties to complete this work on their own.

At least four grantees/program operators opted to contract out some or all of the development of the necessary curricula. In three of these cases, the contractor also operated the training program. Finally, another three grantees and program operators implemented the design developed in phase one by accessing already-developed

SPR

curricula, in one case paying for it and in the other two cases gaining access via partnership agreements or membership in an organization.

Once curricular changes or additions were implemented, most program operators piloted their TBL curricula, either formally or informally. All of these program operators indicated that this piloting process provided them with an important opportunity to identify and solve problems before the courses were made available to a wider audience.

To guide the implementation of these curricular changes, nine program operators regularly consulted with employers and other partners, often through TBL advisory boards. At least two program operators also received input and feedback from consultants.

The average duration of TBL programs' design and development processes was about two years. In general, programs that developed or made changes to a large amount of curricula, created curricula from scratch, used complex technologies, or had more experience with TBL spent more time on design and development. In a few cases, major unexpected events occurring well after the TBL grants were awarded causing changes that extended the length of design and development.

IV. INSTRUCTIONAL METHODS AND COURSE STRUCTURES

This chapter focuses on the instructional delivery methods and course structures used by programs in the TBL Initiative. It begins with descriptions of the different methods used for delivering course content, the various timing structures employed in the TBL courses, and the rationales behind the uses of these methods and structures. It then provides an overview of instructors' experiences with TBL methods and technologies, followed by a discussion of levels of communication and interactivity between instructors and participants. The chapter closes with a brief discussion of the assessment methods used by TBL programs and considerations about maintaining academic integrity in an online environment.

Mode of Instructional Delivery

Three instructional delivery approaches are generally associated with TBL programs as they relate to issues of distance or place: in-person, online, and blended. Of the twenty-one TBL programs, four employed completely online instructional delivery approaches, sixteen used blended approaches (a combination of in-person and online), and one used a completely in-person approach. Exhibit IV-1 demonstrates the mode of instructional delivery used by each of the TBL programs.

Completely Online Approach

The four programs that employed a completely online approach did so to increase course access to participants who might otherwise have been unable to attend due to barriers of time (e.g., conflicts with work or family responsibilities), transit (e.g., lack of reliable transportation or heavy traffic acting as a deterrent), or distance. Common tools used for instruction were audio or video lectures—often accompanied by

PowerPoint slides—which were then delivered via an LMS or CD-ROM,[1] or through software programs such as Adobe Connect, WebEx, or Microsoft's Live Meeting. In the completely online TBL programs, participants were generally expected to view a lecture or instructional video and then complete activities and/or quizzes designed to assess comprehension of the presented materials.

Exhibit IV-1:
Modes of Instructional Delivery Used by TBL Programs

Program	In-Person	Online	Blended
CareerLink			X
Nurse Return to Work			X
GCPI			X
IT Program			X
CATS		X	
GEM			X
Nurse Refresher			X
ADN			X
TBL Worker Training			X
CIM			X
Manufacturing Essentials		X	
MDL/MUP Training			X
INP			X
LVN to RN Transition			X
Virtual Hospital			X
New Way Diesel			X
PHN Ready		X	
CSPCD TBL			X
IT Certificate Training		X	
EAP	X		
MAP-RN			X

The majority of programs that offered their courses completely online were able to do so because there were no components that required hands-on training. However, one completely online program, Manufacturing Essentials, was able to use online technology

---

[1]   Programs that provided instructional material via CD-ROM, such as CIM, also made those materials accessible online.

to create robust learning objects[2] that enabled participants to engage in simulated hands-on activities online. This enabled the program to avoid requiring any in-person activities. (Please see the accompanying text box: *Manufacturing Essentials: Simulating Core Concepts in Manufacturing in an Online Environment.*)

Blended Approach

A blended approach to instructional delivery combines in-person and online activities and is the dominant paradigm used in TBL programs. This is in part because blended instructional delivery is often perceived to be more effective than purely online or purely in-person instruction, a view that is supported by research. A recent meta-analysis and review of online learning studies, conducted by the U.S. Department of Education, concluded that "[i]n recent experimental and quasi-experimental studies contrasting blends of online and face-to-face instruction with conventional face-to-face classes, *blended instruction has been more effective*, providing a rationale for the effort required to design and implement blended approaches" (Means et al., 2009). It is not surprising, then, that 16 programs in the TBL Initiative employed a blended approach to instructional delivery in their courses.

> **Manufacturing Essentials: Simulating Core Concepts in Manufacturing in an Online Environment**
>
> The Manufacturing Essentials program prepared participants for certification as Certified Production Technicians (CPTs). This nationally recognized certification, which is supported by the National Association of Manufacturers, signals to employers that the bearer of the certification has the core knowledge and skills required in modern advanced manufacturing.
>
> Online simulations for teaching the core manufacturing skills required for CPT certification were available prior to the TBL grant, but staff at the Banner Center felt that these simulations were too "rudimentary." Thus, the Banner Center partnered with LabVolt, a firm with experience in developing learning objects for use in online simulations, to provide participants with more effective and engaging simulations. For example, while one online source represented a hydraulic circuit as a simple line drawing, LabVolt's rendition on the same theme involved a simulated valve that could be manipulated online via a mouse and, depending on the inputs, would result in an increase or decrease in pressure that could be viewed via a realistic-looking, simulated gauge. While these simulations did not impart the same depth of kinesthetic knowledge as an actual hands-on approach might have, they were still able to convey core concepts related to manufacturing

---

[2]   A learning object is defined by the Institute of Electrical and Electronics Engineers (IEEE) as "any entity, digital or non-digital, that may be used for learning, education or training" (IEEE, 2002).

SPR

TBL program designers opted for a blended approach for a variety of reasons. While many felt that it was simply better pedagogically, blended approaches were also used for practical reasons. Specifically, instructors and program designers wanted to be able to provide student participants with the flexibility of time and place afforded to them via online learning but they also wanted (or needed) to include an in-person component for a variety of reasons. These included:

- *Some licensing or accreditation boards require in-person training components.* Six of the sixteen programs that used a blended approach were nurse training programs, most of which contained clinical components. Nursing training programs typically require that clinical portions of the program take place in-person, in a lab or at an employer's site, because of licensing regulations. Additionally, some non-nursing programs such as GEM, also required an in-person component for accreditation purposes.

- *Some practical skills training requires hands-on instruction.* Nurse training instructors and hospital employers noted that hands-on training was important because of the complexities of the medical procedures being taught. The TBL Worker Training program and some of the IT training programs also incorporated in-person requirements because staff members felt that certain practical skills within their fields were better taught using a hands-on approach or because instructors felt certain concepts were too challenging to teach in an online environment.

- *For certain skills, appropriately and accurately gauging competency levels requires some level of in-person assessment.* This was particularly true for the nurse training programs, where the ability to accurately assess a participant's ability to execute certain medical procedures was critical. Some instructors required in-person assessments because it helped them better understand specific challenges that different participants faced and how to appropriately and effectively address those challenges. For example, the ESL instructor in the Virtual Hospital program noted that the partner hospitals from which participants would be recruited had nurses from a wide range of first language backgrounds, including Spanish, Vietnamese, and Tagalog, among others. This meant that the challenges participants would have, particularly with pronunciation of American English, would differ. The instructor felt that with such a potentially wide range of linguistic diversity, face-to-face meetings would make it easier for him to accurately assess linguistic challenges and make meaningful and targeted recommendations to help participants overcome those challenges.

- *In-person sessions help to foster better relationships among participants and between participants and their instructors.* Staff members from

TBL program designers opted for a blended approach for a variety of reasons. While many felt that it was simply better pedagogically, blended approaches were also used for practical reasons. Specifically, instructors and program designers wanted to be able to provide student participants with the flexibility of time and place afforded to them via online learning but they also wanted (or needed) to include an in-person component for a variety of reasons. These included:

- *Some licensing or accreditation boards require in-person training components.* Six of the sixteen programs that used a blended approach were nurse training programs, most of which contained clinical components. Nursing training programs typically require that clinical portions of the program take place in-person, in a lab or at an employer's site, because of licensing regulations. Additionally, some non-nursing programs such as GEM, also required an in-person component for accreditation purposes.

- *Some practical skills training requires hands-on instruction.* Nurse training instructors and hospital employers noted that hands-on training was important because of the complexities of the medical procedures being taught. The TBL Worker Training program and some of the IT training programs also incorporated in-person requirements because staff members felt that certain practical skills within their fields were better taught using a hands-on approach or because instructors felt certain concepts were too challenging to teach in an online environment.

- *For certain skills, appropriately and accurately gauging competency levels requires some level of in-person assessment.* This was particularly true for the nurse training programs, where the ability to accurately assess a participant's ability to execute certain medical procedures was critical. Some instructors required in-person assessments because it helped them better understand specific challenges that different participants faced and how to appropriately and effectively address those challenges. For example, the ESL instructor in the Virtual Hospital program noted that the partner hospitals from which participants would be recruited had nurses from a wide range of first language backgrounds, including Spanish, Vietnamese, and Tagalog, among others. This meant that the challenges participants would have, particularly with pronunciation of American English, would differ. The instructor felt that with such a potentially wide range of linguistic diversity, face-to-face meetings would make it easier for him to accurately assess linguistic challenges and make meaningful and targeted recommendations to help participants overcome those challenges.

- *In-person sessions help to foster better relationships among participants and between participants and their instructors.* Staff members from

participants via the use of Mobile Laboratory Kits. (Please see accompanying textbox entitled *CIM: Innovative Uses of Technology for Hands-On Training*.)

Most of the tools and practices used to deliver online instruction in blended programs were similar to those used in the completely online programs. Videos or online lectures were delivered via an LMS, video conferencing software, Skype, or CD ROM, and lectures often included PowerPoint slides. Assignments and quizzes could also be completed online.

Technology was also used in unique ways to support both in-person and hands-on training, as well as online course activities. Examples of unique uses of technology to support hands-on training included the CIM program's Mobile Laboratory Kits. Unique uses of technology for in-person activities include the use of iPod Touch portable media players in two nurse training programs—INP and MAP-RN—which enabled participants to gain easy online access to necessary information during clinical rotations. One program, Virtual Hospital, took advantage

CIM: Innovative Uses of Technology for Hands-On Training

GCCC had used TBL methods for approximately 13 years and offered approximately 500 online courses at the time of the evaluation team's site visit. Still, prior to the TBL grant, GCCC had been unable to take advantage of TBL strategies for CIM courses because the community college required that participants spend a great deal of time in a laboratory to practice real-world applications, and to test knowledge and skills development. Using funds from the TBL Initiative, GCCC repackaged six classroom courses from its Computer Automation and Robotics On-Line/On-Site Training by revamping course curricula and then developing Mobile Laboratory Kits that trainees could use for hands-on exercises. These kits were custom-designed by GCCC, and while staff noted that developing customized Mobile Lab Kits was extremely time-consuming, they also felt that doing so was more cost-effective in the long run than purchasing "off the shelf" kits, and resulted in more robust kits that met the exact needs of the training programs.

The program was at least initially intended to serve incumbent workers who were seeking to improve their skills and thus courses (and the tools used to teach each course) were designed so that they could be leased to interested employers for use with their employees. The course curriculum was made available online, but it was also downloaded onto CD-ROMs and laptop computers, which were to be sent to employers, as part of the Mobile Lab Kits.

Because staff members were concerned about the lack of in-person faculty support for hands-on training at employer sites, these mobile kits included detailed laboratory manuals and video clips that demonstrated how participants were to engage in lab assignments. The kits were also equipped with video cameras so that trainees who needed to seek support from GCCC staff could use the cameras for more effective communication. Below is a picture of the Programmable Logic Controller Mobile Laboratory Kit.

SPR

of an existing online virtual reality program (Second Life) to develop an ESL course that enabled practicing nurses to improve their English language skills via use of a program that was interactive, entertaining, and designed to reflect "real-world scenarios." (Please see textbox below entitled *Language Learning in Virtual Reality: The ESL Virtual Hospital Project*.)

Language Learning in Virtual Reality: The ESL Virtual Hospital Project

The U.S. healthcare system is heavily dependent on support from foreign nurses to fill severe staffing shortages. While these nurses are highly skilled in the practical and procedural aspects of nursing, concerns often arise about how language barriers impact communications between nurses and patients and between nurses and other medical staff. According to hospital employers, this is a high-stakes challenge, since communications errors could lead to disastrous results. They noted that the medical profession in particular has its own "speak" and therefore it is important for nurses to be able to receive communications training that reflects the idioms specific to the medical profession while also ensuring that nurses have the vocabulary and linguistic sensitivity necessary to accurately inform and comfort patients and their families. Yet finding time for ESL training is often difficult for working nurses, whose schedules are not only full but constantly shifting.

To address this challenge, OC WIB and its contractor, Coastline, decided to develop *ESL Virtual Hospital*, a training program that uses Second Life virtual reality software to provide working nurses with ESL training that is grounded in "real-world" medical scenarios. This blended program, which was still in its curriculum design phase as of the site visit in June 2010, intended to include both live classroom instruction that would focus on aspects of language development that were more effective to teach in a face-to-face environment, as well as asynchronous, online learning activities that were to take place primarily in the Virtual Hospital, a virtual space housed in Coastline's "island" in the Second Life virtual world.

Program developers planned to have participants navigate through the virtual hospital via avatars or customizable digital personas. Avatars would be able to enter different rooms in the hospital (e.g., the emergency room or a patient's room in the cardiovascular wing) and engage with other avatars or practice program scenarios based in different medical specialties. In addition to engaging in dialogue with characters in the room, participants would be able to zoom in on heart monitors, click on patient charts to look at medical histories, check blood pressure monitors, etc. Dialogues used in the different scenarios were informed by nursing subject-matter experts who would ensure that the language used in the program accurately reflected the words and phrases typically used in interactions among medical staff and between medical staff and patients and patients' families.

There were many anticipated advantages to providing ESL training via virtual reality software. For example, participants would be able to practice scenarios as many times as necessary until they felt comfortable with their comprehension and pronunciation. They could then record their practice sessions and send those recordings to the instructor for assessment. They could even make appointments to meet with an instructor for office hours anywhere on Coastline's island, including the virtual participant lounge, at a café, or anywhere else in the Second Life virtual world. Participants could also meet each other in Second Life and practice medical scenarios together.

Coastline instructional designers expressed enthusiasm about the promise of virtual reality as a curriculum platform. In particular, they were excited about the interactivity that the platform could afford them and the ways in which it could make learning more engaging and fun. If the piloting of this program proves successful, OC WIB and Coastline may consider expanding learning opportunities to include programs focused in different health care arenas.

Completely In-Person Approach

The EAP program at WVUP was the only program in the TBL Initiative that used a completely in-person approach to instruction. EAP program staff wanted to find ways to use technology to increase participant access to nurse training; however, online training was not an option because of nurse licensing requirements[3] and because many participants lived in rural areas and did not have high-speed access to the Internet. The program, therefore, took advantage of underutilized videoconferencing equipment and software (previously provided through another grant) to broadcast synchronous lectures to remote sites. The program used TBL funds primarily to hire qualified nurse trainers to serve as instructors at those remote sites. Thus, while the constraints of licensing requirements, as well as the digital divide, kept EAP from being able to utilize online instruction, the program was able to achieve its goal of increasing program access by capitalizing upon existing resources and using simple technology solutions.

Timing Structure of Course Delivery

Instructional technology allows the act of teaching or instruction to be separated from the act of learning in both space and time. The previous section dealt with the various options available to program designers when they use technology to allow teaching and learning to occur in different places; this section discusses the options available for separating teaching and learning in the dimension of time. Two basic categories exist with regard to the time dimension of course delivery: synchronous and asynchronous. When instructors and learners meet at a specific time, in-person or via an online mechanism, the instruction/learning is termed *synchronous*. When learning need not occur at a specific time and is not linked to a specific learning event, it is called *asynchronous*.

Nine of the programs in the TBL Initiative used only asynchronous activities in their courses; two employed only synchronous activities; and ten included a combination of both asynchronous and synchronous activities. Programs that used only asynchronous

---

[3]   In West Virginia, nurse training programs are required to have instructors present for all aspects of training, including the didactic component, which programs in other states can opt to offer online.

activities in their courses did so because their primary goal was to enable participants to engage in learning activities at times that were most convenient to them. The asynchronous activities used by these programs were particularly advantageous for participants who would not otherwise have been able to engage in training because of time conflicts with work or family responsibilities. Participants and instructors added that a major advantage of asynchronous online course delivery was that it enabled participants to review material over and over again until they felt they had mastered the content, something that is not possible with purely synchronous instruction.

Both programs that used only synchronous activities in their courses (Dillard DSCEJ's TBL Worker Training and EAP) used videoconferencing software and/or equipment to broadcast in-person, synchronous lectures to remote sites, where instructors were present to provide support to participants, particularly for the hands-on training components of the courses. Staff members from both programs expressed an interest in exploring online, asynchronous options, but these explorations were not deemed high priorities due to capacity issues for either the program operator or for participants. Designers of the TBL Worker Training program also felt it was simply easier to have the lecture and the hands-on training components occur on the same day, in part because doing so made it easier for program staff members to monitor attendance and participant progress, and because figuring out how to alternate these two component parts proved too challenging. While EAP program staff members expressed interest in exploring online testing, they did not actually do so because of the digital-divide challenges faced by their rural participants. Still, while the TBL Worker Training and EAP programs did not provide the same time flexibility as did programs with asynchronous components, they were able to overcome distance barriers and increase access to their programs by taking advantage of available technology.

The designers of programs that provided both synchronous and asynchronous activities did so for a multitude of reasons. In general, program designers recognized the value of the flexibility afforded to participants by asynchronous learning but understood that participants needed something else that asynchronous learning could not provide:

- Some program designers believed that participants needed interaction and thought that including opportunities for interaction through synchronous activities would help participants feel more engaged.

- Some program designers believed that the in-person, hands-on training their programs required was best delivered through synchronous

- Some program designers perceived a need for program structure to encourage participants to maintain a productive pace and believed that the most effective way of doing this was to incorporate synchronous activities that provided opportunities for participants and instructors to check in with each other.

Encouraging Optimal Course Progress

While asynchronous delivery is considered desirable because it enables participants to work at their own pace, a major challenge for participants is setting and committing to a pace that ensures that they can complete their courses within a reasonable timeframe. As noted earlier, instructors from several programs noted that participants who were more likely to succeed in an online environment were those who were highly motivated and well-disciplined.

Recognizing that not all participants would be equipped with the discipline and drive necessary to succeed in online courses, some programs incorporated specific mechanisms to help participants stay on track. One approach was to incorporate in-person, synchronous activities in program requirements to create check-in points for participants and instructors and to keep participants engaged. Another approach, used by programs such as OWATC's IT Program and CareerLink, was to provide participants with guidelines for how long it should take to complete individual courses and the program as a whole; some programs also set limits on how long participants could take to complete a course. Program staff members intervened if participants fell below expected progress rates. Other programs managed pace through the use of weekly assignments and quizzes. Participants across several nurse-training programs were motivated to maintain a reasonable pace as they progressed through the online component of their nurse training programs because they were required to complete this component before they could participate in the clinical portion of the program.

Instructors' Experiences with Instructional Technology

While instructional technology may greatly benefit participants, it can also pose a significant challenge to instructors. Some instructors have difficulty using the tools optimally and others are challenged to teach effectively within an online environment.

SPR

Providing instructors with support and training, however, can effectively mitigate many of these challenges.

Instructor Experience Using TBL Methods

One of the primary indicators of an instructor's ability to effectively teach a TBL course is his/her experience with technology and with TBL environments. In the ETA-funded TBL programs, levels of instructor experience with TBL methods varied. At least ten of the programs used instructors who were described as "experienced" in TBL methods; seven programs employed instructors who had little to no experience with TBL methods (but had in-depth experience in the specific fields in which the programs were focused); and two programs employed instructors with varying degrees of experience using TBL methods.

Support and Training for Instructors

Given the range of instructor experience with TBL tools and methods, as well as the ever-evolving nature of technology, all but four grantee institutions and/or program operators provided their instructors with support in using TBL methods. Of the four programs that did not provide support, one did not have an instructor, two used relatively simple technology that required little to no training, and one hired an instructor who was an expert in the technologies used by the program.

Among programs that provided TBL methods support, there was tremendous variation in the types and amount of support opportunities available to instructors. In general, the extent of instructor support appeared to be linked to the size and type of grantee and program operator organizations. TBL instructors in at least seven programs run by universities or community colleges were able to benefit from TBL support infrastructures that were already in place. For example, WTCC offered many resources to its instructors to prepare them for teaching in a TBL environment, including a semester-long course in quality e-learning practices, a six-week training on how to use the Blackboard LMS, and on-going advice offered through monthly newsletters and individual or group meetings.

At least four programs *required* that instructors who were new to TBL participate in TBL methods trainings prior to teaching their TBL courses. At NCTC, for example, instructors who wanted to teach an online course had to be certified by NCTC to do so. This certification process involved taking a five-week course (roughly two to three hours per week) in online instruction. For instructors interested in teaching an entirely new

course, the beginning part of the certification process included help with course development. Similarly, instructors in the CSPCD TBL program were required to participate in training on how to use the Blackboard LMS and how to design and implement online courses. TEC was the one program operator that was not a college or university, but still required its instructors to be certified to teach specific TBL courses. Certification required that instructors complete and pass a weeklong training session that focused on understanding TEC's training structure and how to teach in an online environment.

Other programs provided instructors with support opportunities that were less comprehensive in scope than the courses described above. Some programs focused primarily on familiarizing instructors with the specific technologies used in their courses (e.g., overviews of software or lessons on how to use video conferencing technologies) and did not focus as much on effective pedagogical practices in an online environment. Others offered one-on-one support on an as-needed basis. At least two programs encouraged their instructors to attend conferences on e-learning strategies. One program operator, WGU, placed less emphasis on training instructors on how to use technological tools and focused more on effective interaction and instruction strategies in an online setting. (Please see accompanying textbox: *Providing Diverse Training Opportunities*.)

Challenges Faced by Instructors

Some instructors faced noteworthy challenges with teaching in a TBL environment. For example, because course content for the MAP-RN program came from multiple third-party providers, some instructional staff members found it difficult to navigate the various platforms used by the different providers.

Instructors from one program noted that they were not prepared for the increased teaching burden that resulted from their efforts to increase program access to more participants. Instructors prided themselves on the individualized attention that they offered to participants, which included one-on-one orientations

---

Providing Diverse Training Opportunities

Western Governor's University (WGU) is a fully accredited online university. As such, it recognizes the importance of training faculty to be effective teachers in an online environment. To that end, it provides faculty members with ample training opportunities. Every faculty member receives 20 hours of TBL training, most of which focus on preparing instructors to interact effectively with participants in an online environment. Faculty are also provided with four weekly in-service opportunities wherein they can choose from an array of professional development topics. Finally, faculty are also afforded the opportunity to attend two annual conferences in Salt Lake City that address training needs and that are also designed to help faculty network with one another and share ideas about online instruction.

SPR

with each student to get him or her familiar with course requirements as well as the technologies used in the program. However, this level of support was difficult to sustain as participation rates grew. Staff members from this program noted that in the design process, they were so focused on making sure they had the equipment and space to accommodate an increased influx of participants, that they did not consider issues of instructor capacity and in hindsight probably should have devoted some resources towards hiring more instructors.

Instructors from two other training programs noted that the online learning environment made it difficult for them to develop a rapport with their participants. Faculty at one of these programs stated that they were especially concerned about the fact that miscommunication tended to happen more often in the online environment than it did during in-person instruction or in-person communications. The instructor from the other program also noted communications challenges in the online environment, which he felt greatly affected his ability to teach effectively. In particular, he found it difficult to conduct a synchronous, online lecture and maintain focus while also trying to respond to real-time questions that participants were posing using a chat function. He stated that while he received training in the technologies he used, he felt that to teach the course effectively, instructors needed to "see someone else teach the same class." Site visit observations of another program noted similar challenges. In this program, while technology enabled the instructor to successfully deliver his synchronous lectures online, it did not provide him with the means to gauge the "pulse" of the classroom and ensure that participants were able to follow the complex concepts that he was presenting. Participant respondents later affirmed that they sometimes had difficulty "keeping up" with the instructor's lecture.

Opportunities for Communication and Interaction

Instructors and program designers across multiple TBL programs made it a priority to establish channels for communication and promote interaction between participants and instructors and among participants. They did so for two primary reasons. First, they saw communication and interaction as effective antidotes to "social loafing," wherein participants make less of an effort because they believe that in an online and asynchronous environment they are not being closely monitored. Second, they felt that establishing effective communications and opportunities for interaction was simply sound pedagogy, as it strengthened relationships and helped set a foundation for development of a learning community.

Several programs in the TBL Initiative made online interaction an explicit requirement, while others enabled and encouraged (but did not require) interaction through certain aspects of their course structures, pedagogical practices, and/or the use of specific online tools. This section explores instructor–participant interaction and participant–participant interaction, as well as a number of tools for online communication.

Instructor–Participant Communication and Interaction

Well over half of the TBL programs provided participants with multiple paths and opportunities for communication and interaction with their instructors. Some programs offered those opportunities via traditional, in-person classes that were held weekly or biweekly or, as in the case of Virtual Hospital, were planned to occur at the beginning of the course and then at periodic intervals. Similarly, participants in other programs, such as WTCC's IT Certificate Training Program, made it a point to take advantage of the fact they were often on campus for other, traditional courses and met in person with their online instructors during office hours. Participants in several programs were also able to reach their instructors by telephone if they had questions or needed support with their coursework. Participants in most programs were also able to communicate with instructors via a variety of online mechanisms, including e-mail, discussion boards, and chat. These online communications tools are discussed in more detail later in this section.

Communication and Interaction Among Participants

The same program structures and practices used to encourage communication and/or interaction between participants and instructors also fostered communication among participants. For example, the traditional, in-person classes noted in the previous section provided participants with opportunities to get to know one another. Courses that had hands-on components—such as nurse training programs, construction courses, and some IT courses—included in-person activities that necessitated participant interaction. In some courses, in-person activities led to the development of learning communities (such as study groups), while others simply fostered a sense of collegiality among peers.

In an effort to ensure that participants remained engaged in the online environment, some TBL programs specifically required participants to interact with their peers online. For example, several programs required that participants engage in online discussions via the use of discussion boards. Some programs, such as GEM and Nurse Return to

SPR

Work, incorporated an online group project into their curricula to encourage online collaboration. In the Nurse Return to Work program, for example, participants were required to collaborate in virtual groups on a project aimed at developing a large number of "drug cards," each of which contained information about a specific medication. Participants reported that this exercise served as an important catalyst for promoting collegiality and vital interaction between the participants; they also said that this collegiality carried over into other aspects of their course learning and encouraged the development of study groups, which participants described as "life-saving."

The ability to communicate and interact with peers emerged as an important part of the TBL learning process. Participants across several programs indicated that peer learning was critical to their success and were therefore grateful for opportunities to interact and collaborate with one another. One participant in the New Way Diesel program, for example, noted that it was helpful to have his peers nearby when he was having trouble with an assignment, particularly because two of them had significantly more experience with technology than he did. Participants in at least three programs talked about the importance of participating in study groups, particularly as testing time drew nearer.

For many of the online courses, instructors and participants reported that, whether specifically required or not, communication among participants and between participants and instructors tended to increase as assignment deadlines approached. For example, in the GEM program, participants noted that while they regularly communicated with their peers about once a week, it was not unusual when project deadlines approached for them to be in communication with each other several times in one day.

Online Communications Tools

All but two programs offered participants ways to communicate with instructors and with each other online.[4] E-mail was the most common means of communication used across programs. As mentioned in the previous section, discussion boards were another common tool used in many different programs. In TBL programs, discussion

---

[4]   CATS and PHN Ready provided no opportunities for participant interaction, either with instructors or with other participants, in part because there was no perceived need for interaction in these relatively simple programs, but also because interaction did not fit into the course structure, which was designed to be completely online, self-paced, and asynchronous, and which used pre-recorded or archived lessons as the sole means for instruction.

boards were typically housed on an LMS and were used only for course-related purposes and not for socializing or informal conversations. At least five programs required participants to regularly engage in topical exchanges via the use of discussion boards. In these programs, instructors would typically post a discussion topic and then participants would have a specific period of time (usually a week or two) in which to respond. Instructors monitored the discussions and graded participants on their participation in these discussions.

Chat was also a feature of the LMSs used in TBL programs, though it appeared, across all programs, to be a relatively underutilized function. "Chatting" in an online environment generally refers to text-based, informal discussions that occur in real time. The "real time" aspect of chatting is likely the reason why this function was rarely used and was bypassed in favor of tools such as e-mail, which enabled the user to communicate at times that were most convenient to him or her.

NOVA's experimentation with a social networking platform as an instructional and communications tool was received enthusiastically by participants and ultimately resulted in the development of a dynamic learning community. (Please see the textbox entitled "*Using Ning to Foster a Learning Community*.")

Instructors in some programs were able to utilize technology not only as a means to foster dialogue and/or provide check-in points for participants, but also to serve as a mechanism for providing online participants with real-time support if they were struggling with class assignments. For example, WTCC's IT Certificate Training program used NETLAB, a product designed specifically for Cisco Networking Academies, to provide remote lab

---

Using Ning to Foster a Learning Community

Ning is an online social networking platform, similar to My Space or Facebook, but designed for people who want to create their own social networks around a particular topic area or need. An instructor in the GCPI's GIS program began using Ning to post videos related to specific course topics, primarily because he found it easier to post on Ning than on NOVA's LMS. As participants began using Ning to discuss the videos or the instructor's other postings, they found that they enjoyed using the platform and began using it more regularly. While its Ning site was originally intended for use only in GCPI's online courses, students in the equivalent traditional courses became intrigued with the concept and expressed a desire to participate in the discussions occurring in Ning. Ultimately, the use of this social networking platform resulted in the development of a dynamic online GCPI community, wherein participants actively engaged in topical discussions, shared materials, communicated about assignments, socialized with each other, and supported each other's efforts at finding employment by posting job opportunities on the site.

access and equipment collaboration tools that helped to create a dynamic online learning environment. NETLAB offered features that enabled participants and instructors to meet in an online space so that they could look at assignments together and discuss them in real time. NETLAB also provided instructors with the ability to "take over" a participant's computer so that they could more efficiently troubleshoot or demonstrate solutions to problems.

ESL Virtual Hospital also employed technologies that offered intriguing venues for online communication as well as the ability for instructors to provide personal, real-time support in an online environment. As noted earlier, the instructor could hold office hours within the virtual hospital or anywhere else within the Second Life virtual world. Second Life offers a voice chat function, wherein participants can chat with one another in the virtual world by using a microphone connected to the computer. This voice chat function would make it possible for participants to have real-time conversations with their Virtual Hospital instructor—a feature that could prove to be extremely valuable, given that this was a language development program.

Features in Second Life also could enable program participants to meet in the virtual space and practice going through medical scenarios with one another, affording them with intriguing ways of participating together, in real time, in online interactive learning activities.

Sufficiency of Levels and Methods of Communication

Data on participant satisfaction with levels and methods of communication are not available for this report.[5] However, of the small number of program participants interviewed, many felt that the level of communication between participants and instructors was adequate, and they appreciated the flexibility of time and geography that online communications technology afforded them.

Other participants, though, desired more opportunities for engagement, particularly for in-person contact. Participants in one program, for example, reported wanting to have more in-person contact with instructors because it gave them a better "sense of who [the instructors] are," which in turn made participants feel more comfortable and better able to engage in coursework.

---

[5]   The evaluation design included a participant survey and collection of MIS data, which received approval by the Office of Management and Budget after the conclusion of the SPR contract with ETA.

Along the same lines, some instructors stated that they wanted more opportunities for in-person interaction with participants because they wanted to be able to "get to know" their participants. Several participants in one IT-based program claimed that they felt more comfortable being near an instructor in case they had questions, so they chose to take their courses on campus instead of online.

Assessment Practices

TBL programs employed a wide variety of participant assessment practices. These included assessments of individual projects, practical skills assessments, quizzes, tests, mid-terms, final exams, and certification exams. Frequency of these assessments varied, depending on learning goals and course structures. Programs that did not have grades and did not award college credits (such as CATS and the TBL Worker Training Program) assessed participants' acquisition of content knowledge via quizzes at the end of every learning module. Programs that used a grading system and/or whose courses resulted in college credits or certifications tended to have multiple forms of assessment, including assignment grades, quizzes, mid-terms, final exams, and/or certification exams.

Maintaining academic integrity can be challenging in a TBL environment, especially during assessments and particularly if those assessments are conducted online. In an online environment, for example, it can be difficult to tell whether or not the person taking a test is the program's enrolled participant or someone else who is taking the test for that participant. It is also difficult in an online environment to ascertain whether or not test takers are cheating by using notes or other materials that might not be allowed by instructors.

Some programs dealt with these threats to academic integrity by requiring participants to take all exams in person and to have them proctored by an instructor. When programs offered online tests, they often were timed, making it less likely that participants would have sufficient time to access notes and materials during the test, and many tests did not permit participants to go back to a question once it had been answered.

In some ways, the technology used in TBL programs can deter cheating. For example, instructors in some programs were able to have their LMS randomly select different test questions for each individual test-taker from a bank of equivalent questions, making it difficult for participants to cheat by sharing answers to questions. This method was

SPR

considered such a successful deterrent to cheating by CSN instructors that they hoped to use it in the future with their traditional students by making them take their exams on computers in the college's computer lab.

Some programs, particularly those that were not grade-based, did not contend with issues of academic integrity in their assessment processes. In these programs, participants simply needed to demonstrate mastery of content knowledge by answering certain questions correctly before they could go on to the next assignment or learning module. In some cases, participants could repeat the same assessment as many times as necessary until they passed it. In one program, although the goal was to have participants progress to different modules after demonstrating mastery of previous modules, an evaluation team site visitor was able to move on to a new module despite having answered every question on a quiz incorrectly.

Finally, in some programs wherein the end goal was to help participants gain certification in a specific field, staff members worried less about cheating, noting that it was in the participants' best interests *not* to cheat on assignments or quizzes if they wanted to ensure that they had the knowledge and skills necessary to pass certification exams, which are proctored, in-person tests.

Summary

Instructional delivery methods and course structures varied tremendously across TBL programs. Sixteen programs used a blended approach to instruction, while four used a completely online approach and only one used a completely in-person approach. Ten programs used a combination of synchronous and asynchronous activities; nine incorporated only asynchronous activities into their coursework; and two employed only synchronous activities. Choices for instructional delivery approaches and timing structures used within different courses were largely influenced by the perceived needs of participants and employers, which included time flexibility, the ability to have instruction and learning occur over distances, hands-on approaches to training to satisfy licensing or certification requirements, and encouragement for maintaining a productive learning pace.

Recognizing that not all participants could be expected to have the requisite drive and self-discipline necessary for success in TBL endeavors, TBL program designers incorporated different mechanisms into their courses to help students maintain a

productive pace. These included frequent assignments, regular check-ins with instructors, and guidelines for expected course progress rates.

Level of instructor experience with TBL methods varied across programs, but almost all programs offered instructors some form of training and support for effective teaching in TBL environments. Despite this support, some instructors felt challenged by teaching in a TBL environment, with some specifically noting concerns about using technologies that did not provide effective two-way communications, thereby impairing instructors' ability to develop rapport with their participants or gauge whether or not participants were able to understand course lectures.

Creating opportunities for effective communication and interaction among participants and between participants and their instructors was considered an important pedagogical practice by instructors across multiple TBL programs. TBL programs used a wide range of tools and practices to encourage this communication. One practice was to require in-person sessions, wherein communication and interaction would naturally occur; another was to encourage or require the use of various online communications tools, most commonly e-mail. Intriguing uses of technology to foster communication and interaction included one program's use of a social networking platform and another's use of virtual reality software, both of which provided participants with opportunities to communicate and interact in engaging ways. While many participants felt satisfied with the levels and means of communication afforded to them, some participants and instructors expressed a desire for more in-person interaction.

TBL programs measured participant achievement in a number of ways: they assessed individual projects, tested practical skills, and conducted quizzes, tests, mid-terms, final exams, and certification exams. Frequency and mode of testing varied according to learning goals and course structure. Instructors and course designers endeavored to maintain academic integrity by providing multiple layers of assessment and/or by structuring assessments in such a way that cheating would be difficult. In programs where grades were not issued, instructors were not worried about academic integrity; instructors in programs wherein industry-recognized certification was the final goal noted that it was in participants' best interests not to cheat if they wanted to gain the knowledge necessary to pass certification exams

SPR

V. PARTNERSHIPS

A key question for this evaluation was whether the TBL grants resulted in stronger partnerships between TBL grantees/program operators and employers in high-growth industries, the public workforce system, educational institutions, and other entities. Overall, as will be described in this chapter, this appears to have occurred. The chapter describes, in sequence, three categories of partnerships: those established between TBL programs and employers, those formed with the public workforce system, and those created with other organizations, agencies, and institutions.

Partnerships with Employers

In keeping with the requirement in ETA's SGA, developing or maintaining partnerships with employers in high-growth, high-demand industries was a major focus for all TBL grantees and program operators at the time of the site visits, with one exception.[1] However, program operators and grantees were not only motivated to partner with employers due to ETA's requirement, they also developed these partnerships because of their many benefits. One key benefit of employer partnerships was that they ensured the employability of program graduates. Employer partnerships provided this benefit by facilitating employer review and assessment of program curricula, which ensured that the skills and competencies taught in the programs aligned with employer training needs and industry standards. For this reason, at least 13 programs involved employers in reviewing and developing their curricula.

In many cases, employer involvement with curricula development was limited to reviewing only certain aspects of curricula, such as the overall topics to be covered. However, in some cases, employers provided information and feedback related on

---

[1]   The lone grantee that had no employer partners at the time of the site visit had to completely revamp its training program so the initial employer partners it had recruited no longer fit with the grant, and the grantee had not yet had time to recruit any new partners.

SPR

nearly every aspect of the design of TBL programs. For example, GCCC's employer partners provided information on new industry standards and components being used in CIM and also reviewed all draft training materials, including the PowerPoint slides to be used in training modules and lab manuals and assignments. One GCCC employer representative, in particular, played a critical role in the program's curriculum design, creating many of the materials for the program's course in industrial networking and helping to devise the Mobile Laboratory Kits used in the program (please see the accompanying text box, *Employer Involvement in CIM Curriculum Development and Delivery*).

All of this employer input was consciously provided with an eye to making sure that TBL program graduates would be employable. As one WTCC employer partner put it:

> *"I see my role as [thinking about]what kind of employees am I looking to hire? What skill set can be taught here that can be...a needed area of expertise for someone...hiring for a software development company."*

Even after completing the design of their program curricula, TBL grantees and program operators had multiple reasons to continue to reach out to employers. For example, some programs relied on employer partners to help them keep up with industry changes and to review any changes to program curricula. Other programs had employers review, on an ongoing basis, other aspects of program implementation, such as marketing, recruitment, participant feedback, and plans for sustainability or expansion.

Employer Involvement in CIM Curriculum Development and Delivery

A major manufacturing company that partnered with the CIM program allowed one of its engineers to work closely with GCCC staff on the program's design and development. In addition to providing feedback on the program's overall curriculum, this engineer also assisted with the design of the program's Mobile Laboratory Kits and played a key role in developing the program's Industrial Networking course, eventually even serving as the instructor for that course.

According to this engineer, his company allowed him to spend time assisting the CIM program because finding skilled employees was so critical to the company's success. Due to his role as the instructor in the Industrial Networking course, he could "hand pick" the best students from among those who were about to complete the program and recruit them to work for his company (Industrial Networking was one of the last courses in the program).

For programs with a work experience or internship[2] component, developing partnerships with employers that could provide such opportunities was critical. For example, all but one of the TBL nursing programs were required to include in-hospital clinical experience for their students, and so finding hospitals that were willing to host these clinical sessions was of the utmost priority. At least three of the IT programs also offered or required internships with employers.

Another benefit of developing partnerships with employers that could offer work experience/internship opportunities was that these employers often hired their interns. They did so because internships or other work experience opportunities provided them with an opportunity to "test" the skills and work habits of potential employees; when they found interns who were good workers, they often offered them jobs.

More broadly, for TBL programs that focused on training unemployed and underemployed workers, developing partnerships with employers was an effective strategy for cultivating those employers to hire program graduates. For that reason, many programs explicitly focused their partnership development efforts on employers that had the capacity to hire significant numbers of program graduates. One of the CSPCD TBL program's major employer partners, for example, was Temple University, one of the largest employers in the area.

Among programs that served incumbent workers, grantees focused on developing partnerships with employers that were interested in referring their employees to the program or would allow program recruitment or even training to occur within their facilities. The MAP-RN program, for example, developed partnerships with major hospitals that were willing to host training sessions on-site and then asked these hospitals to recruit their employees to participate in the training. MAP-RN staff members estimated that one-third of all of their program participants were incumbent workers recruited from these partner hospitals. Occasionally, programs that focused on serving unemployed and underemployed individuals used employers to assist with recruitment. One such grantee, Dillard DSCEJ, even paid its employer partners small stipends for recruiting participants.

To further encourage their workers to participate in TBL programs, some employers reimbursed their workers for TBL program tuition costs. For example, one of GEM's

---

[2]   Many nursing programs used the term *externship*, rather than internship. However, the two words are basically synonymous, so in the interest of brevity this report uses *internship* throughout.

SPR

major employer partners purposefully selected a number of the company's up and coming managers to receive company support for participating in the GEM program, which included reimbursement of all tuition costs.

For a number of TBL programs, particularly those in nursing, it was a significant challenge to find qualified program instructors. Consequently, another benefit to partnering with employers was that employers were sometimes able to identify and recruit qualified program instructors, sometimes even from their own staffs. For example, the employer partners of the MAP-RN program recruited clinical instructors and coaches for the program from among their own employees. As discussed above, one of GCCC's major employer partners also allowed a company staff member to serve as a program instructor for the CIM program.

For some TBL programs, another benefit of partnering with employers was that employers could provide remote sites at which to hold training sessions. For example, some of the EAP program's employer partners were willing to provide space for program lectures in video conferencing facilities located in the rural areas of West Virginia where EAP wanted to conduct classes but had no facilities of its own.

For at least two TBL programs, financial support was another important benefit of working with employers. One of these programs was GEM, which had received more than $1.5 million in funding from employers ($1 million of which was to support the construction or acquisition of a permanent building for the program), as of the time of the site visit. The other program was MAP-RN, which received over $500,000 from a major health care employer to begin development of the program.

Employers who partnered with TBL programs were motivated to participate due to a number of expected benefits. Employers whose workers were trained through TBL programs expected that this training would lead to better services to customers, which would in turn improve the bottom line. For example, a representative of one of the hospitals partnering with OC WIB said that the hospital became involved not just because it wanted to improve the English skills of its nurses but because it expected that those improved skills would lead to better patient outcomes.

For employers working with programs targeting unemployed and underemployed workers, the expected benefit of partnering was an increase in the number of skilled workers in the local labor market. This would, in turn, make it easier for these employers to hire skilled workers, saving the employers money that would otherwise be spent on recruitment or on training of unskilled workers. For one employer partner, being able to avoid hiring unskilled workers also saved it a significant amount of time and materials (please see accompanying text box, *Motivation for Partnering: Skilled Workers = Fewer Losses*).

Communication with Employers

A number of TBL program staff members noted the importance of regular communication with employers, a point that is supported by research on successful collaboration (Mattessich et al., 2001). Staff members at several programs also emphasized that as part of regular

Motivation for Partnering: Skilled Workers = Fewer Losses
The vice president of one of the Banner Center's major employer partners said that when his company first moved to the Cape Canaveral area of Florida, it was difficult to recruit skilled assemblers and machine operators. For that reason, the company decided to try hiring unskilled workers to fill these positions. However, the company soon found that relying on unskilled workers caused inordinate losses in wasted time and scrapped materials. Consequently, it went back to recruiting skilled workers despite the greater cost involved in finding these workers and the higher wages they earned. The company also decided to partner with the Banner Center and its Manufacturing Essentials program to train more local workers in

communication with employer partners they made sure to provide the employers with numerous opportunities to offer feedback on program design and implementation. Equally important, according to these staff members, was to incorporate this feedback into the operation of their programs, as this created more buy-in and ownership of the program among employers.

Employers themselves commented on the importance of programs being honest and straightforward in their communication. For example, one of Dillard DSCEJ's employer partners was particularly pleased that the honesty and candidness of the organization's job developer regarding the strengths of program graduates made it easier for him to know if a program graduate would be a good fit for his company. To this employer, the job developer's candor was clear evidence that Dillard DSCEJ was a good organization to partner with and motivated him to remain a partner.

SPR

Employer involvement in an advisory board provided one of the primary vehicles for communicating with employer partners. Sixteen of the grantees had some kind of advisory board for their TBL programs that included employers. These boards met as often as weekly and as seldom as once a year, with more frequent meetings typically occurring during the first phase of program design and development.

Employer attendance at these advisory board meetings guaranteed at least a minimum level of communication between program staff members and employers about the progress of TBL implementation. Advisory board meetings also provided TBL program managers with opportunities to solicit feedback from employers on program curricula and activities. Finally, by interacting with employers via these advisory boards, program staff members developed relationships with employers that made it easier to solicit their assistance in other areas. As one TBL program manager put it, it was "easier to call on" an employer who sat on an advisory board "than on some employer you have less of a relationship with."

Despite these benefits, TBL program operators and grantees noted a few challenges related to employers' involvement in advisory boards. One challenge faced by a single TBL program was that its employer advisory board members did not understand the consultative nature of their roles and the fact that program staff had the authority to make final program decisions. This same program also had challenges with advisory board members who wanted the program to take positions on political issues, despite being a non-partisan public agency.

Another challenge reported by four TBL grantees/program operators was that employer partners were too busy to attend advisory committee meetings. Because, as noted above, these advisory board meetings were one of the primary means of communication between TBL programs and their partners, limited attendance meant that communication between TBL programs and employer partners was less frequent than planned or desired.

One way to deal with this challenge was to be flexible about how often advisory boards met; another way was to develop other channels of communication. Flexibility in developing systems for communicating with partners is another factor that research has shown to be important for successful partnerships (Austin, 2000). The CIM program provides a good example of how one TBL program was flexible regarding advisory board meetings. Although the program's technical project director originally wanted his advisory committee to meet monthly, the busy schedules of his employer partners

made this infeasible. Consequently, he decided to have advisory committee meetings just once a year and to consult with committee members one-on-one via phone and e-mail in between meetings. According to the technical project director, this revised communications structure was very successful, and resulted in even stronger relationships with employers than would have happened if his plan for monthly meetings had worked out.

Another way to deal with the challenge of employers having too little time to attend TBL advisory board meetings was to use an existing employer advisory group to serve as the TBL board, so that employers would not need to participate in another committee. For example, OC WIB decided to use its existing health care collaborative to advise the Virtual Hospital project, as the collaborative already included representatives of several key employer partners. At least six other TBL program operators also used this strategy.

Formal Agreements with Employers

At least seven TBL grantees and program operators had formal agreements with employers. Typically, these agreements were developed when an employer agreed to provide structured internships or work experience or when employers were going to use equipment belonging to the grantee or program operator. For example, CSN's principal employer partner signed a formal memo of understanding with the college because the employer partner was going to use CSN equipment in one of its training labs. Similarly, the CIM project planned to have employers sign leases to use the project's Mobile Laboratory Kits.

Recruiting Employers

Program staff members conducted outreach to potential employer partners in several different ways. The most common method was to identify local employers in the targeted industry, contact them, and, if possible, meet with them and present information about the TBL program. At least eight programs improved on this basic method by partnering with employer intermediaries[3] and using the intermediaries'

---

[3] Employer intermediaries may organize or represent employers, serve as brokers between employers and other organizations, or deliver services to employers and their workers. WIBs, Chambers of Commerce, and industry associations are all examples of employer intermediaries. In the References section of this paper, also see Jobs for the Future, 1998.

SPR

employer connections as a means of identifying potential employer partners and arranging meetings with them. TEC, for example, worked with the Chicago Chamber of Commerce in this way. Similarly, three TBL grantees used existing employer partners to bring in new employer partners, typically relying on these employer partners to make the first contact with the potential new partners. MCC relied on contacts with alumni of its nursing program to help recruit employer partners, since MCC staff members knew that alumni were likely to be supportive of developing partnerships with their alma mater.

For at least two grantees, conducting outreach to employers was relatively easy because the idea for the TBL program originated with employers. As originators of the TBL programs, these employers were fully committed to making the programs work and did much of the work of bringing in other employer partners. In the case of the GEM program, the idea originated with a Denver-based vice president of an international energy company who felt the need for a graduate business management program that was focused on the energy industry. This executive and his company were major supporters of the program and were instrumental in ensuring the involvement of other businesses in the energy industry.

In nearly half of all TBL programs, outreach to employers was not a central issue because the programs could rely on existing partnerships with employers. Rather than having to devote a significant amount of time trying to cultivate new partners and work out how to better communicate with them, managers of these programs could build on their already-developed relationships and spend more time focusing on other aspects of their programs.

Some program operators tried to entice new employers into partnerships by offering their programs' training or placement services free or for a low cost, at least during the initial period of TBL program implementation. Since they did not have to pay, employers were often willing to try using these programs to meet their recruitment or training needs.

One program operator, TEC, had notable success in recruiting employers to use its training services by customizing those services to meet the needs of specific employers. In one case, the organization created a customized training for a major IT retailer to train seven TBL program participants to serve as "lab assistants" who could, in turn, train employer's other new workers.

Despite the existence of these promising strategies, a few TBL programs faced difficulties in recruiting employer partners. For at least two programs, the challenges were due to poor economic conditions. These programs found that employers had few or no hiring needs or could no longer afford to cover the cost of training for their employees. At least two other TBL program operators had difficulty recruiting employers in specific fields or sub-fields in which they had not worked previously. For example, one IT program, which had a number of employer partners in other industries, struggled to recruit IT employers.

Partnerships with the Public Workforce System

In addition to requiring relationships with employers, ETA's SGA for the TBL grants also required grantees to develop or strengthen partnerships with the public workforce system, including local WIBs, One-Stop Career Center operators and partners, and state workforce agencies. As a result of this requirement, nearly all programs either developed or maintained partnerships with at least one local workforce agency, most commonly a local WIB, a local WIA Adult and Dislocated Worker program provider, or a local One-Stop Career Center operator (please see Exhibit V-1).

Exhibit V-1:
Partnerships with Workforce Agencies

	No. of grantees partnering with this type of agency
Local WIBs	16
Local WIA Adult/Dislocated Worker/Older Youth providers	14
One-Stop Career Center operators	8
State workforce agency	4
Other required One-Stop Career Center partners*	4

* *"Other required One-Stop Career Center partners" included Wagner-Peyser Act programs and vocational rehabilitation programs (Title I of Rehabilitation Act).*

Note: Some grantees had partnerships with multiple types of workforce agencies.

These public workforce agency partners played a number of roles in the implementation of TBL grants. One common role, particularly for local WIB partners, was to help program planners understand the needs of local employers in high-growth industries

and point out any gaps in the availability of training programs designed to meet those needs. Because this information was critical to the initial design of TBL programs, WIB partners usually provided this information very early in program development.

Another role played by a few local WIBs and at least one state workforce agency was to assist TBL programs with developing partnerships with employers. For example, the California Labor and Workforce Development Agency helped WGU bring in additional California hospital partners for the MAP-RN program.

A somewhat common role played by local WIA program providers and One-Stop Career Center operators was referring individuals to TBL programs. At least five TBL programs reported receiving significant numbers of referrals from these partners.

To facilitate referrals from WIA providers and One-Stop Career Center operators, these programs made sure to regularly communicate with One-Stop Career Center staff members regarding the TBL program and to provide center staff members with up-to-date program recruitment materials. As a result of this regular communication, staff members at Chicago area One-Stop Career Centers were readily able to make referrals to the MDL/MUP program (for more information on TEC's partnership with One-Stop Career Centers, please see the accompanying text box, *TEC's Partnership with the Chicago Workforce Investment Council*).

For two programs, communication with One-Stop Career Centers was a non-issue because the TBL grantee/program operator and local One-Stop Career Center operator were one in the same.

At least two TBL programs either co-located staff members at local One-Stop Career Centers or had their staff members visit centers on a regular basis to carry out certain program activities. In San Diego, A-DA staff members were co-located at San Diego's South County One-Stop Career Center, where they assessed individuals for eligibility for the CareerLink program. In Chicago, TEC staff members conducted MDL/MUP

TEC's Partnership with the Chicago Workforce Investment Council

Based on a formal agreement with the Chicago Workforce Investment Council, TEC staff members developed strong partnerships with four Chicago One-Stop Career Centers. As a result of these partnerships, TEC staff members were provided space at these Career Centers to conduct program orientations and were given access to Career Center computer labs to work with TBL participants. TEC staff members also made presentations and provided regular updates about the MDL/MUP program to Career Center staff members and provided information on the program at general One-Stop Career Center orientations. This regular communication made it easy for Career Center staff members to refer potential participants to the program. For TEC participants who were co-enrolled in both MDL/MUP and a WIA program, TEC counselors also made sure to stay in close contact with WIA case managers regarding participant progress.

program orientations at four One-Stop Career Centers and used those centers' computer labs to work with program participants.

Similarly, participants from at least three other TBL programs, besides MDL/MUP, were allowed to make use of One-Stop Career Center computer labs to complete their coursework. To make sure that even disabled participants would be able to complete coursework at local One-Stop Career Centers, WTCC paid for assistive technology, such as screen readers, for 22 local centers.

Coastline, which was a One-Stop Career Center operator, used one of its Orange County One-Stop Career Centers as locations for the computer literacy workshops it offered to prepare nurses for its Virtual Hospital program. These trainings were comprised of four, four-hour Saturday workshops that provided instruction on the basics of using a computer.

Individuals referred to TBL programs from One-Stop Career Centers or WIA program operators were often already enrolled in a WIA program (i.e., Adult, Dislocated Worker, or Youth) or in a program funded by another One-Stop Career Center partner, such as vocational rehabilitation or Wagner-Peyser. At the time of the site visits, at least seven TBL programs reported significant co-enrollment of their participants in a One-Stop Career Center partner program, and at least five others reported limited co-enrollment (please see Exhibit V-2).

Exhibit V-2:
TBL Programs with Significant Rates of Co-enrollment of Participants in One-Stop Partner Programs

TBL Program	Estimated Percentage of TBL Participants Co-enrolled	Program in which Participants were Co-enrolled
Manufacturing Essentials	100%	WIA State-wide
CSPCD TBL	100%	Wagner-Peyser
Dillard TBL Worker	90–95%	WIA Adult or Dislocated Worker
New Way Diesel	80%	WIA Adult or Dislocated Worker
CareerLink	75%	Vocational Rehabilitation
MDL/MUP	20%	WIA Adult or Dislocated Worker

SPR

As a result of this co-enrollment, TBL participants typically received a number of services from the partner program, including case management, work readiness training, and job search assistance. Many co-enrolled participants also received financial support from these partner programs to cover many of the costs of participating in the TBL program, such as tuition, equipment, uniforms, books, transportation, and child care. Some co-enrolled participants even received needs-related payments from the partner program.

Because partner programs that co-enrolled TBL participants were also accountable for those participants' job placement rates, these partners sometimes coordinated job placement and job development efforts with TBL programs. For example, job developers for the San Diego Workforce Partnership shared job leads with A-DA staff members who were tasked with placing CareerLink graduates.

The primary reason some TBL programs were able to co-enroll large numbers of participants in WIA and other One-Stop system partner programs was that these TBL programs targeted people who were unemployed and typically had limited incomes, low educational levels, and various barriers to finding and sustaining employment. By contrast, little co-enrollment was reported by programs that required many educational prerequisites, such as most RN training programs, or that targeted incumbent workers, as most of their TBL participants were ineligible for WIA or One-Stop-partner-funded programs. At least partly as a consequence of these eligibility problems, four TBL program operators complained about being unable to co-enroll more of their participants in WIA programs, as they wanted their participants to be able to avail themselves of WIA's wrap-around services.

At least one grantee received funding for the TBL program from a public workforce system partner. This grantee (WGU) received $900,000 from the California Labor and Workforce Development Agency to support the MAP-RN program's implementation in California.

Attending each other's meetings was an important way that TBL grantees and program operators maintained or strengthened their relationships with public workforce system agencies. At least nine TBL grantees or program operators included public workforce agency representatives on their advisory boards, and at least six TBL grantees or program operators regularly attended the meetings of local or state WIBs or were members of these bodies. By including public workforce agency representatives on

their advisory boards or attending WIB meetings, these TBL grantees or program operators guaranteed at least a minimum level of communication with their public workforce system partners.

To further strengthen their partnerships, at least 11 TBL grantees or program operators developed formal agreements with public workforce system partners. In some cases, these agreements were memoranda of understanding (MOUs) between TBL grantees or program operators and the local WIB, and came about as a result of the grantee or program operator's role as a local One-Stop Career Center partner.

Other Partnerships

In addition to forging partnerships with employers and agencies of the public workforce system, a number of the TBL programs formed strong relationships with one or more other types of organizations. These other partners were primarily educational institutions, such as community colleges, universities, and, in one case, a high school. In addition, at least five grantees/program operators developed strong partnerships with CBOs, and four developed strong partnerships with government agencies not typically involved in the public workforce system, including a local public housing agency, a local mental health agency, and a state department of public health (please see Exhibit V-3).

These other types of partners played a variety of roles in the implementation of the TBL grants. The most common role of educational partners was to assist TBL grantees and program operators with expanding their training to different locations or to different populations. For example, Dillard DSCEJ was able to provide its TBL Worker Training in three locations outside New Orleans via its partnerships with the Environmental Resource Center at Clark Atlanta University in Atlanta, Georgia; Citizens for Environmental Justice at Harambee House in Savannah, Georgia; and Detroiters Working for Environmental Justice in Detroit, Michigan.

Exhibit V-3:
Partnerships with Non-workforce Agencies and Organizations

	No. of grantees partnering with this type of agency or organization
Educational institutions	12
Community-based organizations	5
Government agencies	4
Private, nonprofit employer intermediaries	2
Labor unions	2

Partnerships with educational institutions also commonly allowed TBL participants to receive additional training beyond what was provided by the TBL program. For example, two TBL nursing programs developed partnerships with nearby universities to make it easier for program graduates to transfer into bachelor-of-science in nursing programs at those universities. Similarly, CPHCE's partnership with the New York New Jersey Public Health Training Center (NYNJ-PHTC)[4] allowed TBL participants to gain access to a number of additional online training courses developed by NYNJ-PHTC. Although several TBL grantees were able to develop successful partnerships with educational institutions such as these, at least three TBL grantees complained that they had been unable to develop partnerships with nearby universities to make it easier for their TBL participants to enroll in programs offered by those universities.

Partnerships with CBOs commonly provided opportunities for TBL participants to receive wrap-around services that supported the completion of their training programs. For example, OWATC partnered with the Ogden-Weber Community Action Agency (OWCAP), a local CBO that received American Recovery and Reinvestment Act funding to provide a workforce development program. As a result of this partnership, approximately 25 percent of OWATC's TBL participants were co-enrolled in OWCAP's program.[5] These co-enrolled participants received numerous supports from the OWCAP

---

[4]   Affiliated with the Mailman School of Public Health at Columbia University.

[5]   This statistic was accurate as of mid-October 2009.

program, including case management, child care subsidies, bus passes, job-readiness training, and funding to cover the cost of tuition, books and equipment.

A major role played by three of the government agency partners was to assist with the recruitment of eligible and appropriate TBL participants. For example, TEC developed a formal partnership with the Chicago Housing Authority (CHA) with the aim of recruiting CHA residents for the MDL/MUP Training program. Through this partnership, TEC staff were able to provide presentations to residents at CHA facilities, post recruitment materials within those facilities, and make presentations to CHA case managers, who then made referrals of unemployed residents to the MDL/MUP program. As a result of this partnership, CHA residents made up an estimated 60 percent of the program's participants.

As discussed above, a major role for the two private, nonprofit employer intermediary partners—the Chicago Chamber of Commerce and the New York State Association of County Health Organizations—was to assist their TBL partners with reaching out to new employer partners.

Finally, labor union partners played roles similar to those of educational institutions, serving in one case as a source of program recruitment and in another as a source of training materials. For example, the United Steelworkers developed a special training module used in Dillard DSCEJ's TBL Worker Training program on health and safety for devastated communities, while CPHCE's partnership with the New York State Nurses Association resulted in the union planning to assist with recruiting participants for PHN Ready from among its more than 36,000 members.

Summary

Developing or maintaining partnerships with employers was a major focus for nearly all TBL programs at the time of the site visits. These partnerships provided numerous benefits to TBL grantees and program operators: employers reviewed curricula, provided information on future hiring and training needs, and helped programs keep up with industry changes. Some employers also provided internships or clinical experiences, space for training programs, or funding, while other employers hired program graduates or allowed their employees to be recruited as participants or instructors for programs. Employers, in turn, benefited from partnerships with TBL programs: they received skill upgrades for current employees, avoided recruiting costs, and had larger pools of skilled workers from which to hire employees.

SPR

Grantees and program operators noted that regular communication—particularly in the form of giving employers opportunities for providing feedback—was essential in establishing effective employer partnerships. Advisory boards were one of the primary vehicles for communication with employers. Employer attendance at advisory board meetings guaranteed at least a minimum level of communication between program staff members and employers.

However, employers sometimes had difficulty attending regular advisory board meetings due to their busy schedules. To deal with this challenge, one program operator radically decreased the number of advisory board meetings and switched to one-on-one communication, a strategy that resulted in stronger employer relationships. At least seven other programs attempted to deal with the challenge of employers not being able to attend TBL advisory board meetings by using already-existing employer advisory groups for their TBL programs. Just under half of all TBL grantees solidified their partnerships with employers by developing formal agreements.

Program staff members conducted outreach to potential employers by identifying and contacting employers in targeted industries, either on their own or with the help of existing employer partners, employer intermediaries, or alumni. Many of these programs also attracted employers by charging little or nothing for their services, with one even customizing those services for specific employers. Nearly half of all programs did not have to engage in much outreach because they could rely on already-existing partnerships with employers. In at least two cases, outreach was unnecessary because the idea for the TBL program originated with employers.

A few TBL programs had difficulty recruiting employer partners. In two cases, this was due to the impact of poor economic conditions on employer budgets and hiring needs, and in another two cases, it was due to the program operator's lack of experience working in a particular field or sub-field.

Nearly all TBL programs either developed or strengthened partnerships with agencies that were part of the public workforce system, particularly local WIBs, local WIA program providers, and One-Stop Career Center operators. These public workforce system partners played a number of roles in the implementation of TBL grants: they helped programs understand the needs of local employers, identified gaps in the availability of training, connected programs with possible employer partners, and, in one case, contributed funding.

A number of programs received referrals of participants from local One-Stop Career Centers and WIA program providers. Many of these participants were also co-enrolled in a program operated by a workforce system partner. As a result of this co-enrollment, these participants typically received a number of wrap-around services from the workforce partner program that supported the participant while in training. Staff members from four programs complained about being unable to co-enroll more of their participants in WIA programs, usually because too few of their applicants were WIA-eligible.

TBL grantees and program operators involved public workforce system agencies via TBL advisory boards. A number of TBL program staff members also regularly attended local WIB meetings. Just over half of TBL programs further supported their partnerships with public workforce agencies through formal agreements.

A number of TBL programs formed strong relationships with one or more types of other organizations, including educational institutions, CBOs, non-workforce government agencies, employer intermediaries, and labor unions. TBL programs developed these partnerships for a variety of reasons. Partnerships with educational institutions and labor unions were usually aimed at expanding the geographic scope or target population for TBL programs, or allowed TBL participants to receive additional training beyond that provided by the TBL program. Partnerships with government agencies often provided programs with access to key populations of potential participants. Finally, partnerships with CBOs commonly resulted in additional wrap-around services for TBL participants, while partnerships with employer intermediaries were aimed at helping programs develop new employer partnerships.

SPR

VI. PRELIMINARY OUTCOMES

ETA expected the TBL programs to achieve a number of outcomes. Principal among these was improved access to training in high-growth industries for individuals with geographic and time-related barriers. ETA also anticipated that programs would increase the number of individuals who received and successfully completed training, achieved industry-recognized credentials, and secured training-related employment. A final expected outcome for the TBL programs was meeting workforce needs of employers in targeted industries. Preliminary, data suggest that programs were mostly on track to achieve many of these expected outcomes.

Quality of Data Sources

Because TBL programs were at various stages of implementation at the time of data collection, data on enrollment and outcomes (i.e., program completion, degree attainment, and employment) were incomplete. In three cases, programs had not even enrolled participants at the time that data was collected or before the evaluation report was prepared.

Additionally, a primary source of outcomes data was expected to come from the quarterly report (ETA-9134) developed originally for the High Growth and Community-Based Job Training Initiatives. However, due to some confusion as to what reporting was required of grantees, many grantees submitted the ETA-9134 sporadically, with some grantees never submitting it at all. Thus, ETA-9134 data were incomplete and missing entirely for some grantees.

To fill in some of the gaps in ETA-9134 data, two activities planned as part of the evaluation included: the collection of individual-level administrative data directly from grantees and the administration of an online survey to participants concerning their perceptions of the TBL training. These activities could not be conducted until clearance was received, which occurred in January 2011. Data collection activities with the grantees and their participants are currently underway.

Consequently, the findings presented in this chapter are based primarily on data collected during the evaluation's qualitative site visits, although where possible data from ETA-9134 reports were used to supplement site visit data. As a result of these limitations, this chapter is able to provide only a brief discussion of some preliminary outcomes for TBL programs.

Increasing Access to Training

The primary expected outcome for ETA's TBL grants was for program operators to increase access to training for participants who faced obstacles to taking part in traditional, classroom training. These barriers included the inability to reach training due to geographic distances and having work or personal commitments that made student/trainee participation difficult in a traditional classroom setting. In many cases, as will be discussed below, programs were successful in lowering these barriers and thereby expanding access to training for these participants.

Lowering Geographic Barriers

Many individuals live or work too far from a training provider to make participating in traditional training programs feasible. Even individuals living in an urban area where training is provided may be effectively barred from participation if transportation options are limited or cost-prohibitive. Many TBL programs appeared to be successful in lowering such geographic barriers to participation by eliminating or reducing the need for students to be physically present at a given location to receive training. In most cases, students from outside the local service areas of TBL program operators would have been unable to participate in these programs without the use of online TBL methods.

While TBL methods can allow participants from very remote locations to participate in training, only four programs aspired to extend the reach of their programs outside of their home states. These programs—GEM, INP, TBL Training, and MAP-RN—expressly targeted participants who lived at great distances from program operators' locations, typically from other states (GEM even enrolled an international student).

Rather than serving participants who lived in other states, many of the ETA-funded TBL programs focused on increasing access to students who were just outside of the normal parameters of their service areas—where transportation to onsite training was possible, but not reasonable to expect on a regular basis due to the time or hassle involved. For example, EAP students saved an hour's commute time over windy country roads

because they could participate in classes locally through videoconferencing. This made the program far more accessible for people in rural areas. CareerLink's online instruction and minimal in-person requirements spared its disabled participants the hassle of arranging transportation, transforming an arduous-at-best proposition into something quite feasible.

A few programs that aimed to expand their geographic reach but needed participants to take part in regular in-person meetings such as labs or clinical sessions made it possible for students to do these in-person activities at locations that were closer to their homes. For example, MAP-RN, which served participants in three states, partnered with hospitals in each state so that participants could fulfill their clinical requirements without having to travel too far.

Lowering Work and Personal Barriers

Many individuals have difficulty participating in training because they have time constraints associated with employment or personal obligations. Evidence collected from participants during site visits indicated that most TBL programs appeared to be successful in using asynchronous delivery and flexible pacing to facilitate the participation of such individuals.

Many participants who were working parents noted that self-paced, online instruction allowed them to participate in training while still being able to fulfill both their work and family commitments. For example, one nursing student said:

> *"I can come home [from work] and put dinner on the table and then work on my class stuff. If the program weren't online, I couldn't do [the program]."*

A student in an IT program indicated that he was pleased with his ability to balance TBL training with his other commitments:

> *"I have kids and I am married and I need to spend time with them. This definitely works."*

Other students appreciated the convenience of being able to access TBL programs at any time of the day, such as in the evenings after work, or on the days that were most convenient. For instance, a GEM student made this comment:

> *"I work full-time, so the GEM program is easier than going to [an in-person MBA] class four nights a week after work. It's much easier to go online and do [course] work on nights when I'm not exhausted from a tough day at work."*

Increasing Enrollment

One of the primary expected outcomes for the TBL Initiative was an increase in the number of students trained by each grantee, whether through the development of new TBL programs or the expansion of existing ones. Consequently, each grantee's statement of work, submitted in response to ETA's SGA, included enrollment goals for its TBL program.[1] While most grantees did not provide data on their baseline enrollment numbers, program operators indicated that achieving the enrollment goals of their TBL programs would result in increased overall enrollment.

Judging from data from both the ETA-9134 reports and the qualitative site visits of June 2010—when the TBL grants had more than a year and a half left before their expiration—the majority of grantees and program operators appeared to be well on their way to achieving their enrollment targets.   As shown in Exhibit VI-1, grantees as a whole had enrolled 5,235 participants as of June 2010, just over half of what they had planned. Significantly, three of these grantees—

Exhibit VI-1:
Enrollment Data—Progress Toward Goals as of June 2010

Grantee	TBL Enrollment	Expected Cumulative Enrollment	Percent of Total Enrollment Achieved
IDCEO	934	500	186.8%
TGC	3,116	1,675	186.0%
WTCC	271	230	117.8%
NCTC	48	60	80.0%
A-DA	62	80	77.5%
CSN	55	90	61.1%
MCC	85	140	60.7%
Temple CSPCD	66	126	52.4%

---

[1]   Some grantees updated enrollment goals after submitting their scopes of work. When available, site visitors collected this information. These updated goals are used in discussing enrollment targets, where applicable.

Grantee	TBL Enrollment	Expected Cumulative Enrollment	Percent of Total Enrollment Achieved
OWATC	144	300	48.0%
UCD	82	192	42.7%
GTC[†]	109	300	36.3%
Dillard	80	320	25.0%
NOVA	46	355	13.0%
WGU	77	1,000	7.7%
WVUP	25	360	6.9%
Reno CSA	5	85	5.9%
HCC	30	650	4.6%
GCCC	0	150	0
OC WIB	0	20	0
RF SUNY	0	2,650	0
TOTAL	5,235	9,283	56.4%

† Because accurate enrollment data were not available, the enrollment numbers for GTC include only those people who had exited training as of June 2010. Actual total enrollment for GTC is expected to be significantly higher than what is represented in the table.

IDCEO, TGC, and WTCC—had already exceeded their goals. Not surprisingly, these grantees were those that implemented early in the grant period. Of the remaining grantees, four had enrolled between a quarter and a half of their targeted participants, and five had enrolled between five and thirteen percent of their target numbers. Three of the grantees were not yet operational and had not enrolled any participants at the time data were collected for this report.

Participant Demographics

Because the TBL programs focused on serving different industries, geographic areas, and target populations, it follows that the demographics of those served would vary considerably across programs. Exhibit VI-2 displays a snapshot of participant

SPR

demographics for the 10 grantees that submitted ETA-9134 quarterly reports including these data.[2]

Among the TBL programs that provided demographic data, there were distinct differences in gender ratios. Not surprisingly, grantees with nursing programs—CSN, NCTC, WVUP, and WGU—enrolled more women than men. In contrast, HCC, which provided training in manufacturing, was 90 percent male. The four grantees that provided IT training showed two different gender patterns: more than 75 percent of the participants in the programs run by A-DA and OWATC were male, whereas Temple CSPCD and WTCC both enrolled more women than men.

Regarding ethnic/racial categories, most grantees that provided data served mostly white participants. In only one of these ten programs—Temple CSPCD—were most participants of color. Temple CSPCD focused specifically on serving a low-income neighborhood populated by people of color, as did Dillard and IDCEO, two grantees that did not report any demographic data.

Only half of the reporting grantees indicated that they served veterans and only four reported that they served persons with disabilities. A-DA served the highest percentages of participants in both of these categories. Because individuals had to have a disability to participate in A-DA's CareerLink program, it is expected that all would identify as disabled. Although A-DA did not target veterans explicitly, its relatively high percentage of veterans enrolled was likely due to the fact that the program received most of its referrals from the California Department of Rehabilitation, which serves many disabled veterans.

---

[2]   Exhibit VI-2 was generated using data from only ten grantees because other grantees omitted this information or did not submit ETA-9134 quarterly reporting forms.

Exhibit VI-2:
Participant Demographics by Grantee

Participant Characteristics	A-DA	CSN	HCC	NCTC	NOVA	OWATC	Temple CSPCD	WTCC	WVUP	WGU
No. of participants for whom data was reported	62	55	30	9	46	144	47	271	25	77
Gender										
Male	75.8%	10.9%	90.0%	0	39.1%	84.7%	29.8%	42.5%	20.0%	26.0%
Female	24.2%	89.1%	10.0%	100.0%	60.9%	15.3%	70.2%	57.5%	80.0%	74.0%
Ethnicity/Race										
Hispanic/Latino	16.1%	7.3%	13.3%	0	2.2%	12.5%	6.4%	3.0%	0	10.4%
Asian	1.6%	7.3%	0	0	4.3%	0.7%	0	3.3%	0	20.8%
Black or African American	16.1%	1.8%	3.3%	11.1%	6.5%	2.8%	76.6%	14.4%	0	28.6%
White	54.8%	69.1%	73.3%	88.9%	71.7%	83.3%	6.4%	48.3%	100.0%	18.2%
Other	6.5%	3.6%	0	0	4.3%	2.1%	2.1%	0.4%	0	5.2%
More than one race	6.5%	5.5%	0	0	0	0.7%	4.3%	18.8%	0	5.2%
Hispanic/Latino and more than one race	0	0	10.0%	0	0	0	0	11.4%	0	1.3%
Veteran	21.0%	0	10.0%	0	4.3%	9.7%	0	0	0	3.9%
Person with a Disability	100.0%	0	0	0	2.2%	8.3%	4.3%	0	0	0

Note: "Other" Ethnicity/Race includes American Indian, Alaska Native, Native Hawaiian and other Pacific Islander. In some instances percentages for Ethnicity/Race do not total 100 percent because some participants failed to provide their ethnicity/race and because Ethnicity/Race categories are not mutually exclusive.

SPR

Training Success

It is difficult to assess the two primary training outcomes—participants' rate of training completion and degree attainment. This is mainly due to the fact that many programs were still not fully operational at the time data were collected for this report, with even three that had not yet enrolled any students. Additionally, only four grantees submitted ETA-9134 quarterly reports that included information on training completion and the number of program exiters. However, even those data could not be used to determine the actual rate of training completion. In some cases—typically IT programs—participants could complete a training course successfully and, instead of exiting, enroll in another training course. Due to the aggregate-reporting structure of ETA-9134 reports, it was not possible to determine which, if any, of those training completers had also exited the program. Therefore, the most accurate calculation of the rates of training completion can only come after the grants are concluded and all participants have exited.

Thus, instead of focusing on whether participants completed training or attained a credential, this section addresses several topics with a direct bearing on training outcomes: factors respondents identified as important to training success, efforts to minimize program attrition, programs' abilities to accommodate various types of learners, and participants' satisfaction.

Factors Contributing to Training Completion

Both staff members and participants noted that independent learners tend to do best in TBL programs because they possess the motivation and self-discipline needed to succeed in courses in which the learning is largely self-paced and asynchronous. One student made this point rather directly:

> *"As an online student, you have to take the initiative to get what you need or you'll end up withdrawing…if you need someone to prod you to get things done, online is not right for you."*

Another student emphasized the importance of discipline and time management:

> *"Getting work done in a timely fashion [is important]. You have to have willpower. If you miss one assignment, that's it. You'll miss another one."*

Staff members indicated that students who did not possess self-motivation and self-discipline ran the risk of failing or dropping out of the program.

Program operators also indicated that participants often failed or withdrew when their training conflicted with work or family life. Staff members explained that if participants did not understand the time commitment required of them prior to enrollment, they often realized too late that they could not handle it given their work and family commitments and were forced to withdraw. One program director commented that having a strong support network of family members and friends often helped to facilitate success in balancing personal and training program responsibilities.

Staff members gave two other reasons for attrition. One such reason was that participants sometimes needed to work full-time in order to meet financial obligations or because they had financial difficulties. Participants also occasionally secured their desired employment prior to program completion and withdrew because they felt that additional training was unnecessary.

Strategies for Preventing Program Attrition

Program operators cited a few strategies they used to help prevent attrition. Some of these strategies were employed prior to program enrollment, while others were designed to help already-enrolled participants who were at risk of dropping out or failing. One pre-enrollment strategy was to fully prepare students for what would be expected of them in the TBL training program. This helped participants determine if they could realistically commit to the program. Another strategy was to screen applicants rigorously for suitability prior to enrollment.

One post-enrollment attrition-prevention strategy was to actively monitor participants' progress to ensure that they were meeting program benchmarks. This allowed staff members to intervene before participants failed or withdrew from the program. For example, at TEC, case managers had a system of "alerts" that informed them if a participant was falling behind in his or her coursework. When case managers were alerted that a participant was significantly off track, they contacted the participant and required him or her to meet with case managers, who would help to address the issues that were preventing the participant from keeping up with the program. As discussed earlier, other post-enrollment strategies included scheduling in-person check-ins and requiring weekly quizzes or assignments.

Accommodating Various Learning Styles and Paces

Research has demonstrated that individuals have different ways in which they learn best (see, for example, Gardner, 1993). In other words, while some people excel at

learning via verbal or written instruction, others thrive through direct hands-on experience or interpersonal interactions. With this in mind, many of the TBL grantees and program operators were thoughtful about planning their programs to accommodate various participant learning styles. Programs accomplished this by using multiple formats to present information. For online components, this often included providing audio or video in addition to written content.

Efforts to appeal to hands-on learners were incorporated into most programs that used blended learning because these programs required, in addition to online instruction, in-person sessions that involved hands-on activities. Many participants indicated that the ability to have hands-on experience was an invaluable part of the program.

In-person sessions that involved group activities and face-to-face peer interaction also aided learners who thrived on interpersonal relations. At the MAP-RN program, some participants who bonded at the first in-person session organized regular study groups where participants could meet and discuss course materials. In one of the IT programs employing a blended approach to learning, one participant noted that in-person interaction allowed him to discuss and work through difficult assignments with peers.

In addition to using in-person sessions to facilitate interpersonal learning, programs employed technology to help participants maintain contact and work collaboratively. In the INP nursing program, for example, the cohorts developed strong bonds during in-person sessions, and the participants continued to interact frequently outside of scheduled class time, through e-mail and social networking sites or via telephone calls and text messaging. Participants indicated that this on-going remote communication helped them develop a learning community in which they could rely on one another for academic support.

Another aspect of catering to different types of learners is making accommodations for variations in learning pace. Many programs did so by using asynchronous techniques that allowed participants to go through materials at their own pace, accessing course materials any time they desired and spending as much time as needed on particular sections. One CSPCD TBL participant echoed the sentiments of many other students when she noted the importance of being able to work at her own pace. She said that while some students with more experience were able to fly through the course material and get their certifications, she preferred to go through the program at a slower pace because that helped maximize her retention of the information.

Participant Satisfaction with Training

Among the small number of students interviewed, most generally expressed strong satisfaction with TBL programs. As described in the sections above, most TBL programs received positive reviews from participants for making it possible for them to fit training into their busy lives. This was especially relevant to working participants or those with small children. These participants appreciated how the flexibility of TBL allowed them to balance training with all of their other commitments.

Overall, participants felt that the skills they learned in training would be relevant to their future jobs and would help them secure employment. One participant from TEC attributed her ability to find her first professional job to the work-relevant IT skills she learned during her training program. A number of other non-IT program participants noted that the experience they gained in using technology was an added benefit of participating in a TBL program. For example, one GEM participant stated that the technology used in the program to facilitate remote, collaborative work with other participants would help him professionally because in his job he often worked with virtual teams.

TBL participants were also very satisfied with their abilities to master the skills that were being taught in their programs. Many participants indicated that having online, asynchronous instruction actually helped them better understand course content. Participants generally attributed this increased mastery to their ability to navigate training at their own pace. The self-paced nature of the program allowed them to spend more time on content that was particularly challenging and to review material as many times as necessary to comprehend it fully. One INP nursing student attributed her increased comprehension to the program structure that enabled her to review important content covered during lectures as frequently as needed. GEM students noted they were better able to understand course content because they could watch and re-watch recorded video lectures and podcasts whenever convenient and when they were in the right mind frame, rather than only once at the same time each week.

A few students also had some suggestions for improvement regarding the structure and organization of training programs. For example, a few participants noted that some programs could have done a better job organizing and structuring courses. As discussed earlier, some participants described how they would have liked the program to offer more opportunities for in-person, hands-on instruction, while other participants

SPR

wanted more detailed course syllabi to allow them to plan for how to complete course assignments while still meeting work and family obligations.

Other students felt that programs should be more thoughtful about how they organized the schedule of courses within a training program. For instance, one student noted that not all courses in his program were available online at the time he and others needed. This hindered many students' ability to progress through the set sequence of courses. Another student complained that her program had too few classes scheduled in the beginning of the program and too many at the end, causing her schedule to be light in the beginning and overwhelming at the latter stages of her program. She suggested that the program do a better job of spreading the classes out evenly throughout the training program so students could avoid an overloaded schedule.

Employment

Because grantees and program operators were still in the process of implementing their programs at the time data were collected for this report and only a handful of program operators had reported employment outcomes for any participants, it is not possible to fully assess employment outcomes. However, anecdotal site visit data about employer satisfaction with TBL programs and the program participants they employed, provide a preliminary indication of what can be expected regarding employment outcomes.

Overall, employers expressed strong satisfaction with the TBL program participants they employed. Regarding new hires, employers generally stated that TBL programs had provided these workers with the skills necessary to succeed in the work environment. For example, an one employer who hired several Nurse Return to Work graduates said she was "extremely pleased" with their skills, particularly in the areas of communication and critical thinking. Another employer who had hired a GCPI graduate said that he was as well-trained as graduates hired from traditional programs.

Employers of incumbent workers were pleased with the ability of TBL programs to provide their workers with needed skills training while also allowing them to fulfill work obligations. For example, two Wayne County direct-care employers said they were very satisfied with the CATS program, with one calling it a "Godsend" because it made it easier for him to ensure his direct care workers received needed training. An employer partner of the Banner Center noted that his employees who participated in TBL Training had strengthened their knowledge of manufacturing and learned skills pertinent to their

work. He said that their achievements were even more impressive because they were also able to complete their studies while working full-time.

Summary

While TBL grantees/program operators were still implementing their programs at the time data were collected for this report, available preliminary data suggest that programs were mostly on track to achieve a number of expected outcomes. Fully operational TBL programs appeared to have been successful in improving access to training for individuals who would not have been able to participate otherwise. Through their use of technology, these programs made training accessible for participants residing too far from training providers and for participants with family and work commitments that would have prevented enrollment in traditional courses.

Due to this expanded access to training, program operators were expected to increase their enrollment relative to pre-TBL Initiative levels. Even though programs were only midway into the grant period when data were collected, a few programs had already met the enrollment goals they had set for their TBL programs and many appeared to be likely to meet their targets by the end of their grants. Only three programs had not yet been implemented and thus had not enrolled any participants.

Demographic information from only half of the programs indicated that the gender ratios for programs focused on specific industries—nursing, IT, and manufacturing—which typically reflected traditional gender roles. Although only one of the grantees that reported demographic data served people of color predominately, a few of the other non-reporting programs also focused on serving these populations. With the exception of A-DA, most programs reported serving few veterans or persons with disabilities.

Due to limited data on whether participants successfully completed training programs or credentials, assessments of these outcomes cannot be made. However, many program operators had in place various strategies designed to produce successful outcomes and reduce program attrition. These strategies included preparing participants for the time commitments required of TBL programs prior to enrollment, actively monitoring participant progress so that program staff members could intervene and provide support if someone was at risk of failing or dropping out, and screening participants prior to enrollment to ensure that they possessed the self-motivation and other personal characteristics necessary for success in TBL courses. Most TBL program

SPR

operators also designed their course materials in ways that accommodated different learning styles and paces.

Overall, students reported being satisfied with their TBL training. They noted that training methods were convenient and that the use of asynchronous methods allowed them not only to integrate training into their already busy schedules but also to master program content. Generally, students reported that the skills they learned in their programs were relevant to their current jobs or would be relevant to their future careers.

While only a few TBL programs had any participants who had completed their training and entered employment at the time data were collected, the few employers interviewed during the site visits expressed satisfaction with the training received by the program graduates they hired, stating that their training had adequately prepared them for employment. Employers of incumbent workers appreciated that their employees had learned industry-relevant skills while being able to fulfill work obligations.

VII. CONCLUSION: LESSONS LEARNED

While this evaluation cannot provide definitive information about the outcomes of the TBL Initiative, it can offer some potentially valuable insights based on the experiences of grantees and program operators during their first year and a half of implementation. In the course of designing and implementing their programs, TBL grantees and program operators wrestled with a number of issues and developed an assortment of promising practices to deal with these issues. They learned what worked and did not work, where hidden challenges lay in implementing TBL methods, and how to best serve the needs of participants. This chapter gleans these "lessons" from all of the preceding chapters of this report and presents them below under the categories of program design, instructional methods, technology, partnerships, and training completion.

Designing TBL Programs

- ***Involving employers and WIB partners in TBL program design and development appears to ensure that programs will be aligned with industry needs.*** Programs, grantees, and program operators involved employers and WIB representatives in program design and development, and this seemed to result in program curricula that were closely aligned with industry needs. This communication with industry needs would appear to enhance the employability of program graduates and provide employers with skilled workers.

- ***Program planners need to keep the technological capacity of their target groups in mind when they design their programs.*** Using TBL funds to increase the sophistication of instructional technologies worked well for programs with participants who were relatively technology-savvy. Other programs, in contrast, were conscientious about the need to design their programs so that their participants would not face undue challenges in using required technology. For example, WVUP's EAP decided to expand access to students in rural West Virginia using videoconferencing technology rather than online instruction, because few rural residents had the high-speed Internet access needed to participate in an online course. Similarly, the CATS program purposefully used simple online technologies, acknowledging that the direct care

workers who would participate in the program generally had limited experience with technology. Realizing that students would be unable to purchase and run GIS software on their home computers due to cost and memory requirements, GCPI installed desktop virtualization on a computer server at NOVA, thereby allowing students to access required GIS software from this server, rather than from their own hard drives.

- ***Employing instructional designers or partnering/contracting with organizations with experience using TBL methods aids the curricula development process.*** Programs that used these knowledgeable staff members or organizations to develop TBL programs experienced relatively few challenges. By comparison, grantees that relied solely on their own instructors to design, implement, and test new technologies and/or curricula—even when these instructors were experienced in TBL methods—found that these staff members had difficulty making time to do this work in addition to their regular teaching duties.

- ***Using existing curricula can speed up the design process, but it may also pose problems in program implementation.*** Several programs relied on existing curricula and materials for training content, either by paying for it or by gaining access to libraries or curriculum via partnership agreements or membership in an organization. While this strategy had the obvious advantages of cutting out the need to create new curricula and thereby shortening the duration of the design process, some participants and instructors found that accessing curricula developed elsewhere could be somewhat cumbersome. For example, instructors in WGU's MAP-RN program found it challenging to navigate through the different platforms of its multiple third-party content providers.

- ***Piloting or testing new curricula is critical to smooth implementation.*** Most program operators piloted or tested their TBL courses so that they could have the opportunity to identify and solve problems before programs were made available to a wider audience. In many cases this turned out to have been a wise choice. For example, during the pilot semester for one course, instructors realized that they needed to decrease the number of discussion board assignments, as participants were having to spend too much time completing them. In another program, program managers realized during the pilot term that the virtual lectures needed to be more engaging.

- ***Certain factors can significantly lengthen the duration of TBL program design and development.*** These factors included: developing or revising a very large amount of curricula; using complex technologies, such as virtual reality, to develop these curricula; making major changes to program goals and structure well after the grants were awarded; and, having extensive experience with TBL methods.

Choosing Instructional Methods

- ***Online and asynchronous approaches are critical in allowing participants to overcome training barriers related to time, transit, and distance, but they generate various challenges.*** Having the option to conduct at least part of their training online enabled the participation of many individuals: those who would otherwise have had to travel long distances or endure heavy traffic to attend in-person trainings; those with disabilities, for whom the arranging of reliable and efficient transportation was often a challenge; and those who could not manage in-person trainings due to work or family obligations. However, there were some challenges and limitations to online instruction: it may allow social loafing; it does not necessarily encourage the development of interpersonal relationships and strong learning communities; and it does not promote participant engagement, particularly with instructors. In addition, programs that trained individuals in practical skills found that online methods could not always substitute for in-person guidance and skills assessment.

- ***A number of effective approaches are available for mitigating the challenges and limitations of online, asynchronous instruction.*** The most notable of these approaches are described below:

  o **Include in-person components in online courses.** Sixteen TBL programs employed a blended approach to instruction, meaning that they included some in-person (synchronous) components in their online programs. These components included in-person orientations; in-person review sessions to go over material previously covered online; in-person examinations; and lab or clinical sessions (often with the express purpose of doing hands-on activities). A notable practice developed by GCCC was to prepare mobile lab kits, so that the in-person, hands-on activities required for CIM courses could occur at a worksite instead of in a college lab.

  o **Use technology in innovative ways to create effective practical skills training online.** Manufacturing Essentials' contractor, LabVolt, created online learning objects (such as a simulated pressure gauge) for use in simulated online activities that mimicked hands-on activities that typically would have had to occur inside a laboratory. Through NETLAB, WTCC gave its computer networking participants online access to routers, switches, personal computers, and servers that participants were able to configure, troubleshoot, and repair remotely*.*

  o **Offer synchronous online activities.** Several programs offered synchronous online activities, such as instructor presentations with interactive question-and-answer sessions, which allowed for more interaction between participants and instructors.

SPR

- o **Provide guidance and check-ins to manage the pace of course progression.** To lessen the problem of social loafing, some programs such as OWATC's IT program and CareerLink provided participants with guidelines, expected course progress rates, and limits on how long courses should take. When participants did not meet these guidelines or exceeded limits, program staff intervened to try to get them back on track.

- o **Incorporate asynchronous online activities that require interaction**. A number of programs incorporated asynchronous online activities that required participants to interact with each other, instructors, or even the content itself. Examples included discussion boards (used by at least five programs), virtual group assignments (such as those required by GEM and GTC), and the use of a social networking site (GCPI's use of Ning). Interactive online quizzes, such as those requiring participants to answer questions about the content presented in a particular module before being allowed to move on to a subsequent module, were an example of an asynchronous online activity that required participants to interact with content. Another notable example was Coastline's use of Second Life for its Virtual Hospital program, where participants were to be expected to navigate through a virtual hospital and engage in simulated interactions with patients, doctors, and other hospital staff members.

- *For some participants, at least, asynchronous online materials provide improved opportunities for content mastery*. Despite their limitations, online materials were often noted to be a pedagogical improvement over traditional teaching methods. Both participants and instructors asserted that participants' ability to review course material as many times as necessary for the information to sink in, resulting in improved mastery of program content. In addition, participants could choose to review course materials at times when they felt ready to learn and were not too tired or too distracted to concentrate.

- *TBL methods pose threats to academic integrity that must be mitigated.* Maintaining academic integrity during assessments was sometimes difficult when using TBL methods, particularly when assessments took place online. To deal with these threats, programs used a variety of methods: they required participants to take tests in person; they timed online tests; they did not allow participants to return to a question once it was answered; and they used randomized banks of questions to create customized individual tests.

- *Instructors—especially those new to TBL—require extensive support in using TBL methods effectively.* Instructors who were new to teaching in an online environment often had difficulty with TBL methods, partly because they did not understand that online learning required a different approach to instruction. In addition, some of these instructors had a hard time adjusting to certain requirements of online teaching, such as the need to divide lectures into shorter segments and to use alternative modes of communication, such as

discussion boards or online chat. New instructors also commonly struggled with producing engaging, recorded lectures in the absence of an in-person audience. Several also reported discomfort with the inability to see students' faces during synchronous, online lectures, which made it difficult to gauge student understanding of content. To deal with these challenges, all but four TBL programs provided training for TBL instructors, with four requiring it for new instructors. This training typically provided instructors with guidance on using program technology, such as the LMS, as well as effective TBL pedagogical strategies. Larger program operators usually provided this training via formal classes or online tutorials, while smaller program operators often provided it one-on-one via an instructional designer.

Using Technology

- ***It is important to assess prospective participants' computer skills prior to enrollment.*** Due to the technological requirements of most TBL programs, most program operators found that it was important to assess the computer skills of prospective participants prior to enrollment. Individuals whose skills were found deficient were then either referred to a less technology-intensive training program or were provided with basic computer training. These basic computer training courses were either stand-alone (e.g., the workshops offered by Coastline for nurses interested in participating in the Virtual Hospital program) or were embedded in an early segment of the training program (e.g., the computer training provided at the beginning of the TBL Worker program).

- ***Participants and instructors need extensive technical support in using program technology.*** Both instructors and participants noted a number of challenges related to using TBL technology, particularly LMS software. Due to these challenges, nearly all programs provided instructors and participants with multiple avenues of technical support and found that this was a worthwhile investment. Participants and instructors preferred to receive technical support from TBL program staff members, because these individuals could best answer questions about program-specific technology. A promising method of providing technical support was to demonstrate program technology during in-person orientations, sometimes even allowing participants to log onto a program's LMS during the session. These in-person demonstrations made it less likely that participants would have to call-in or e-mail for technical support the first time they tried to use the program's technology at home.

- ***Some participants need assistance accessing computers with Internet connections***. Some low-income participants lacked ready access to computers with Internet connections where they could complete their TBL coursework. To deal with this challenge, a number of programs developed agreements with local One-Stop Career Centers that allowed participants to use center computer labs; WTCC even paid for assistive technology for 22 local One-Stop Career Centers to

ensure that disabled participants could use the centers to complete their coursework. One program provided TBL participants with access to loaner laptops.

Developing Partnerships

- *Partnerships with employers are critical to the success of TBL programs.* Due to their many benefits, partnerships with employers were integral to the success of programs in the TBL Initiative. These benefits included:

  - **Ensuring the employability of TBL students.** Employers made sure that program curricula were aligned with industry needs and standards, so that program completers would have the skills that would make them employable. Employer partners also hired program graduates.

  - **Providing resources for TBL programs.** Employers provided a variety of resources to TBL programs, including space for program lectures, internship/work experience opportunities, instructors, and, in at least two cases, funding.

  - **Referring prospective participants to TBL programs.** Employers were particularly important sources of referrals of incumbent workers.

- *Outreach to prospective employer partners can be challenging, but grantees/program operators came up with several promising practices to make outreach efforts more successful.* Although they made outreach to employers a priority, some TBL grantees and program operators found it challenging, due to a lack of existing relationships with employers or poor economic conditions (causing employers to be less interested in partnering due to a paucity of hiring needs). To deal with these challenges, a number of program operators and grantees developed promising practices for conducting outreach to employers. These promising practices included:

  - **Using employer intermediaries or other partners with established employer relationships to facilitate outreach to new employer partners.** These intermediaries and partners, such as the Chicago Chamber of Commerce, had strong relationships with employers that program staff members used to facilitate partnerships with employers.

  - **Using existing employer partners to contact new employer partners.** Employers were typically more receptive to outreach from other employers, and several programs used existing employer partners to make initial contacts with prospective employer partners.

  - **Using program alumni to facilitate contacts with new employer partners.** One program relied on its contacts with alumni who worked for

key employer partners, as program staff members knew that alumni were typically receptive to outreach from their alma mater.

- o **Offering training and placement services to employers free of cost, at least initially.** When services were offered for free, employers were more willing to partner with programs to give their services a try. Once they made use of program services, employers were often willing to partner in other ways, such as by serving on program advisory boards.

- o **Customizing training services for individual employers.** TEC enjoyed great success in recruiting new employer partners by offering them customized training services.

- *Relationships with public workforce system agencies and other partners can offer many benefits.* TBL programs gained numerous benefits from developing partnerships with agencies in the public workforce system and other partners such as educational institutions, CBOs, government agencies,[1] labor unions and employer intermediaries. These benefits included:

  - o **An understanding of the local labor market and training system.** WIB partners, in particular, provided TBL program operators and grantees with a broad understanding of the needs of local employers in targeted industries, as well as the local training system.

  - o **Wrap-around services to co-enrolled participants.** Such services were usually provided by public workforce system partners, such as WIA Adult and Dislocated Worker program providers. They typically included case management, support services such as transportation assistance, and placement services. Tuition assistance was also commonly provided. These services were particularly useful for supporting TBL participants who faced barriers to finding and maintaining employment.

  - o **Referrals/recruitment of eligible participants.** One-Stop Career Centers and their partners, in particular, served as a significant source of referrals of unemployed and underemployed individuals to TBL programs.

  - o **Opportunities for further training for participants.** Partnerships with educational institutions facilitated access to additional training materials and courses of study for TBL participants or completers.

  - o **Resources that support TBL programs.** These resources typically included providing space for TBL program activities, although, in at least one case, they also included funding to support program activities.

---

[1] Those government agencies not typically affiliated with the public workforce system.

SPR

- **Regular communication is a key factor in developing and maintaining productive relationships with partners.** A number of TBL program staff members and partner respondents noted that regular communication was an important factor in the success of their partnerships, a point that is supported by research on collaboration (Mattessich et al., 2001). This communication often occurred via TBL advisory boards. When partners, particularly employers, were unable to attend frequent advisory committee meetings, TBL program staff members developed other channels for communication with them, including e-mail and phone contact.

Promoting Completion of Training

- **Self-motivated, independent learners do best in TBL programs.** Both program staff members and participants reported that the most successful TBL students were self-motivated and self-disciplined. To try to ensure that their participants were sufficiently motivated and disciplined, a number of programs screened participants for these characteristics prior to enrollment. Others attempted to provide participants who lacked sufficient motivation and self-discipline with the focused support they needed to be successful.

- **Participants with family and work responsibilities need both forewarning of program rigor and active monitoring of progress.** TBL participants often withdrew from programs when they could not balance the time required to complete training activities with their family or work responsibilities. To try to prevent this kind of attrition, programs endeavored to fully prepare prospective participants for what would be required of them in their TBL programs and, once participants were enrolled, they actively monitored participants' progress to ensure that they were meeting program benchmarks.

- **Accommodating different learning styles allows more participants to be successful in completing their programs.** To make it easier for different types of learners to succeed in their programs, a number of program operators made their curricula available in different modes and formats and included a wide variety of activities. For example, many programs made course materials available in formats that could be listened to (e.g., via MP3 files), watched (via video files), or read (via PowerPoint slides, Adobe Acrobat or MS Word files, or HTML text). For hands-on and interactive learners, program operators also made sure to include both in-person and online activities that involved direct practical experience and interaction with other participants and/or instructors. Finally, to accommodate participants' different learning paces, programs used asynchronous materials, which allowed learners to move through material at their own pace.

REFERENCES

Adams, J. and M. DeFleur. 2005. "The acceptability of a doctoral degree earned online as a credential for obtaining a faculty position." *The American Journal of Distance Education* 19 (2): 71-85.

Ambulance Service of New South Wales, Australia. 2004. "E-Learning ambulance trainees top the class." *Australian Flexible Learning Framework.* Accessed October 11, 2010. http://pre2005.flexiblelearning.net.au/casestudies/casestudies/nsw_ambos.pdf.

Anderson, J., L. Reder, and H. Simon. 1998. "Radical constructivism and cognitive psychology." In *Brookings Papers on Education Policy*, ed. D. Ravitch, 227-278. Washington, D.C.: Brookings Institute Press.

Aust, R. and R. Isaacson. 2005. "Designing and Evaluating User Interfaces for eLearning." In *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education*, ed. G. Richards, 1195-1202. Chesapeake, VA: AACE.

Bell, P., P. Reddy, and L. Rainie. 2004. "Rural areas and the Internet." *Pew Internet Research Center.* Accessed October 10, 2010. http://www.pewinternet.org/PPF/r/112/report_display.asp.

"Best Practices in Designing Online Courses." Las Positas College. Accessed April 8, 2009. http://lpc1.clpccd.cc.ca.us/lpc/blackboard/best_practices/.

Carr, S. 2001. "Is anyone making money on distance education?" *The Chronicle of Higher Education.* 47 (3): A41- A43.

Council for Higher Education Accreditation. 2002. "Accreditation and Assuring Quality in Distance Learning." *CHEA Monograph Series*, no.1 :1-18.

Gardner, H.. 1993. *Multiple Intelligences: The Theory In Practice*. New York: Basic Books.

Greitzer, F. 2002. "A cognitive approach to student-centered e-learning." Paper presented at the 46th annual meeting of Human Factors and Ergonomics Society, Baltimore, MD, 30 September – 4 October 2002.

Higher Education Program and Policy Council of the American Federation of Teachers. 2000. "Distance Education; Guidelines for Good Practice." Accessed October 11, 2010. http://www.aft.org/pdfs/highered/distanceedguidelines0500.pdf.

SPR

Hollis, E. 2004. "U.S. Navy: Smooth sailing for education." *Chief Learning Officer Magazine.* Accessed October 11, 2010. http://clomedia.com/articles/view/u_s_navy_smooth_sailing_for_education/3.

Institute of Electrical and Electronics Engineers, Inc.. 2002. "Draft Standard for Learning Object Metadata." IEEE Standard 1484.12.1. New York: Institute of Electrical and Electronics Engineers. Accessed November 17, 2010. http://ltsc.ieee.org/wg12/files/LOM_1484_12_1_v1_Final_Draft.pdf.

Institute of Higher Education Policy, The. 2000. "Quality on the Line: Benchmarks for Success in Internet-based Distance Education." Accessed October 11, 2010. http://www.abanet.org/legaled/distanceeducation/QualityOnTheLine.pdf.

Jobs for the Future. 1998. "Employer Intermediaries: A Briefing Paper." Paper prepared for The Employer Workforce Development Initiative: Partnering with Communities to Create a Workforce for the New Millennium.

Koller, V., S. Harvey, and M. Magnotta. 2006. "Technology Based Learning Strategies." Oakland, CA: Social Policy Research Associates. Report prepared for U.S. Department of Labor, Employment and Training Administration, Office of Policy Development and Research. Accessed October 11, 2010. http://www.doleta.gov/reports/papers/TBL_Paper_FINAL.pdf.

Mattessich, P. W., M. Murray-Close, and B. R. Monsey. 2001. *Collaboration; What Makes It Work.* 2d ed. St. Paul, Minnesota: Fieldstone Alliance.

Means, B., Y. Toyama., R. Murphy, M. Bakia, and K. Jones. 2009. "Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies." Report prepared for the U.S. Department of Education's Office of Planning, Evaluation, and Policy Development. Washington D.C.: U.S. Department of Education. Accessed October 11, 2010. http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf.

Meyen, E. L., R. Aust, Y. N. Bui, E. Ramp, and S. J. Smith. 2002. "The Online Academy Formative Evaluation Approach to Evaluating Online Instruction." *Internet and Higher Education*, 5 (2): 89-108.

Moore, J. C. 2005. "The Sloan Consortium Quality Framework and the Five Pillars." Needham, MA: The Sloan Consortium. Accessed October 11, 2010. http://sloanconsortium.org/.

Murray, B. 2001. "What makes students stay?" *E-Learn Magazine.* Accessed October 11, 2010. http://www.elearnmag.org/subpage.cfm?section=articles&article=22-1.

National Telecommunications and Information Administration U.S. Department of Commerce: Economics and Statistics Administration. 2002. "A Nation Online: How Americans are Expanding their Use of the Internet." Accessed October 11, 2010. http://www.ntia.doc.gov/ntiahome/dn/anationonline2.pdf.

"Notice of Availability of Funds and Solicitation for Grant Applications (SGA) Under the Employment and Training Administration's (ETA) Technology-Based Learning (TBL) Initiative." 2008. *Federal Register.*73 (120): 35155.

Piskurich, G. 2001. "Facilitating Synchronous WBT." *Info-line*, no. 0112: 1-16. Accessed October 11, 2010. http://www.clomedia.com.

Rehabilitation Act of 1973, Section 508. Accessed October 11, 2010. http://www.section508.gov/.

Rehabilitation Act Amendments of 1998 mandates. Accessed October 11, 2010. http://www.usdoj.gov/crt/508/508law.html.

Sloan Consortium. 2004. "Practice: Web-Based Doctor of Pharmacy Pathway: Expanding Access to Underserved Populations." Accessed October 11, 2010. http://sloanconsortium.org/.

South Australia Police. 2004. "South Australian police uphold the law with e-learning." *Australian Flexible Learning Framework.* Accessed October 11, 2010. http://pre2005.flexiblelearning.net.au/casestudies/casestudies/sa_police.pdf.

Summerfield, B. 2005. "British Airways: The wings of learning." *Chief Learning Officer.* Accessed October 11, 2010. http://clomedia.com/articles/view/1026.

Sullivan, R., and J. Wircenski. 2001. "Effective Classroom Training Techniques." *Infoline,* no. 0108: 1-16. Accessed October 11, 2010. http://www.clomedia.com.

Twigg, C. 1995. "The value of independent study." *Educom Review*, 30(4). Accessed October 11, 2010. http://www.educause.edu/pub/er/review/reviewArticles/30424.html.

University of Central Florida. 2006. "Distributed Learning Impact Evaluation." Accessed October 11, 2010. http://pegasus.cc.ucf.edu/~rite/impactevaluation.htm.

WestEd and Edvance Research, Inc. 2008. "Evaluating Online Learning: Challenges and Strategies for Success: Innovations in Education." Report prepared for the U.S. Department of Education's Office of Innovation and Improvement. Washington D.C.: U.S. Department of Education. Accessed October 11, 2010. http://www2.ed.gov/admins/lead/academic/evalonline/evalonline.pdf.

SPR

APPENDIX A:

Evaluation of Technology-Based Learning Grants:
Research Questions

SPR

Evaluation of Technology-Based Learning (TBL) Grants: Research Questions

The evaluation's research questions are presented below organized into nine categories: (1) contextual factors; (2) planning and design; (3) program administration, organization and leadership; (4) linkages and partnerships; (5) recruitment and intake; (6) training delivery; (7) additional services; (8) outcomes; and (9) implementation challenges and promising practices.

Contextual Factors

- What is the grantee's prior experience with using TBL strategies and methods? Does the grantee already have an established e-learning component and learning management system?

- What is the status of the TBL training program? Does it need to be developed entirely, converted to a TBL format, or simply updated or improved?

- What are employer needs in targeted sectors?

- What are overall economic conditions?

- What is the capacity of partners for collaboration on a TBL project? What is the history of collaboration between partners? What experience do they have with TBL?

- What are the characteristics of the participants targeted for the TBL project? Do they have prior knowledge and experience with computers? What is their prior labor market experience? What are their demographics?

Planning and Design

- What was the planning and design process for the TBL Initiative? Who was involved and what were their roles? Were partners, such as employers, involved in the design of curriculum?

- How were training programs and modules designed? Tested? Did grantees hire a program or training designer to develop their TBL programs? What innovative and effective strategies and designs do these staff bring?

- What is the initiative's philosophy and approach to TBL? How have grantees envisioned the role of e-learning at their institutions? How does this align with the grantee's mission and goals? How is this vision manifested in the design of their TBL trainings?

SPR

- What are grantees' TBL program objectives in terms of industry focus and local or regional economic development?

Program Administration, Organization and Leadership

- What are the goals and objectives that grantees establish for their initiative? How are these communicated to initiative partners and staff?

- How is each TBL grantee's initiative administered and managed? How is each TBL initiative staffed? Who is responsible for providing training? Other services?

Linkages and Partnerships

- What partnership arrangements have been established and how are resources being leveraged to achieve the grant's objectives?

  - What types of linkages have been established with local Workforce Investment Boards (WIBs) and other elements of the public workforce investment system (e.g., One-Stop Career Centers, Workforce Investment Act (WIA) Title IB providers, Workforce Innovation In Regional Economic Development (WIRED) grantees, and other One-Stop system partners)?

  - What types of linkages have been established with employers, particularly in targeted industries or sectors?

  - What types of linkages have been established with other training providers and educational institutions?

  - What types of linkages have been established with community based organizations (CBOs) or faith-based community organizations (FBCOs)?

- How were these linkages/relationships formed? What are the challenges and successful strategies? How have these linkages worked overall? How have they evolved over time? What are the "missing" or unsuccessful linkages?

- What leveraged resources—cash and/or in-kind—are available from partners and other public/private organizations? To what extent and with what effectiveness have cost-sharing agreements been established among partners?

- How are the partnerships formalized (e.g., memoranda of understanding, contractual agreements, fee-for-service or voucher arrangements, referral systems, etc.)?

- What referral system(s) have been established or strengthened between partners?

- What have been the strategies for inter-partner communication?

- How do the various entities/partners remain informed about both grant- and client-level information? What formal and informal communication mechanisms have been established?

- What have been the key barriers to effective inter-partner communication?

- How successful have grantees been in establishing fruitful and lasting relationships with partners?

Recruitment and Intake/Admissions

- What is the nature of outreach/recruitment efforts for the TBL Initiative?

- What strategies are involved for outreach/recruitment? What partners are involved in recruitment? What do partners contribute to the recruitment process? In terms of value-added?

- What is the intake/admissions process for the TBL Initiative? What eligibility criteria are used? How is eligibility assessed?

- How is it decided which participants will undertake TBL versus alternative, more traditional training modes? How do the characteristics of the two groups differ?

- What assessments are conducted at intake/admission? Are computer skills assessed? Skill levels? General compatibility with a TBL learning environment?

- What is the range of basic computer skills that participants must have to successfully engage in the grantee's TBL courses? If participant computer skills are assessed to be low, what computer training or support is provided?

- What equipment or infrastructure must students have to successfully participate in the TBL courses? If students lack sufficient or appropriate equipment, how do grantees address this?

- Who is the program targeting for services (demographically, geographically)? How does TBL meet the unique needs of grantees' target groups?

- What is the enrollment of each grantee's TBL Initiative programs? What are the characteristics of these enrollees? Do they match with the target group?

Training Delivery

- What faculty or instructors conduct classes and training? What preparation, training or support do TBL program faculty or instructors receive? Is this training and support sufficient to effectively conduct TBL courses?

SPR

- What types of TBL training programs do grantees develop and implement?

- What specific occupations, degrees and credentials do the TBL programs target?

- What delivery modes and methods do the grantee's TBL programs employ? Asynchronous or synchronous delivery? Are programs strictly online or do they blend in-person components? Are they self-paced?

- What other TBL tools do programs use? Discussion boards? Wikis? Multimedia? Chat rooms? How do these additional tools contribute to the learning experience?

- What type of orientation or introduction do grantees offer students before taking the TBL courses? How useful are these introductions?

- How do TBL training modes and methods differ amongst grantee programs based on the training goals or student needs?

- How long do training programs last? How does this differ between self-paced and instructor led programs?

- What is the nature and frequency of instructor-student and student-student interaction during TBL courses? Does this interaction lead to adequate learning experiences? What are the challenges and promising practices in increasing instructor and peer interaction?

- What learning management systems (LMS) do grantees use for their online courses? What are the challenges and benefits to using various LMS? What are the minimum functions that grantees believe are necessary in an LMS for a successful TBL program?

- What are the characteristics of effective user support/help desk components for TBL courses?

- What are the characteristics of user-friendly online training interfaces?

- What additional educational support or tutoring is available to students during TBL programs? How effective is this support? Is it technology-based or in-person?

- What accommodations are made to incorporate Americans with Disabilities Act (ADA) requirements and increase training accessibility to students with disabilities?

- How is student progress assessed in the TBL courses? What mechanisms do TBL programs use to inform students of their progress and provide constructive feedback? Are they sufficient?

- How is academic integrity maintained in grantees' TBL courses? What are the methods for ensuring students' compliance with educational or training institutions' academic integrity rules? What are the challenges

that grantees face and the promising practices that they employ in this effort?

- What accommodations are made to ensure identity security/maintain the privacy of student identity? What are the challenges that grantees face in this effort?

- How are intellectual property rights for TBL program training content protected?

- What innovations do the TBL grantees incorporate into their implementation, and how do these innovations mesh with the more traditional mechanisms of delivering content also used by the grantees and their partners?

Additional Services

- What other services, such as placement assistance, career counseling or job readiness training will grantees make available to participants? Do TBL participants have access to the same services as non-TBL training program participants?

- Do TBL program participants receive case management services? Who provides these services? What is the scope and frequency of these services?

- Are participants referred to other agencies for additional services? What types of referrals are most common?

Outcomes[1]

- What is the number of participants enrolled in TBL programs? How many more students were enrolled in training as a result of the initiative?

- What is the duration of participation in training programs? How many enrollees complete TBL programs?

- What specific services do participants receive while enrolled in TBL programs?

- What credentials, certificates or degrees are attained by TBL participants?

- Do TBL participants become employed following completion of participation in TBL programs? At what wages?

- Does program completion, attainment of certificates or credentials or labor market success vary by participant characteristics? By program characteristics or services (e.g., blended vs. online only, extent of computer or educational support, etc.)

- How satisfied are TBL program participants with their experience? How satisfied are faculty?

- How does this initiative advance the grantees' ability to provide training for skills demanded by their regional economies and for high-growth/high-wage occupations and industries?

- Has the initiative resulted in strengthened partnerships between training providers, employers, and WIBs?

- How successful are TBL programs in helping to accommodate different learning styles and paces among trainees.

- How successful are TBL programs in expanding the geographic reach of training and education to students who are outside of a commutable distance?

- Do TBL programs make it easier for individuals with limited time (e.g., single parents, incumbent workers) to participate and complete training programs?

- Has the TBL Initiative strengthened the local workforce system's e-learning capacity?

---

[1] The evaluation was not able to capture the grantees' full period of performance, and as a result, only reports on short-term outcomes and results from early enrollees.

A

Implementation Challenges and Promising Practices

- What major challenges in design and program delivery have the grantees encountered? How have they been addressed? With what success?

- What are promising practices that can be gleaned from grantee experiences with TBL? Which of these practices are replicable?

SPR

APPENDIX B:

Evaluation of Technology-Based Learning Grants: Grantee Profiles

Grantee: Able-Disabled Advocacy (A-DA)

Program Operator: Grantee

Primary Service Area: San Diego County, California

TBL Initiative Funding: $584,600

Industry/Sector: Information Technology (IT)

Approximate Number to be Served: 80

Program Summary

The goal of Able-Disabled Advocacy's CareerLink program was to enable or enhance the employment of disabled individuals using TBL strategies, while simultaneously addressing the local area's IT workforce needs. The program provided participants with the opportunity to receive up to six IT industry-recognized certifications.

- **Contextual Factors:** The decision to focus on the IT sector developed through labor market research and collaboration with the local Workforce Investment Board (WIB), the San Diego Workforce Partnership. The San Diego area has a long history of being a high-tech community and other high-growth industries were also expected to need various types of IT professionals. The grantee also hoped to lower the need to bring in foreign IT workers through the H-1B visa process.

- **Experience with TBL:** A-DA's primary experience had been in workforce development and case management for persons with disabilities. While A-DA had previously administered some small, short-term technology-focused training programs, CareerLink was the first to use online learning.

- **Planning and Design:** The design of the program was a collaborative effort between A-DA, The San Diego Futures Foundation (SDFF) and SkillSoft. SDFF had extensive experience and connections to the IT industry and provided A-DA with guidance on curriculum design and the types of certifications to offer. SkillSoft is a national leader in IT certification programs and worked closely with A-DA and SDFF to adapt SkillSoft's existing online IT training programs for CareerLink.

- **Program Administration, Organization, and Leadership:** There were two dedicated staffers responsible for administering CareerLink. The project director oversaw day-to-day operations, including student recruitment, employer/partner outreach, and student tracking and reporting. The director of e-learning provided assistance and support for the online training component and served as the program's instructor. A-

DA had an organization-wide advisory council, primarily composed of employers.

- **Partnerships:** A-DA's primary partner was SDFF. SDFF was instrumental in program development and assisted with employer outreach, equipment donation, and soft-skills training. The grantee also developed close partnerships with the San Diego Workforce Partnership and the California Department of Rehabilitation.

- **Recruitment and Intake:** The program primarily recruited via its Web site and referrals from partners. To ensure participants were both adequately prepared and dedicated to the program, CareerLink had a multi-stage intake/enrollment process involving both a skills assessment and multiple in-person interviews with both program and SDFF staff.

- **Training Delivery:** CareerLink's online component involved asynchronous interactive training modules. Students were required to complete at least one training module per week and supplement their online training with bi-weekly in-person classroom sessions. This 10- or 12-week training component was followed by approximately eight weeks of preparation for the relevant industry certification exam. Following successful certification, CareerLink students were placed in 16-week internships. After completion of the internship, students received up to 10 weeks of job search and placement assistance from the program.

Grantee: College of Southern Nevada (CSN)

Program Operator: Grantee

Primary Service Area: Las Vegas, Nevada and surrounding areas

TBL Initiative Funding: $420,727

Industry/Sector: Health Care/Registered Nursing

Approximate Number to be Served: 90

Program Summary

CSN endeavored to make significant upgrades to two of its nurse training programs in order to expand opportunities for the training of registered nurses (RNs) and to increase the number of graduates who could enter the nursing profession. For its Associate Degree in Nursing program (ADN), CSN converted eight didactic courses to an online format. For its Nurse Refresher Program, CSN increased the number of training participants through a strategic partnership with a key employer partner. In this partnership, CSN provided the equipment for a new lab and the employer partner converted part of its preceptor training to an online format in order to increase its number of trained professionals to serve as instructors that could support the Nurse Refresher participants.

- **Contextual Factors:** At the time of the site visit, Nevada faced a critical shortage of nurses. In a study conducted by the U.S. Department of Health and Human Services, Nevada ranked last in the number of RNs per capita, and Clark County (southern Nevada) was designated a Health Professional Shortage Area/Medically Underserved Area. In spite of this high demand for nurses, CSN was only able to accept 42 percent of qualified nursing program applicants during the 2007–2008 academic year due to lack of faculty, classroom space, and clinical slots.

- **Experience with TBL:** The College of Southern Nevada (CSN) had a large and extensive online college with even one ADN course offered online prior to the TBL grant.

- **Planning and Design:** The planning and design process was a collaborative effort between CSN administration and faculty as well as VHS staff. Two faculty members worked with the Instructional Designer to develop the pilot online course, which consisted of three major phases: defining course structure and the tools used in the pilot, outlining the course content and the configuration of the course web pages, and developing resources and materials suitable for an online environment.

SPR

- **Program Administration, Organization and Leadership:** The Refresher Program and ADN program were administered by the Department of Nursing at CSN. Since there was no designated TBL Project Director, leadership responsibilities were divided among two key staff members.

- **Partnerships:** CSN's primary partner was one of the Las Vegas area's major hospital systems, which provided preceptors and clinical spots to program participants.

- **Recruitment and Intake:** Recruitment occurred primarily via the CSN website. Applicants were required to complete CSN's standard application and a limited entry program application. Admissions occurred twice a year, and applicants were ranked using a points system that included cumulative prerequisite grade point average, health care experience, completion of general education courses, and placement test results. Refresher students had to have previously held an RN license.

- **Training Delivery:** Both the Refresher Program and the ADN Program employed a blended approach to learning. Lecture components included asynchronous online lectures, online discussion board assignments, and assigned readings. Lab and clinical components were all held in-person, as were exams.

Grantee: Dillard University (Dillard)

Program Operator: Dillard University's Deep South Center for Environmental Justice (Dillard DSCEJ)

Primary Service Areas: New Orleans, Louisiana; Atlanta and Savannah, Georgia; Detroit, Michigan

TBL Initiative Funding: $969,090

Industry/Sector: Construction

Approximate Number to be Served: 320

Program Summary

This multi-site project provided green construction training for unemployed, underemployed, and dislocated workers in New Orleans, Savannah, Atlanta, and Detroit. The program served a variety of trainees including entry-level job seekers and workers looking for new careers with better pay. It also served persons with barriers to employment including persons with criminal backgrounds. Training generally took four weeks to complete and used online technology to broadcast synchronous lectures to multiple sites where instructors were present to provide hands-on training to participants.

- **Contextual Factors:** Dillard DSCEJ and its partners in Atlanta, Detroit, and Savannah have a history of providing environmental remediation and construction training programs. In these regions, demand for green construction and environmental remediation is high.

- **Experience with TBL:** The partners had no prior experience using TBL methods.

- **Planning and Design:** The two key design considerations were the suitability of TBL methods for the target audience and the infrastructure that would be required to deliver the training. There was also a concern that each site should provide hands-on training that would be engaging. In preparation for the launch of the project, the project manager attended a conference on distance learning systems so that she could learn about the different distance learning platforms available.

- **Program Administration, Organization, and Leadership:** Dillard University was the fiscal agent for the project, but the project was operated by DSCEJ, which is a semi-autonomous center that operates under the auspices of the university. There were two full-time equivalent staff persons for the project, including a project manager and job developer. The project contracted with

instructors and eventually planned to hire some of them as regular, part-time staff members.

- **Linkages and Partnerships:** The most important partnerships were with the three organizations that provided training in other locations: the Environmental Resource Center at Clark Atlanta University in Atlanta, Georgia; Citizens for Environmental Justice at Harambee House in Savannah, Georgia; and Detroiters Working for Environmental Justice in Detroit, Michigan. The program also had a partnership with a community-based organization called Total Community Action that provided additional training in weatherization, as well as soft skills training, on-the-job training, case management, and transportation. The project also partnered with several labor unions and organizations that contributed to curriculum development, including the United Steelworkers.

- **Recruitment and Intake:** Each of the partner sites drew on its own resources from existing pre-TBL training programs to recruit and enroll participants. In New Orleans, demand for project training was high, and there were waiting lists for the courses. Each participant at the New Orleans site had an individual development plan that began at intake and was updated periodically by the instructors.

- **Training Delivery:** The program was comprised of four week-long courses on progressively more complex subjects: computer foundations, construction basics, weatherization, and hazardous materials. Course instructors provided online synchronous presentations, and technical trainers provided hands-on construction training at each of the four project classroom sites.

Grantee: Greenville Technical College (GTC)

Program Operator: Grantee

Primary Service Area: South Carolina

TBL Initiative Funding: $154,018

Industry/Sector: Health Care/Registered Nursing

Approximate Number to be Served: 300

Program Summary

Greenville Technical College's (GTC) Nurse Return to Work through Technology Expansion (Nurse Return to Work) program offered courses that allowed registered nurses (RNs) and licensed practical nurses (LPNs) to have their licenses reinstated.

- **Contextual Factors:** South Carolina ranked 42nd in the ratio of nurses to general population and had one of the highest rates in the country for cancer, heart disease and stroke, and diabetes. However, nursing schools in the state were not graduating enough nurses. Since nurses who were previously licensed need only to complete a relatively short retraining to reactivate their licenses, a refresher training represented a speedy method to supply additional nurses to health care employers.

- **Experience with TBL:** The Nurse Return to Work program began in 2000, several years before GTC received its TBL grant. The college's nursing outreach program decided to use the college's existing radiation technician program as a model.

- **Planning and Design:** The TBL grant was used to upgrade, improve, and expand an already existing online-based nursing program. Specifically, the TBL grant was used to fund: (1) new equipment, (2) updated videos for online streaming and lab use, and (3) updated software to enhance training delivery.

- **Program Administration, Organization, and Leadership**: The program was administered through GTC's Corporate and Career Development Division and had the same staffing pattern as other continuing education courses at the college. The nursing outreach department head was the program manager and she was supervised by the college's dean of corporate development.

- **Partnerships:** The Nurse Return to Work program's primary partner was Florence-Darlington Technical College, which provided the in-person lab skills component for nurses located closer to it than to Greenville. A number of local health care employers provided students with required externships that often lead to jobs.

- **Recruitment and Intake:** The course was publicized on GTC's Web site and on the Web sites of the South Carolina Board of Nursing and those of 16 other

state boards of nursing. Nurses could enroll by phone, via the internet, or in person. To be eligible, they had to have been trained at an accredited nursing program and had to have held a US nursing license.

- **Training Delivery:** The training program lasted from four and a half to six months, and included three months of online study, a ten-day skills lab, an 84-hour externship, and assistance with licensing. Online materials included lectures, videos, and written materials. The instructor also regularly posted questions on a discussion board for the class to answer and occasionally conducted "live classroom" meetings that were archived for later viewing. Exams were also completed online. They were generated randomly from a test question bank and graded automatically.

Grantee: The Guidance Center (TGC)

Program Operator: Grantee

Primary Service Area: Wayne County, Michigan

TBL Initiative Funding: $500,000

Industry/Sector: Health Care**/**Mental Health Direct Care

Approximate Number to be Served: 1675

Program Summary

The Care and Training Supports (CATS) project was designed to expand access to training opportunities for direct care workers in Wayne County, MI. The program aimed to increase the number of mental health direct care workers in Wayne County and to improve their skills, abilities, and standing in the profession. Through CATS' online training, both experienced workers and those who had just begun work in the field could fulfill the training requirements set forth by the Detroit Wayne County Community Mental Health Agency (DWCCMHA).

- **Contextual Factors:** At the time that the grant was awarded, the mental health workforce in Detroit-Wayne County was approximately 15,000 and about half of those were direct care workers. The direct-care portion of the workforce suffered from extremely high turnover rates due to inadequate preparation and a shortage of ongoing training opportunities, as well as low pay.

- **Experience with TBL:** Since its launch in 2008, TGC's Virtual Center of Excellence (VCE) had provided online training opportunities for the mental health workforce. The CATS initiative was VCE's newest program.

- **Planning and Design:** TGC designed the CATS initiative by gathering and incorporating feedback from various stakeholders including employers, other training agencies, mental health service recipients, and mental health service providers. The grantee then developed a design committee comprised of employment and training agency representatives who were responsible for determining course content and identifying instructors for the courses.

- **Program Administration, Organization, and Leadership:** The CATS initiative was operated by VCE, which was, in turn, overseen by TGC. CATS had a grant administrator, and VCE's continuing education coordinator, customer support specialist, event planner for direct care initiatives, and director all did some work for the CATS program.

- **Partnerships:** TGC worked closely with DWCCMHA, which was its main funding source. Leaders from both organizations met frequently to discuss the training needs of the mental health workforce. TGC also worked closely with three other Wayne County mental health direct care training and employment agencies. Representatives from each of these agencies were responsible for advising TGC on what courses to include as a part of the CATS program and what content was necessary within those courses.

- **Recruitment and Intake:** CATS recruited by sending out e-mails with class announcements to VCE's registered members; it also had other Wayne County direct care training and employment agencies send out similar e-mails. The program's most successful recruitment strategy was to attach informational fliers to employee paychecks. Other than working in direct care in Wayne County, there were no eligibility requirements for registering with VCE and accessing the training resources.

- **Training Delivery:** At the time of the evaluator's site visit in fall 2009, four courses were available online, and several more were in the editing process. The courses were online videos of lectures or presentations on a given topic, combined with quizzes to test content retention. Courses ranged from 30 minutes to three hours in length. When new courses were being filmed, participants could also attend in-person if they preferred.

Grantee: Gulf Coast Community College (GCCC)

Program Operator: Grantee

Primary Service Area: Panama City, Florida (Bay, Gulf, and Franklin Counties)

TBL Initiative Funding: $499,583

Industry/Sector: Advanced Manufacturing

Approximate Number to be Served: 150

Program Summary

GCCC's Computer Integrated Manufacturing (CIM) program developed a new set of courses to meet the computer automation and robotics training needs of employees in the manufacturing and control industries. The CIM project planned to provide primarily incumbent workers with a unique blend of online and hands-on training through the use of custom-designed Mobile Laboratory Kits that could be shipped to employer sites and combined with DVD presentations and online course content delivery.

- **Contextual Factors:** GCCC's goal was to provide a steady stream of well-trained individuals for Florida's manufacturing industry, which employs 400,000 people at over 16,500 manufacturing companies and produces a wide variety of both durable and consumable goods. With much of manufacturing affected by computer automation and robotics, GCCC felt that there would be high demand for an online/onsite training curriculum.

- **Experience with TBL:** At the time of the site visit, GCCC had twelve years of experience with online learning and over five hundred online course offerings. GCCC's Director of E-Learning described the faculty as "very computer literate," adding that GCCC is always trying to expand learning opportunities in the region through use of technology.

- **Planning and Design:** Many employers in GCCC's Employer Advisory Committee commented that while GCCC's CIM courses were valuable, employees could not be released from their jobs to attend training at the GCCC campus. Thus, the GCCC TBL Technical Project Director decided to take his CIM courses to employer sites, rather than having employees from those organizations come to the college to participate in training. The hardest piece of the design was developing the Mobile Laboratory Kits for workers to use to conduct the hands-on training. The process of developing the curriculum and Mobile Laboratory Kits took approximately a year and a half to complete, not including a pilot period.

- **Program Administration, Organization, and Leadership:** There were nine staff members involved in the CIM program. Three GCCC staff

members provided grant oversight, five staff members were assigned to curriculum development and instruction, and one staff member was responsible for coordination of supplies and for conducting outreach to potential employers and participants.

- **Partnerships:** Over the past few years, GCCC has relied heavily on its Advisory Committee, made up of representatives from 12 local employers, to ensure that the computer automation and robotics technology courses met the needs of Florida employers. Two employers were intimately involved in helping to shape the CIM program's curriculum. In addition, the Regional Workforce Board agreed to market the skills-upgrading training to employers and to provide other workforce services (e.g., placement, supportive services, etc.) as needed to students/workers who complete training.

- **Recruitment and Intake:** The courses were publicized on GCCC's website. GCCC also planned to conduct meetings with employers to recruit them for project participation.

- **Training Delivery:** CIM training was designed to be asynchronous. All materials necessary for training, including hands-on components, were contained within custom-designed Mobile Laboratory Kits that included the latest in automation and robotics hardware and software. Lectures, PowerPoint presentations, and videos with laboratory demonstrations were available for access via the laptop that comes with each kit, either by going online or via CD-ROMs that accompanied the kits. Video help files were also available to participants who needed extra support on lab assignments. Employers interested in providing CIM training to their employees could lease the kits for up to 16 weeks.

Grantee: Hillsborough Community College, Winter Haven, Florida (HCC)

Program Operator: The Employ Florida Banner Center for Advanced Manufacturing at Polk Community College (Banner Center)

Primary Service Area: Florida

TBL Initiative Funding: $498,815

Industry/Sector: Manufacturing

Approximate Number to be Served: 650

Program Summary

HCC, in collaboration with the Banner Center, planned to disseminate the Banner Center's "Manufacturing Essentials" course for incumbent production workers and its "Manufacturing Fundamentals" course for entry-level production workers courses via TBL methods. For the first cohort of trainees, which included both incumbent and entry-level workers, these two curricula were combined into a single, online "Manufacturing Essentials" training program. The training program was aimed at preparing workers for the Manufacturing Skill Standards Council's Certified Production Technician certification.

- **Contextual Factors:** Manufacturing is an important sector in Florida's economy, and the state identified advanced manufacturing as a priority area for public workforce investment. More than 80 percent of Florida manufacturers surveyed by the Banner Center indicated that worker training that resulted in industry-recognized certifications was important to them.
- **Experience with TBL:** The use of TBL methods for Manufacturing Essentials training courses was an entirely new endeavor. A project manager with experience in TBL was hired and the bulk of the grant was devoted to the creation and implementation of an LMS for the program.
- **Planning and Design:** The primary entities responsible for program design were the Banner Center's TBL team and its contractor, LabVolt. The Banner Center was responsible for developing the lesson plans and LabVolt developed the LMS and the learning objects used in online simulations.
- **Program Administration, Organization, and Leadership:** Shortly after the grant, the Banner Center moved from HCC to Polk State College. HCC continued to serve as fiscal agent for the grant and employer of the program's project manager. The Principal Investigator for the TBL project was employed by the Banner Center.
- **Partnerships:** The Banner Center was created and sustained with Workforce Investment Act Governors' Discretionary Funds. LabVolt, which assisted the

project in developing the LMS system, learning objects, and simulated hands-on exercises, was a major program partner. Different employers also played significant roles as members of the Banner Center's advisory council. Colleges such as the State College of Florida in Sarasota provided networked sites that enabled participants to engage in the program.

- **Recruitment and Intake:** The grantee targeted dislocated or underemployed workers, incumbent workers, and college students. Most participants were referred by employer partners or through recruitment at different colleges. There were no formal eligibility requirements for participation.

- **Training Delivery:** The TBL version of the Manufacturing Essentials course spanned 10 weeks. Lectures were broadcast using WebEx or Microsoft Meeting software to different locations twice a week in four-hour evening sessions. Participants were able to ask the instructor questions during the lecture using a chat function. Lectures were recorded so that participants could review them asynchronously if necessary.

Grantee: Illinois Department of Commerce and Economic Opportunity (IDCEO)

Program Operator: TEC Services Consulting, Inc. (TEC)

Primary Service Area: Chicago, Illinois

TBL Initiative Funding: $500,000

Industry/Sector: Information Technology (IT)

Approximate Number to be Served: 500

Program Summary

IDCEO'S Microsoft Digital Literacy and Microsoft Unlimited Potential Training Programs (MDL/MUP Training) provided IT training to unemployed and incumbent workers in the Chicago area. These TBL programs served as a pilot for IDCEO, which wanted to establish a platform/model of online training that could be expanded across the state and across multiple industries.

- **Contextual Factors:** The decision to utilize the TBL grant for IT training was a direct result of a report released by the state-funded Illinois IT Task Force. Two years prior to the TBL grant solicitation the state identified IT as a critical industry. The decision to target incumbent workers in addition to unemployed workers resulted from discussions with Chicago area employers.

- **Experience with TBL:** At the time of the site visits, TEC Services had been designing and administering IT-based training programs for 15 years and had provided online trainings since 2002.

- **Planning and Design:** The design process was informed by findings from multiple taskforces and reports, and particularly from reports produced by the Illinois Information Technology Task Force, which provided recommendations and strategies for addressing workforce development needs in the IT sector in Illinois. TEC was contracted to design and implement the program and it essentially remodeled and re-scaled its previously developed and tested online training structure to meet the needs of the TBL program.

- **Program Administration, Organization, and Leadership:** While the TBL grant was awarded to IDCEO, that state agency only played a minor role in the program, primarily providing high-level oversight and satisfying Federal reporting requirements. All hands-on operations and program administration duties were handled by TEC. TEC employed all TBL program instructors on a contract basis.

SPR

- **Partnerships:** The MDL/MUP program involved a number of critical partnerships. The Chicago Workforce Investment Council provided TEC with recruitment access to four One-Stop Career Centers. The TBL program also worked closely with the Chicago Housing Authority, which granted TEC access to its residents for program recruitment. Additionally, the TBL program developed close partnerships with the Chicago Chamber of Commerce and more than 100 employers.

- **Recruitment and Intake**: Unemployed workers were primarily recruited through four One-Stop Career Centers in Chicago and through housing facilities operated by the Chicago Housing Authority. At those sites, TEC staff members provided orientations and intake sessions. Incumbent worker participants were recruited directly through employers that were familiar with and had used TEC's services for specific online training programs.

- **Training Delivery**: The MDL/MUP training program was an asynchronous, online, open-entry/open-exit training program. While there were no set completion dates, TBL participants were expected to complete the program in forty to sixty contact hours. While it was not officially required, all TBL participants were encouraged to participate in a practical application component. The practical application component allowed participants to reinforce the lessons learned online through hands-on activities designed to simulate "real world" scenarios. These practical application activities were facilitated by TEC's Business Services Department or employer partners.

Grantee: Madisonville Community College (MCC)

Program Operator: Grantee

Primary Service Area: Western Kentucky and contiguous regions of three other states (Illinois, Indiana, and Tennessee)

TBL Initiative Funding: $425,181

Industry/Sector: Health Care/Licensed Practical Nursing (LPN) and Registered Nursing (RN)

Approximate Number to be Served: 140

Program Summary

Under the TBL Initiative, MCC converted its existing curriculum for the Integrated Nursing Program (INP) to an online format. The program provided a seamless educational curriculum in nursing with two exit points, allowing students to choose a career as a an LPN or RN. INP aimed to increase the number of LPN and RN graduates in four states (Kentucky, Indiana, Illinois, and Tennessee).

- **Contextual Factors:** The demand for all types of nurses, particularly at the RN level, was acute in MCC's service areas. This demand was expected to increase due to rising vacancy rates in nursing positions due to an aging nurse workforce. At the same time, the demand for health care services is also expected to increase with the aging of the baby boomer generation.

- **Experience with TBL:** MCC was a member of the Kentucky Virtual University and provided general education courses online. In 2006, MCC converted its Surgical Assistant (SA) program, which enrolled students throughout Kentucky and nationwide, to a 100 percent online format. MCC modeled the design and delivery of INP after the SA program.

- **Planning and Design:** MCC developed the original classroom-based version of INP before the TBL grant, when it received the Title III Strengthening Institutions grant in 2004 to eliminate redundancies in the LPN and RN curricula. The design process for the TBL grant involved a planning committee of approximately seven faculty members who met on a weekly basis.

- **Program Administration, Organization, and Leadership:** Housed within MCC's Nursing School, the INP program operated with three full-time and two part-time faculty members, including the TBL Project Director. In addition, MCC hired a Virtual Assistant in Nursing Academics

SPR

to provide academic and technical support to TBL participants. An advisory committee provided input on program operations.

- **Partnerships:** MCC partnered with over 60 regional hospitals to provide clinical sites, preceptors, and job opportunities for program participants. MCC also partnered with Murray State University to develop a "Fast Track" Bachelor of Science in Nursing (BSN) Completion Program. Through its partnership with the West Kentucky Workforce Investment Board, some low income and dislocated worker participants in INP received tuition assistance and wrap-around services, such as case management and transportation assistance.

- **Recruitment and Intake:** Program recruitment occurred primarily via MCC's Web site and pre-admission informational sessions, which MCC offered at least twice per semester. Program applicants needed to complete MCC's standard application and a program-specific application. Applicants were ranked for admission based on relevant work experience, grade point average for required courses, and nursing placement exam scores.

- **Training Delivery:** Each INP course contained two to four modules, each of which covered specific topics and built upon the module that preceded it. INP used a blended learning model for course delivery. Participants accessed pre-recorded lectures online and were required to respond to online discussion board questions. In-person components included an intensive, three-day "boot camp" orientation and overview, labs and clinicals, and proctored exams at the conclusion of each module and at the end of each course.

Grantee: North Central Texas College (NCTC)

Program Operator: Grantee

Primary Service Area: Gainesville, Texas and surrounding areas

TBL Initiative Funding: $538,947

Industry/Sector: Health Care/Licensed Vocational Nursing (LVN) and Registered Nursing (RN)

Approximate Number to be Served: 132

Program Summary

NCTC used TBL grant resources to convert its traditional LVN to RN Transition Program courses into online courses. The TBL grant also enabled NCTC to boost its simulation capacities through the purchase of more simulation resources and the development of more simulation classes.

- **Contextual Factors:** NCTC chose to focus on the nursing field because it is a high-demand and high-growth field in Texas. One study conducted by the Texas Center for Nursing Workforce Studies noted that in 2010 Texas needed approximately 161,000 working nurses to meet demand. The counties in NCTC's service area (Cooke, Montague, and Denton Counties) were noted as having a particularly strong need for RNs.

- **Experience with TBL:** At the time of the site visit, NCTC had a long history of using TBL methods as it had offered online courses since 2000. All of NCTC's core classes were offered online and, at the time of the site visit, 28 percent of NCTC's students had enrolled in at least one online course. All of NCTC's ADN (Associate Degree in Nursing) and LVN courses were already offered online when the grant was awarded.

- **Planning and Design:** In 2006, NCTC received a $1.9 million WINDOWS grant from ETA that was used to convert its traditional LVN courses into online courses. The success of that endeavor prompted the Director of e-Learning to consider using TBL resources to convert more courses into an online format. NCTC's nursing department, regional hospitals and health care providers, the Workforce Investment Boards (WIBs) covering the college's three-county service area, and a WIB in southern Oklahoma all provided input into program design. Key considerations that factored into program development included concerns about meeting the growing demand for nurses and recognition that attrition rates in NCTC's nurse training programs were high, primarily due to participants' challenges related to barriers of distance and time.

SPR

- **Program Administration, Organization, and Leadership:** The LVN-RN Transition Program was administered by NCTC's Nursing Department within the School of Health Sciences. The program had a coordinator who was responsible for overseeing the grant and providing general oversight of the program. Aside from the coordinator, the program was designed and implemented by the same staff and faculty who operated NCTC's traditional LVN to RN Transition program.

- **Partnerships:** NCTC's primary partners were the region's hospitals and other health care facilities. They participated in defining program strategy and goals, designing training approaches and curricula, and providing clinical sites. NCTC also worked with the local WIBs in identifying training gaps and employer demands in the region.

- **Recruitment and Intake:** NCTC's Health Science Department had a full-time recruiter on staff who marketed the program at community events and by meeting with high school students and their college counselors. LVNs interested in enrolling were required to go through the same application process as students applying for the traditional program and needed to fulfill program course pre-requisites prior to enrollment.

- **Training Delivery:** The program lasted four semesters. Students completed five online courses and three clinical courses that took place in surrounding hospitals and at the simulation lab at NCTC. The online courses were asynchronous with a semi-managed pace and typically involved participants reviewing a lecture and accompanying PowerPoint slides, completing a reading assignment, and taking a quiz to test retention of course material.

Grantee: Northern Virginia Community College (NOVA)

Program Operator: Grantee

Primary Service Area: Northern Virginia

TBL Initiative Funding: $492,458

Industry/Sector: Information Technology (IT)/Geographic Information Systems (GIS)

Approximate Number to be Served: 355

Program Summary

NOVA's Geospatial Career Pipeline Initiative (GCPI) was designed to increase the number of students earning a GIS Career Studies Certificate, thereby expanding the pipeline of workers with GIS skills. GCPI was a comprehensive program that included both coursework and internship opportunities designed to: (1) give students entry-level GIS skills; (2) provide students who already have a master's or bachelor's degree with the skills necessary to increase their competitiveness in the profession or switch careers; and (3) give students the ability to gain an associate's degree or transfer to a four-year institution.

- **Contextual Factors:** At the time the grant was awarded, GIS was a rapidly expanding industry, ranked third on the President's High Growth Jobs Training Initiative. In the Northern Virginia/Washington, D.C. metropolitan area specifically, these jobs were particularly in demand, with a large number of government-related positions requiring both GIS skills and U.S. citizenship for security clearance. The region was overly reliant on foreign GIS professionals with H-1B visas.

- **Experience with TBL:** NOVA had considerable experience with online learning, as this was a major component of its educational structure. The college had a virtual campus called the Extended Learning Institute, which had been in existence since 1975 and offered online courses, telecourses, and blended online courses. The first GIS class had been online since 2007 and TBL grant funds provided the resources to put other GIS courses online. GCPI staff felt that GIS courses were particularly well suited to online learning, due to their inherent focus on computer technology.

- **Planning and Design:** The Director of Grants and Special Projects at NOVA held an internal competition to determine which of the college's programs would best fit ETA's TBL Solicitation for Grant Applications. Once the GIS program was selected, she contacted the faculty member

who could become GCPI's Program Director. The design for the program primarily entailed migrating existing in-person courses to an online format. This process took two semesters to complete, and included a pilot period.

- **Program Administration, Organization, and Leadership:** The GCPI was overseen by the program director, who was also one of the program's instructors. The Director of Grants and Special Projects at NOVA also assisted with administering the program. There was also a GCPI project coordinator who assisted the program director.

- **Partnerships:** GCPI partnered with three local high schools, local Workforce Investment Boards, and numerous employers. The high schools provided computers, textbooks and materials while also offering GIS courses on their campuses and allowing students to co-enroll in some GCPI courses. The program also partnered with a number of employers, including three that provided paid internships to program participants. Finally, the two local WIBs had informal agreements with GCPI to refer qualified candidates to the program.

- **Recruitment and Intake:** GCPI recruited students through open houses, information sessions, college fairs, and media advertisements. The program also held a GIS career day at a partner campus, where both current and potential participants could learn about educational and professional opportunities in the field.

- **Training Delivery:** All but one of the courses required for GIS certification (other than the internship) were online. None of the online courses had any in-person requirements and all course material was available asynchronously. To enable participants to access required and computer memory-intensive GIS software from their home computers, GCPI installed desktop virtualization on a server at NOVA.

Grantee: Ogden-Weber Applied Technical College (OWATC)

Program Operator: Grantee

Primary Service Area: Weber County, Utah

TBL Initiative Funding: 500,000

Industry/Sector: Information Technology (IT)

Approximate Number to be Served: 300

Program Summary

The TBL grant was used to support the IT Certification program at OWATC, which provided training for students seeking industry-recognized credentials in a range of IT arenas. The majority of TBL grant funds were used to provide financial aid to IT students, and a smaller portion were used for infrastructure improvements. The program's goals were to support its student population, many of whom were unable to afford the cost of continued education and to increase the quality and quantity of the local IT workforce.

- **Contextual Factors:** The IT sector was identified as one of four high-growth industries in Utah. Increasing the IT workforce was beneficial not only for the various IT companies in Weber County but also for the manufacturing and aerospace industries, both of which were touted as the "main economic drivers" in Weber County. Local IT employers expressed challenges in recruiting workers from outside the region and they therefore relied on OWATC to help build a well-trained local IT workforce.

- **Experience with TBL:** TBL methods were not new to OWATC, and its IT certification program had been in place for several years prior to the TBL grant. However, at the time it applied for the grant, OWATC offered only four online courses and had been purposefully slow about increasing its online course offerings, primarily because the institution prided itself on its "hands-on" approach and because demand was low. The majority of OWATC students preferred to take courses in person and local employers also preferred in-person trainings, as they perceived them to be of higher quality than online learning.

- **Planning and Design:** The planning and design process was primarily in-house, using input from instructors, counselors, OWATC's financial aid and marketing offices, and local employers who served on the IT program's Employer Advisory Board. After an internal investigation into attrition revealed that financial hardship was a primary factor behind drop-out rates, the design team decided to use grant funds to provide scholarships for students.

SPR

- **Program Administration, Organization, and Leadership:** OWATC's TBL program was overseen by two people: the Grants Administrator, who took care of processes and procedures (including report writing, administration of funds, and program monitoring) and the Program Director, who took care of the faculty and resource needs of the program. An administrative assistant worked with an IT program counselor to track student progress and ensure that student needs were met. The program also had two primary instructors and an advisory committee made up of employer advisors, community and faith-based partners, and a Utah Department of Workforce Services (DWS) representative.

- **Partnerships:** Program partnerships were informal in nature, and some partnerships (e.g. with local employers and DWS) were stronger than others due to the school's pre-existing relationship and history with the partnering organization. Partners included organizations that provided computers for student use (e.g., the local library system) and those that served the program's target populations (e.g., the DWS's Custom Fit Program and community and faith-based organizations that serve unemployed populations). The primary roles of these latter organizations were to market the IT program and refer participants.

- **Recruitment and Intake:** OWATC relied primarily on its program partners for recruitment. The only requirement for admission was that students pass a computer literacy test to ensure that they had the baseline math and computer skills necessary to begin the program. Students who did not pass the literacy test had to retake the exam after they completed courses designed to help them fill their knowledge gaps.

- **Training Delivery:** OWATC's IT program was open entry/open exit and used a blended approach to learning. Courses were asynchronous in nature but participants did the majority of their work in the OWATC computer lab, in the presence of an instructor. Participants were provided with guidelines for how long a course should take to complete and thus were able to work at their own pace but within reasonable limits. Most courses involved participants reading from a textbook and then completing activities and taking tests via the learning management system (LMS). This was also true of the online courses, the only difference being that assignments and tests could be completed online as opposed to in the lab. Hands-on training opportunities (e.g., computer or network building) were provided to supplement textbook learning.

Grantee: Orange County Workforce Investment Board (OC WIB)

Program Operator: Coastline Community College (Coastline)

Primary Service Area: Orange County, California

TBL Initiative Funding: $500,000

Industry/Sector: Health Care/Nursing

Approximate Number to be Served: 20

Program Summary

English-as-a-Second-Language (ESL) Virtual Hospital, a program developed through a partnership between OC WIB and Coastline, was designed to improve the communications skills of nurses for whom English was a second or non-native language. The program made use of virtual reality software and took place within the Second Life virtual world. It was designed to provide participants with opportunities to practice English language comprehension and execution skills by engaging in scenarios that were developed to reflect "real-life" medical situations, using idioms typically used among medical staff members and between medical staff members and their patients and their patients' families.

- **Contextual Factors:** At the time of the site visit, because of widespread nursing shortages, many Orange County hospitals employed nurses from foreign countries. While these nurses were highly skilled in terms of their abilities to execute medical procedures, concerns arose regarding their abilities to communicate effectively with other medical staff members as well as with patients and patients' families. Communications challenges that sometimes arose with nurses from foreign countries occurred not only because of challenges with English language facility but also due to the use of idioms typically used by medical staff members in American hospitals.

- **Experience with TBL:** At the time that the grant was awarded, Coastline was already a leader in distance learning. It offered a wide array of online courses as well as "telecourses" (television-based curriculum) and had won numerous awards for its work.

- **Planning and Design:** The planning and design process for the Virtual Hospital project was lengthy, due to the complexity of the curriculum and the technology used to implement the program. A team of Coastline staff members worked to develop the curriculum while Coastline's production team worked on programming and developing the virtual hospital in Second Life. Coastline's curriculum development team included subject

matter experts in the fields of nursing and English language learning. The program was still in the curriculum design phase as of the site visit.

- **Program Administration, Organization, and Leadership:** Coastline was the program operator for the Virtual Hospital. It was in charge of all aspects of curriculum development and design as well as program implementation. Coastline hired nursing subject-matter experts to inform the curriculum development process and to guide the instructor who would teach the course. OC WIB managed the grant and the partnerships with employers in the health care field, primarily through meetings of its health care collaborative.

- **Partnerships:** OC WIB had a strong relationship with Coastline prior to the TBL grant, as Coastline managed the WIB's One-Stop Career Centers. Two local hospitals served as employer partners to the project. OC WIB also reconvened a health care collaborative, made up of several regional hospitals, to serve as advisors to the project.

- **Recruitment and Intake:** Coastline and OC WIB sought support from two local hospitals to recruit participants from their pools of nurses. To participate, nurses needed to be actively employed and demonstrate a need and desire to improve their English language skills.

- **Training Delivery:** Virtual Hospital was designed to be a blended program that spanned 13 weeks, with approximately two lessons per week. The first five lessons were designed to be in-person courses, where nurse participants would meet with an ESL instructor to go over the fundamentals of language and pronunciation of American English. The majority of lessons after that would take place in the Virtual Hospital. Each participant was expected to develop an avatar and use it to practice communicating with patients, patient families, and other medical staff members in scenarios developed by nursing subject matter experts. Participants would also be able to meet with each other and their instructor in the Virtual Hospital.

Grantee: Reno Community Services Agency (Reno CSA)

Program Operator: Education Design Group (EDG)

Primary Service Area: Washoe County, Nevada

TBL Initiative Funding: $499,900

Industry/Sector: Information Technology (IT)/Green Technology

Approximate Number to be Served: 85

Program Summary

CSA Reno's New Way Diesel project had two main components: development of a knowledge base, or "e-Resource Center," on clean diesel and the piloting of the e-Resource Center by participants taking courses in diesel mechanics or related fields. Participants who worked on the development of the e-Resource Center developed skills in research, knowledge management, and web design as well as a greater knowledge of green technologies. Once this e-Resource Center was developed, participants in diesel mechanics training programs were expected to use the e-Resource Center as a primary curriculum source. These participants were expected to provide feedback on the usefulness, relevance, and accuracy of the e-Resource Center so that participants developing the knowledge base could update and improve it. This phase had not yet been implemented at the time of the site visit.

- **Contextual Factors:** CSA Reno originally targeted the transit industry (specifically trucking) since it is a high-growth industry in Washoe County, Nevada. The grant was approved, but CSA Reno was later informed that the transit industry did not employ a high enough number of employees with H-1B visas and therefore did not fit grant parameters. Project leaders then focused on developing a project that met the needs of an industry with a high number of employees with H-1B visas (IT) while still serving the transit industry at least in some tangential way. The New Way Diesel project met these parameters because it aimed to build participants' skills in knowledge management and web design while focusing content on clean diesel conversion, which could ultimately benefit the transit industry. Moreover, it supported local efforts to make Washoe County a center for the growing renewable energy field.

- **Experience with TBL:** EDG's staff members had experience designing TBL curricula. EDG collaborated with CSA Reno and SQI-Inc. in the design and implementation of the New Way Diesel project. SQI brought to the design team experience with designing programs using open source technologies.

- **Planning and Design:** The planning and design phase took longer than expected due to the shift in project focus. Two staff members from CSA Reno developed a conceptual design for the program overall but course design was primarily the responsibility of EDG and SQI. Staff members from EDG and SQI described the course as "iterative" in nature—that is, they were designing courses and immediately implementing them with their first cohort of participants. After each course, they planned to assess what needed improvement or "tweaking" and intended to develop more refined lesson plans after each piloted lesson.

- **Program Administration, Organization, and Leadership:** CSA Reno's Programs Manager provided general oversight of the program and one of its Employment Specialists tracked participant progress and provided participants seeking support with employment. CSA Reno partnered with EDG and SQI to design and implement course curricula. The courses took place at EDG's offices, in a computer lab space dedicated to this project. SQI's founder and CEO served as the course instructor and also developed the plan for integration of open source technologies into the program.

- **Partnerships:** In addition to its partnerships with EDG and SQI, CSA Reno was in the process of developing partnerships with community colleges that offered training programs that might benefit from the use of the e-Resource Center, such as Truckee Meadows Community College and Great Basin Community College. CSA's intention was to have these community college partners pilot the e-Resource Center in their diesel mechanics courses so that they could assess its effectiveness as a curriculum tool and provide feedback to the participants working on development of the e-Resource Center.

- **Recruitment and Intake:** The first cohort of participants was recruited almost entirely from CSA Reno's client database. CSA Reno's staff noted that future recruitment efforts would expand to include local high schools and community colleges.

- **Training Delivery:** Participants who were trained in the development of the e-Resource Center underwent a 12-week course in knowledge management, knowledge base development, and Web design. They were required to attend one weekly lecture held in a conference room at EDG's offices. Lectures were synchronous and broadcasted online using Skype. Participants were expected to spend 20 hours per week doing coursework. Course assignments varied weekly and all materials were available online. At the end of the course, each participant was expected to develop a Web page that demonstrated his or her contributions to the development of the knowledge base in clean diesel conversion.

Grantee: Research Foundation of the State University of New York (RF SUNY)

Program Operator: University at Albany, State University of New York, Center for Public Health Continuing Education (CPHCE)

Primary Service Area: New York State

TBL Initiative Funding: $365,666

Industry/Sector: Health Care/Public Health Nursing

Approximate Number to be Served: 2,650

Program Summary

The Public Health Nursing Ready certificate program (PHN Ready) was designed to help nurses acquire public health nursing competencies and to meet the requirements of the New York State sanitary code. PHN Ready specifically targeted newly hired New York public health nurses who lacked formal training in public health.

- **Contextual Factors:** Numerous studies projected a shortage of public health nurses through 2014. Moreover, most nurses new to the public health field were not prepared for public health practice at the required level.

- **Experience with TBL:** Since 1999, CPHCE had developed several online courses and Web casts.

- **Planning and Design:** CPHCE convened the PHN Ready Advisory Committee on a quarterly basis to determine the PHN Ready certificate program's structure and to select already-existing online activities (online courses and archived Web casts) to include in the program. CPHCE also worked closely with New York State Department of Health staff members to develop the PHN Ready certificate program.

- **Program Administration, Organization, and Leadership:** The PHN Ready Program had one dedicated (50 percent full-time equivalent) staff member and no faculty. PHN Ready had an Advisory Committee made up primarily of practicing nurses and nurses working in academia.

- **Partnerships:** One of CPHCE's key partners was the New York State Department of Health, which provided the learning management system (LMS) for the PHN Ready certificate program. Other partners included the New York State Nurses Association, the New York New Jersey Public Health Training Center, and the New York State Association of County Health Officials.

- **Recruitment and Intake:** CPHCE planned to use its electronic registration and marketing system (Informz) for recruitment. CPHCE was

also relying on its program partners to assist with recruitment and referrals. There was no application/admissions process for the PHN Ready certificate program.

- **Training Delivery:** Content for the PHN Ready certificate program was provided by three different third-party providers and consisted of archived Web casts and online, self-paced courses, many of which provided continuing education credits. Each hour-long archived Web cast was an online version of a news broadcasts in which experts in the public health field discussed critical topics of relevance to public health nursing. Each online course included interactive scenarios and online quizzes to test content retention. All course activities were asynchronous in nature.

Grantee: Temple University Center for Social Policy and Community Development (Temple CSPCD)

Program Operator: Grantee

Primary Service Area: Philadelphia, Pennsylvania

TBL Initiative Funding: $695,569

Industry/Sector: Information Technology (IT)

Approximate Number to be Served: 126

Program Summary

Temple CSPCD's TBL Program provided three online IT training programs free of cost to individuals looking to gain new skills, find employment, or advance their careers. The courses offered include A+ Certification, Microsoft Office Suite Certification, and Medical Office and Accounts Training.

- **Contextual Factors:** At the time the grants were awarded, there was great demand for entry-level IT workers in Pennsylvania.

- **Experience with TBL:** Temple CSPCD had used TBL distance learning strategies for five years prior to the TBL grant as a part of its Workforce Education and Lifelong Learning (WELL) program. However, it had never used TBL strategies for skills training and it had never before used a learning management system (LMS).

- **Planning and Design:** Prior to the grant, all three training programs were taught as traditional courses so Temple CSPCD used the TBL grant to convert them into an online format. The course instructors took the lead in converting their courses and grant funding went toward paying their salaries and purchasing necessary equipment and software.

- **Program Administration, Organization, and Leadership:** Temple CSPCD's TBL program was administered by a program director who provided grant management and oversight. The program's instructors, who reported to the program director, had previously taught the courses in traditional classroom settings.

- **Partnerships:** Temple CSPCD's primary partner was the YMCA Education and Technology Center. The YMCA provided classroom space and employed the instructor for the A+ and Microsoft Office classes. Temple CSPCD also worked with the Philadelphia Workforce Investment Board during the program's design phase.

- **Recruitment and Intake:** Temple CSPCD created information brochures about the TBL program that were distributed to various local

SPR

organizations including the Philadelphia Housing Authority, One-Stop Career Centers, and a number of community and faith-based organizations. To enroll in the TBL program, participants had to demonstrate a sincere interest in IT and vocational skills attainment, and show adequate proficiency in reading and math (at the ninth grade level).

- **Training Delivery:** All courses took 15 to 18 weeks to complete. For the online component, participants were required to view PowerPoint slides, complete reading assignments, and take online quizzes after each unit to test their knowledge. Participants were also required to attend in-person classes—once a week for the Medical Office and Accounts course and one every other week for the A+ and Microsoft Office courses.

Grantee: The University of Colorado, Denver (UCD)

Program Operator: Grantee

Primary Service Area: Nationwide

TBL Initiative Funding: $502,696

Industry/Sector: Energy Management

Approximate Number to be Served: 192

Program Summary

The Global Energy Management (GEM) program at UCD was focused on providing experienced professionals with a graduate degree specifically tailored for mid- to upper-level management positions in the energy industry. The GEM program offered a unique Master of Science degree developed out of close collaboration between UCD's business school and Denver-area energy companies. The 18-month program had a blended learning model, which included a four-day in-person component each quarter, along with online instruction via a learning management system (LMS) and Adobe Connect. While a majority of students were from the Denver area, GEM also had students from across the country and some international students as well.

- **Contextual Factors:** The Denver area was a logical location for the GEM program as the area emerged in recent years as a major hub for both domestic and international energy companies. Until recently, the energy industry—both locally and worldwide—experienced annual growth of around 30 percent. In addition, many senior managers in the industry were expected to retire soon, which was expected to lead to high demand for new managers.

- **Experience with TBL:** UCD began offering online courses in 1994; however, the blended nature of the GEM program made it unique when compared to other online classes at the university.

- **Planning and Design:** GEM was conceived two and a half years before the TBL grant when a local energy executive requested development of a graduate management program to provide students with the unique skills necessary for energy management. UCD worked closely with these executives to develop the GEM program.

- **Program Administration, Organization, and Leadership:** Housed within the UCD Business School, the GEM program had seven full-time dedicated staff members in addition to contracted faculty. GEM also had an Advisory Council consisting mainly of energy industry representatives.

SPR

- **Partnerships:** GEM worked closely with a number of local energy companies who provided input on numerous issues, including curriculum design and faculty recruitment. These partners also provided financial support to GEM, both directly and in the form of covering tuition for their workers who were enrolled in the program.

- **Recruitment and Intake:** Recruitment primarily occurred via the program's Web site and presentations at energy and graduate career fairs. GEM applicants were required to complete a standard UCD Business School application but were ranked for admission based on years of experience in the energy industry, whether they had an undergraduate energy degree, and the caliber of their professional references.

- **Training Delivery:** At the beginning of each quarter all GEM students had to attend an intensive four-day in-person session, which included both an orientation and delivery of course content. For the remainder of the quarter, all coursework was conducted online. Program instructors pre-recorded weekly lectures to coincide with assigned readings and mandatory responses to questions posted on the course's discussion board. Each course also included a group project component, with students collaborating and communicating through Adobe Connect. All courses concluded with a final project and/or exam.

Grantee: Wake Technical Community College (WTCC)

Program Operator: Grantee

Primary Service Area: Wake and Johnson Counties, North Carolina

TBL Initiative Funding: $383,686

Industry/Sector: Information Technology (IT)

Approximate Number to be Served: 230

Program Summary

WTCC used resources provided by the TBL Initiative to bring four of its information technology certificate programs online. These certification programs fell into two specific subject areas: networking and programming. Each of these certificates was a subset of a two-year associate's degree in networking or programming. The certificates were counted towards a two-year degree at WTCC if the student wanted to continue his or her education after completing the certificate.

- **Contextual Factors:** Research Triangle Park (where WTCC is located) is a technology hub, with a strong employer base in IT. Labor market research confirmed that the certificates selected for this grant led to jobs in high-growth occupations within the IT industry.

- **Experience with and Approach to TBL:** WTCC began offering online courses in 1997. In the fall of 2009, it offered 205 online courses with 388 sections to 8,623 students. The four online courses supported by the TBL grant differed from WTCC's other online programs in that they enabled students to do lab work online.

- **Planning and Design:** The main stakeholders involved in the planning and design process were WTCC and the Capitol Area Workforce Development Council (WDC), which managed the region's One-Stop Career Centers. The faculty slated to teach the courses were responsible for adapting the courses for an online environment. An instructional designer (the only staff person hired through the grant) supported the faculty in developing the online courses. Courses were adapted to the online environment on a rolling basis, starting in the fall of 2009, with the last of the courses slated for implementation by spring 2011.

- **Program Administration, Organization, and Leadership:** Two administrators shared the bulk of the program management duties. WTCC's Dean of Academic Support was in charge of general grant management and the college's Dean of Computer and Engineering Technologies led the course development. Two department heads oversaw faculty coordination and an instructional designer was hired to support course development.

SPR

- **Partnerships:** In general, WTCC had a strong and active network of industry and workforce partners. The partners specifically involved with the TBL program were the WDC, the Research Triangle Regional Partnership, and Futures, Inc. Employers were involved in the grant mainly through the program's advisory boards.

- **Recruitment and Intake:** Recruitment methods included posting flyers on campus and at One-Stop Career Centers, posting videos on the college Web site, and directing potential participants who contacted the college to speak with the two engineering and IT program recruiters who were familiar with the grant. These recruiters helped prospective participants complete the admissions process and acted as their academic advisors for their first semesters.

- **Training Delivery:** All courses lasted 16 weeks, with students completing one module per week. There was a required sequence of modules and courses for each of the four certificates. The certificates took two to three semesters to complete; all of them could be completed within a year. The content of the courses was delivered through Blackboard, and the networking certificate also uses Cisco's Networking Academy. This program was designed to be completely online and was innovative in its use of "online labs," wherein participants were able to log onto an online programming environment to do lab assignments. There were two systems used for the online labs. The networking programs used a system based at WTCC called NETLAB, which allowed participants to remotely administer real networking equipment. The programming courses used a system based at North Carolina State University, called the Virtual Computing Lab, which consisted of several hundred Blade servers that provided each user with all the software and tools needed to complete course assignments.

Grantee: West Virginia University at Parkersburg (WVUP)

Program Operator: Grantee

Primary Service Area: Parkersburg, West Virginia and the surrounding counties

TBL Initiative Funding: $469,164

Industry/Sector: Health Care/Certified Nursing Assistant (CAN)

Approximate Number to be Served: 360

Program Summary

The primary goal of WVUP's Expanded Access Program (EAP) was to provide CNA training in rural areas using video conferencing technology.

- **Contextual Factors:** The Mid-Ohio Valley Workforce Investment Board (WIB) noted a high demand for health care professionals in the region. A survey of five rural hospitals that served the area also indicated a large demand for qualified CNAs. However, accessing training opportunities was difficult for West Virginia's rural population.

- **Experience with and Approach to TBL**: WVUP was inexperienced in using TBL strategies and methods.

- **Planning and Design**: Because all curriculum and training components for the CNA program were developed prior to the grant, grant funds were used to hire instructors in rural locations who were responsible for overseeing the two-way videoconferencing of lectures that were broadcast live from the WVUP campus and for providing onsite skills and clinical training.

- **Program Administration, Organization, and Leadership**: EAP was offered through WVUP's Health Sciences Division. The program had its own coordinator who managed the grant, oversaw the project, hired instructors for the rural areas, and coordinated training in the rural locations.

- **Partnerships**: WVUP's primary partners in this project were the hospitals and medical centers located within WVUP's service region. These employers provided classroom space for viewing the video-conferenced lectures and facilities for conducting required clinical sessions. WVUP also worked with the Mid-Ohio Valley WIB during the design phase of the program.

- **Recruitment and Intake**: The coordinator's two main strategies for recruiting participants were advertising the program in the local rural papers and attaching fliers to pizza boxes. Students who wished to enroll in the program needed to fill out the free WVUP application either in-

SPR

person or online. There were no eligibility criteria other than having a high school diploma or GED.

- **Training Delivery:** The program took about nine weeks to complete. The first half of the course consisted of lecture and lab skills classes. Lectures were broadcast live from WVUP to remote sites, where clinical instructors were present to provide hands-on training to participants. The second half of the course was spent participating in clinical sessions and preparing for the certification exam. Participants were required to attend lectures, complete reading assignments, and take in-person quizzes to test their knowledge and skills.

Grantee: Western Governors University (WGU)

Program Operator: Grantee

Primary Service Area: California, Texas, and Utah

TBL Initiative Funding: $500,000

Industry/Sector: Health Care/Registered Nursing

Approximate Number to be Served: 1,000

Program Summary

WGU's TBL program was called the Multi-State Approach to Preparing Registered Nurses (MAP-RN). It was a pre-licensure bachelor's degree program that combined online instruction, high-fidelity simulations, and compressed clinical rotations. The program was two years in length and attempted to parallel the final two years of a traditional bachelor's degree in Nursing program. The curriculum was developed to ensure that participants met competencies directly linked to the National Registered Nurse Licensing Exam (NCLEX).

- **Contextual Factors:** The project was specifically designed to help increase the supply of registered nurses while addressing the nursing industry's lack of training capacity. In 2005, there was a national shortage of 189,000 nurses but limited training capacities resulted in 147,000 qualified applicants being turned away from training programs. WGU also hoped that the MAP-RN program would serve as a national model for TBL nursing education.

- **Experience with TBL:** WGU is the only accredited university using an online, competency-based training model. The school was chartered in 1996, incorporated as a private university in 1997, and providing online educational services to students in 1999. In addition to the MAP-RN program, WGU also offers a variety of other competency-based online training programs for teaching, IT, business, and health professionals.

- **Planning and Design:** The basic idea behind the MAP-RN project came from four nursing executives in California who were looking for a way to better educate nurse trainees. These nursing executives sought assistance from WGU because of the university's history of providing online competency-based training. WGU then developed a National Advisory Committee. All course content was purchased from outside providers, but was housed on WGU's customized learning management system (LMS).

- **Program Administration, Organization, and Leadership:** The administrative structure of the MAP-RN program at WGU included twelve

SPR

directors/managers, only a few of whom were located in Salt Lake City (where WGU has its administrative offices). In addition to the MAP-RN administrative staff and National Advisory Committee, there was also a Program Council that met quarterly to oversee the adequacy of the nursing program's competencies. The Program Council consisted of clinicians who acted as instructional designers.

- **Partnerships:** Three critical partners for the MAP-RN program were hospital systems that partnered with the TBL program to administer the clinical component. A fourth critical partner was the California Labor and Workforce Development Agency, which helped facilitate the program's hospital partnerships in California.

- **Recruitment and Intake:** While the MAP-RN program did not actively recruit any specific group, there was a push to extend recruitment and outreach to incumbent workers at partner hospitals. Beyond this, a majority of recruitment efforts were handled by WGU's marketing team, which strategically advertised the program through the Internet and television. To fully participate in the program, students had to be admitted to both the Pre-Nursing Curriculum and the Clinical Nursing Program, both of which had separate rigorous screening and admission requirements.

- **Training Delivery:** There were three key components to the MAP-RN training: a self-paced synchronous and asynchronous online component, an in-person high-fidelity simulation component, and a clinical training component. MAP-RN staff expected students to complete certain courses within a specific time frame so that they could participate in the simulation labs (which only occurred at certain times in the term) and the clinical component. Each participant was assigned a mentor, who provided academic help; for the clinical intensive component of certain courses, the student was assigned a clinical coach and clinical instructor. The student shadowed his or her coach for five full twelve-hour shifts over a two-week period, simulating a real-life nursing experience. The clinical instructor oversaw all the student-coach pairs at a particular hospital and was responsible for determining if a student passed the clinical component of a particular course.