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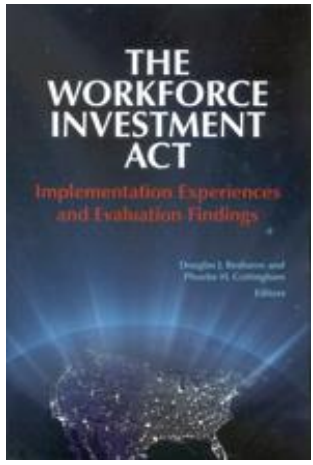

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The Workforce Investment Act

Implementation Experiences and Evaluation Findings

Douglas J. Besharov
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Editors

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Customized Training

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In the United States, national workforce development policy has steadily placed a greater emphasis on the involvement of the private sector in the planning and oversight of federally funded programs. WIA has required local workforce development planning and operations be led by boards chaired and largely composed of private sector leaders. However, this and other WIA provisions have not ensured the use of "demand-driven" skills training—that is, the provision of particular employee skills needed by specific firms in their current and new workers. Federal policy once shied away from such training, because it was considered the responsibility of employers to prepare their own workers in skills that are this job-specific. Now, however, local boards have the discretion to support the training they want, and there is increasing recognition that training tailored to the needs of specific employers is a vehicle both for providing good jobs to low-income and disadvantaged groups and for promoting economic growth in particular communities and industrial sectors. Recognizing this, the USDOL and private foundations in the United States have funded what can be termed "customized" training initiatives (this type of training goes by several names). These initiatives typically involve local partnerships between firms from the private sector and training providers and intermediaries from the public sector.

This chapter answers several questions about customized training, beginning with the most fundamental: What is it? And, what is the rationale for this training? Then the discussion will turn to the role of customized training in WIA. What is that role now and what might it be in the future? Finally, I will address questions regarding how much we know about delivering customized training and, if implemented well, about how effective this training can be. In answering these last two

questions, I will rely primarily on research findings from four large-scale demonstrations mounted by the USDOL during the last 10 years and from a fifth major initiative funded by the Charles Stewart Mott Foundation.

WHAT IS CUSTOMIZED TRAINING?

One of economist Gary Becker's many contributions to the way we think about education and training is the distinction he drew between general and specific training. Firm-specific training is useful only to the individual sector firms providing it, while general education or training is useful to a range of firms. At the general education and training end of the continuum is the wide-ranging preparation—for example, in communication skills and word processing functions—that is not designed for a particular industry, let alone a specific firm in the industry. At the other end is the specific, in-house skills training provided by individual firms to their own employees, including on-the-job learning about the firm's procedures, structure, and culture.

Becker notes that employers have little incentive to invest in general training, because it raises the productivity of workers in other firms and not just their own, which then encourages competing employers to hire away these workers at higher wages. On the other hand, he argues that completely specific training—which can only be provided by the individual firm as on-the-job training in its own unique processes, special methods and routines, and unique uses of technologies and equipment—has no value to other employers and consequently does not bid up wages (Becker 1997). Becker's distinction is very useful, although it should be noted that there are few completely firm-specific skills and, even where they exist, such skills may actually be quite valuable to competing firms.

Along the continuum between general and specific training, customized training occupies a place closer to the latter. By definition, customized training is instruction for workers and job seekers provided by education and training institutions working closely with employers. The training curriculum is developed or adapted to meet the education and training needs of the specific firms, which often belong to a

particular sector. As a result, this training often has gone by the name of "sectoral training"—particularly in the philanthropic community. This term is incomprehensible to most people. In addition, the training to which the term refers sometimes involves well-defined jobs (such as a computer technician) in firms from more than a single sector, but located in a single geographic area. Government agencies have more often attached the term "demand-driven" to this type of training, wanting to differentiate it from supply-driven training—that is, education and training provided by schools and training institutions with insufficient regard for the specific needs of employers. But the demand-driven label tells us little about what the training is. This chapter uses "customized training" instead to emphasize its responsiveness to the needs of specific local employers in filling particular skilled work positions, differentiating it from "off-the-shelf" training in various vocational fields.

Thus, customized training is designed to meet the particular requirements of an employer or group of employers. Generally speaking, it is conducted with a commitment by the employer to employ some or all successful completers of the training (or continue employing incumbent workers) and share the costs of the training, which usually include support of the training's hands-on aspects. The training is often provided through partnerships between education and training institutions and groups of firms from the same region.[1] In the United States, the institutions are often, but not always, community colleges. Typically, each partnership involves another important collaborator: a labor market intermediary such as a local Workforce Investment Board (WIB) or a community-based organization.[2] This intermediary often convenes the initial relationship between employers and training providers, and it almost always plays the role of recruiting and screening applicants for customized training when partner employers are looking to hire new skilled workers. This recruitment effort is customized in the sense that the partner employer's hiring criteria are explicitly taken into account by the intermediaries. This role played by the intermediaries turns out to be crucial to the targeting of customized training programs, because it permits programs to give priority to low-income and disadvantaged groups.[3]

The Biotech Workforce Network in the San Francisco Bay area, which trains biotech technicians, is an example of such a partnership. The original corporate partner was Genentech (the world's second larg-

est biotech firm) and more than 25 other companies have joined the network. Two WIBs (the local boards established by WIA) created this regional partnership, secured the necessary funding, developed the program management systems and program operations procedures, and involved their respective One-Stop Career Centers in the recruitment, screening, and enrollment of participants. Two community colleges have developed training curricula and provided the training classes, and the colleges partnered with community-based organizations to recruit and provide supports for disadvantaged individuals entering the training programs. A consulting firm helped in recruiting corporate partners, developed on-the-job training models, and assisted with employer communications and technical assistance (Biotech Workforce Network 2007).

WHAT IS THE RATIONALE FOR PUBLIC INVOLVEMENT IN CUSTOMIZED TRAINING?

The rationale for public support of customized training includes four arguments. First, changes in U.S. labor demand over the last 40 years have favored more educated and skilled workers. This has partly resulted from market globalization, indicated by the rapid expansion of international trade.[4] The growth in imports during this period is associated with a loss in employment across many low-skill occupational categories, reflecting the steady shift of production overseas. At the same time, U.S. employment in medium- and high-skill occupations has been supported by the nation's increased exports.[5] Changes in demand also have resulted from technological advances, including the astonishing growth of computers and the internet. This has boosted employers' needs for workers in higher-skill occupations. There has been a corresponding reduction in the demand for less-skilled labor (that is, for workers conducting routine tasks).

The second argument is that, despite their growing need for skilled labor, employers are reluctant to invest in skills training. The growth in the supply of skilled labor has not kept pace with employers' demand, particularly in some sectors, which has created skill shortages and applied upward pressure on wages. However, it appears that increasing

employee turnover has discouraged many businesses from investing in employee skills training, because employee departures reduce employers' return on such investments.[6] This is especially true of training for low-wage, entry-level workers (see, for example, Ahlstrand, Bassi, and McMurrer [2003]). As noted earlier, training that does not involve truly firm-specific skills constitutes an investment in the employee over which the employer has no control. Once trained, employees can leave a job to sell their enhanced services to another employer. While individual firms may be reluctant to invest in skills training, it is clearly in the interest of businesses collectively—that is, the U.S. economy—to make such investments. This satisfies economists' conditions for a market failure and for treating such training as a public good.

The third argument is that individuals also do not invest enough in skills training. The increased demand for skilled labor in the United States has boosted the wages paid to skilled workers relative to unskilled workers. For example, between 1979 and 2000, real wages of workers with a college degree increased 21 percent, while those with only a high school diploma fell 3 percent (Mishel, Bernstein, and Boushey 2003). The acquisition of skills has consequently become ever more critical to both the productivity and employability of workers. Even though most people are aware of the premium now paid to skilled workers, a high proportion of the U.S. workforce lacks necessary basic and occupational skills. Some of this skills gap is attributable to workers entering the labor force without first obtaining the needed skills through the education and training system. Other sources of this problem are high dropout rates and poor achievement in U.S. schools, and the limited reach of the "second-chance education" and vocational training systems. In addition, workers who lack the skills they need for labor market success typically also lack both the financial resources and the know-how to obtain the skills on their own.

Finally, while customized training arrangements provide a way for valuable workforce skill development to take place, these arrangements appear to develop slowly in the marketplace unless there is funding from government and/or private foundations to spur them on. Customized training combines occupational instruction and firm-specific training into an attractive package. However, many observers have noted the lack of collaboration, and sometimes even communication, between businesses and the education and workforce development

systems. Community leaders have said it often is difficult to engage decision makers from local industries, especially small businesses lacking a dedicated human resources staff. At the same time, education and training institutions often have lacked mechanisms to facilitate such engagement by small businesses, which collectively account for more employment in the United States than do their larger brethren. A survey by the U.S. Bureau of Labor Statistics showed that while large business establishments heavily used community colleges as a source of skilled labor, particularly in some industries, a much lower proportion of small businesses took advantage of community college training resources.[7]

These arguments have led policymakers to subsidize the development of partnerships that deliver customized training. Both the USDOL and private foundations have made grants to education and training institutions and to labor market intermediaries to create these partnerships. The vision is that the funding is short-term, and partnerships will eventually become self-supporting. The training provided by the partnerships may also reduce the social costs associated with unemployment and provide greater employment opportunities to low-income and disadvantaged populations.

WHAT ROLE DOES CUSTOMIZED TRAINING PLAY IN WIA?

WIA has increased the role played by employers in the governance of the nation's training system. It has both resulted from and helped produce a corresponding move toward more demand-led rather than supply-led systems. As indicated earlier, the former are systems that respond to the immediate needs of businesses, while the latter tend to be driven by the priorities of established training providers. Customized training is a logical product of a more demand-led system.

The USDOL administers WIA, including the allocation of national program grants between local WIBs. The boards then are responsible for assessing the needs of the local economy and allocating WIA funds among potential service providers, which deliver different types of training and other services. They also oversee the One-Stop centers, where job seekers can obtain employment information, find out about available services, and be referred to the various service providers.

Unlike JTPA, WIA permits funds to support the training of incumbent workers as well as of unemployed members of the workforce.

Local boards make different assessments of the skill sets workers and job seekers need and of which skills should be given highest priority in the areas they serve. At the general education end of the spectrum are the basic skills—that is, the literacy and numeracy skills—that are ideally acquired from a primary and early secondary education. Next to these are either occupational skills, which are acquired mainly in vocational and technical schools (including specialized secondary school programs and community college vocational instruction), or the professional skills obtained through additional academic study in colleges and universities. Beyond these occupation skills are the firm-specific skills acquired through work experience or training gained in the context of employment.

About 40 percent of the federal money given to local boards is spent on all types of training for adults (and many boards spend much less than this on training) (GAO 2005). While most WIA-funded training services involve occupational skills training, local boards also fund on-the-job training, an activity designed to provide firm-specific skills. Customized training can be viewed as packaging of an employer-tailored version of occupational skills training with on-the-job training (OJT) or another form of workplace activity providing hands-on experience. Local boards are free to develop customized training programs, and many of them have chosen to do so, often as an adjunct to their OJT programs. At least one WIA area in each of 32 U.S. states currently has a customized training program. On the other hand, this means that all local boards in 18 states, and many boards in the 32 states with programs, have chosen not to invest in customized training—which is their prerogative under WIA.

However, the Department of Labor has encouraged local investments in customized training, particularly through four major initiatives. The Sectoral Employment Demonstration (SED), which operated between 2000 and 2003, funded 38 local boards to operate special projects, some of which involved customized training. The High Growth Training Initiative (HGTI) has provided funding to WIBs, community colleges, and other organizations in support of customized training in 14 rapidly growing industries. The Community Based Training Initiative (CBTI) has supported similar initiatives, primarily involving

community colleges.[8] HGTI and CBTI were funded under WIA's demonstration authority. The Workforce Innovation in Regional Economic Development (WIRED) Initiative entails more sweeping workforce development plans, with each WIRED grant calling for the creation of regional leadership groups, systematic assessments of regional economies (to identify target sectors), and the development of regional funding sources in advance of actually implementing skills training strategies. These activities have led most of the original 13 WIRED grantees to boost customized training (Almandsmith et al. 2008).

Congress is currently considering WIA reauthorization. Legislation has been proposed that would amend WIA, establishing a new partnership funding program similar to HGTI. The "Strengthening Employment Clusters to Organize Regional Success Act of 2009" would provide grants both to expand existing partnerships and establish new partnerships to provide customized training.[9] In addition, several organizations, including the National Governors Association, have urged Congress to make the regional workforce development promoted by WIRED a permanent part of WIA (see Ganzglass 2006).

WHAT HAVE WE LEARNED ABOUT IMPLEMENTING CUSTOMIZED TRAINING?

Successful implementation of customized training programs appears to depend, not surprisingly, on many things. This section of the chapter focuses on five themes from the implementation findings of the evaluation research on customized training: 1) informed sector choice, 2) productive partnerships, 3) recruitment and engagement of trainees, 4) curriculum development and use, and 5) effective placement and support services.

Informed Sector Choice

The available research on sector-focused customized training indicates that pertinent initiatives have consistently used three criteria to select sectors. One is observed sector growth or skill shortages created by sector growth. Sector growth has been the key criterion for sector

selection in the HGTI initiative, while skill shortages were the primary factors for both the SED and the Skill Shortage Demonstration, a smaller project funded by the USDOL and completed four years ago (for discussion of this project, see Public Policy Associates [2005]). The rationale behind these related criteria is that, as discussed earlier, rapid growth in a given sector produces skill gaps when the supply of skilled labor does not keep up with growing demand. Filling such gaps serves the needs of employers, potential and existing employees, and the overall economy.

Nothing from the research evidence calls this criterion into question, but some of it underscores the need for up-to-date information on sector growth, and project responsiveness to changes in economic conditions. The need for current information results from the rapid changes in labor markets, and the studies reviewed in this chapter provide no revelations regarding the assessment of this information. The findings of the SED evaluation, as well as of the evaluation of the Sectoral Employment Initiative (SEI) funded by the Mott Foundation, emphasized the second point, noting that site programs needed to make appropriate responses when economic downturns occurred.[10] Given current economic conditions, this lesson is apropos.

Another consistent selection criterion has been the extent and concentration of local demand for specific skills. This was an important consideration for successful grantees in all the projects reviewed, largely for practical and strategic reasons. It is hard to think about capacity building—such as a new occupational training program at a community college—without reaching some threshold of skill demand.

Third, virtually all initiatives have put a priority on sectors with satisfactory wage levels and fringe benefits. Some of the grantees in the SED and Skill Shortage Demonstration had difficulty achieving their wage goals. However, it is noteworthy that the SEI sites judged most successful based on early results, and subsequently found to produce positive impacts on employment and earnings (described below), placed a high priority on participants obtaining high wages. This finding is consistent with the results of some other evaluations of workforce development programs, such as the findings for the Portland (Oregon) site in the National Evaluation of Welfare-to-Work Strategies.[11]

Productive Partnerships

The heart of each successful customized training project has been a partnership between an education and training institution, or institutions, and an engaged group of employers in the targeted sector. The partnerships have taken different forms, and have often involved additional organizations, but the ones judged to be successful have always had high employer involvement in multiple program activities. There has been variation in the level of employer involvement in particular activities, notably recruitment and screening; and, particularly in the SED, there was variation in the level of interaction among participating partners. There has been consistent employer involvement in curriculum development in programs providing specific training, although it has been more limited in some programs (for example, several of the HGTI and CBTI sites that have implemented traditional nursing programs with relatively little customization to meet the needs of particular health care providers).

The individual projects in the various customized training initiatives mentioned in this chapter have involved many types of partnerships. They typically have involved the workforce development system, local community colleges and other training institutions, employers, and other agencies or organizations within the region. There does not appear to be a single template for a successful partnership. Indeed, one of the conclusions of the SED evaluation, a demonstration in which all partnerships were led by local WIBs, was that there was no "best" project structure even in cases where the boards were always in the leadership position.

However, the research evidence suggests that communities are wise to build on the institutional relationships that are already in place. One of the important conclusions from the WIRED evaluation is that many of the strongest partnerships were already well under way before the grants were awarded. In these cases planning and goal setting had been completed, and the needed institutional relationships had been established, so the grants were used to expand preexisting projects. This also was clearly true of successful projects such as the Portland site mentioned above.

While it is sensible to build on existing collaborations, many grantees in all of the USDOL initiatives developed new partnerships. Indeed,

two-thirds of the SED grantees formed new stakeholder groups that included employers, community colleges, and community organizations and/or unions and industry associations. The SED evaluators from the Urban Institute reported that, based on the metrics used in the study, most of these partnerships successfully engaged employers and other organizations in developing training (Pindus et al. 2004). Also, many of the grantees leveraged additional resources beyond the SED funding to support their implementation plans.

In developing new partnerships, labor market intermediaries appear to have played a crucial role in convening and facilitating collaboration. In some cases, this role has been played by local WIBs and their staff. This was the case, for example, in the Biotech Workforce Network described earlier. In other cases, this role has gone to a variety of private organizations, such as the ones that led projects in the SEI.

Recruitment, Screening, and Engagement

Success in recruiting and enrolling participants must be achieved in order to reach customized training initiatives' goals, namely

- meeting employers' needs—that is, increasing their supply of qualified workers and improving the skill levels of new and incumbent workers;
- meeting worker needs—identifying those needs and improving their employability and ability to advance in the labor market; and
- building the capacity of training partnerships to sustain themselves—that is, to continue to reliably identify and enroll qualified, motivated students for customized training after government or foundation funding is gone.

The findings of both the SED and the foundation-funded SEI initiative show that success in recruitment and enrollment has been a major challenge. The evaluations of both these multisite projects indicate that recruitment success has required collaboration between employers and training programs to ensure that employers' specific enrollment qualifications are met. The recruitment of disadvantaged and low-income workers has been especially challenging, leading evaluators in the Work Advancement and Support Center Demonstration (WASC) to conclude that it requires substantial staff and funding resources.[12]

Keeping participants engaged, especially disadvantaged and low-income workers, also has been challenging for training programs. Many successful programs, such as the Center for Employment Training (CET), have required a commitment from trainees to remain engaged throughout training. Retaining participants who needed income to support themselves and their families during training presents obvious difficulties. Indeed, WASC evaluators have suggested that tangible incentives are a potentially effective way to maintain engagement.

Curriculum Development and Use

Similarly, success in developing and using an appropriate sector-driven training curriculum is necessary for meeting employer needs (increased skilled worker supply and improved skill levels) as well as the needs of workers (to improve their employability and chances for advancement). Past research suggests the potential for considerable success on this important task, although this potential success is qualified by the fact that most SED, SEI, and other initiatives built on past training efforts in the same sectors, making only modest curricular modifications based on employers' input. In such cases, the curriculum also can draw on national standards and established academic materials. Success is less assured when new sectors are targeted or when new skills within a given sector are taught, and substantial collaboration between employers and training programs may be needed in these cases.

Another issue regarding curriculum is the extent to which basic skills instruction should be integrated into the training. This is a common element to the three SEI sites shown to have produced significant impacts on employment and earnings. It also is one of the notable components of the CET model, which achieved noteworthy success in preparing low-income participants for jobs with partnering employers.[13]

Placement and Support Services

Another key task if programs are to be successful is supporting participants during and after training. During training, this may involve tutoring and/or supplemental instruction (provided in most interventions described in earlier sections of this paper), providing counseling, mentoring, and/or coaching (as in the WASC project), and providing

assistance with transportation, child care, books and supplies, and other participant needs (as in most projects described earlier). Often, too, counselors or advisors in strong programs have worked with participants to develop plans specifying participation expectations along with the supports that programs will provide.

After training, it is crucial to program success to get participants into appropriate jobs that utilize the training they have received. Particular sites in the various programs discussed in this paper used a range of specific approaches to achieving this objective. For example, one SEI site (in Milwaukee) often did not start particular training classes until employers made firm hiring commitments, so the movement of trainees into specific jobs was predetermined. In the welfare-to-work site in Portland, a highly effective job placement effort was used to reach this goal.

Ideally, the efforts to complete each of these three tasks should involve sufficient stakeholder collaboration to ensure that employers' needs are met and the improvements in training capabilities can be sustained.

WHAT HAVE WE LEARNED ABOUT THE EFFECTIVENESS OF CUSTOMIZED TRAINING?

Customized training is intended to have three types of effects: impacts on current and new employees, employers, and the broader economy (beyond those on immediately affected employees and employers). The available evidence on these types of effectiveness is discussed in turn.

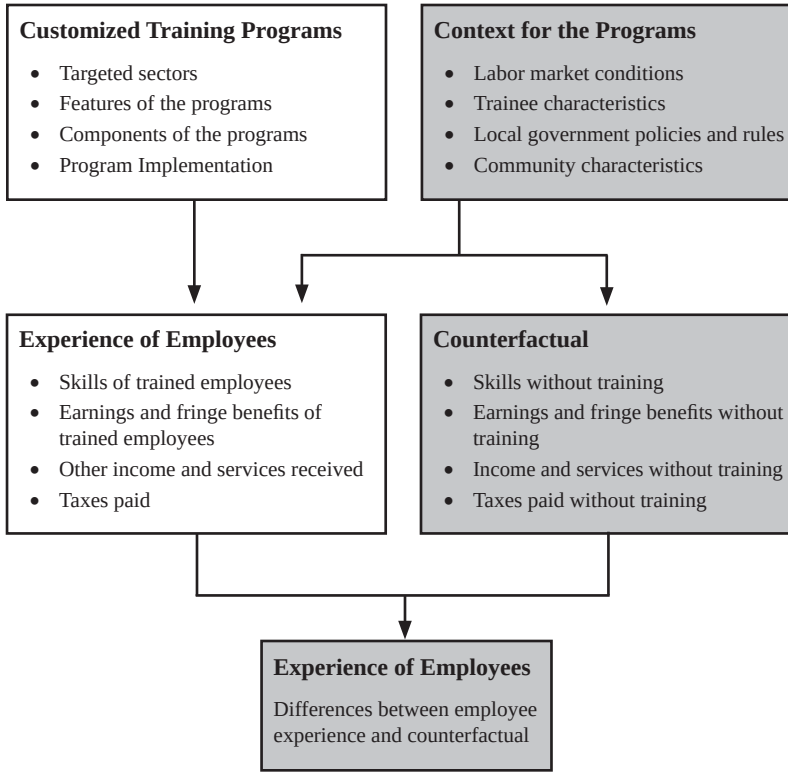
Current and New Employees

Finding that individuals who have participated in customized training programs have improved their skills, or have experienced increased employment or earnings, does not necessarily indicate that the programs were effective. Changes in these outcomes are determined by more factors than training programs or even job skills, including the labor market conditions in the places where training programs are

implemented. Over time, the earnings of individuals tend to increase without special training programs as a result of inflation, job experience, and other developments. Thus, as indicated in Figure 4.1, outcomes for training program participants—especially employment and earnings—must be compared to what these outcomes would have been without the training. The impacts are estimated as the differences between participants' earnings (and other outcomes) and those of a control group or a comparison group, which provide the counterfactual (or baseline) for impact measurement.

Until recently, none of the evaluations of customized training programs had assessed the impacts on individual outcomes. Indeed, many

Figure 4.1 Factors Determining Effects of Customized Training on Employees



of the evaluations focused on implementation issues and did not measure individual outcomes over an extended period of time. Earlier this year, however, Public/Private Ventures released interim impact findings for individuals who participated in customized training offered by three project sites in the Sectoral Employment Initiative (SEI). In examining these results, it is important to remember that there are two forces that determine the impacts of any training programs on individuals. As shown in Figure 4.1, these are the external context for the training programs and the targeting, features, and implementation of the programs themselves. The characteristics and operational success of the programs ultimately determine whether they have impacts given their context—that is, the extent to which skills, employment, and earnings rise above what they would have been without the programs (indicated by the "counterfactual" box in the figure). However, the contextual factors are important in interpreting those impacts.

SEI was started in 1998, when nine organizations were formed to lead collaborative efforts in workforce development. Six of them concentrated on skills training for participants (in the health care, manufacturing, paralegal, and information technology industrial sectors) and three engaged in other enterprises. The final report on the SEI initiative, which was published last year, contributed to the customized training program implementation lessons summarized above (Roder, Clymer, and Wyckoff 2008). In 2003, three of the original nine SEI sites were selected to be part of the Sectoral Employment Impact Study, also funded by the Mott Foundation. The sites are operated by the Jewish Vocational Service, a community-based nonprofit in Boston; Per Scholas, a social venture in New York City; and the Wisconsin Regional Training Partnership, an association of employers and unions based in Milwaukee. Each organization has continued to operate its own customized training program. While the three sites have not followed a common program model, their programs are said to have shared several key elements.

- **Employer focus.** The programs all have focused on a sector or a small set of sectors, have maintained one-to-one contact regarding individual firms' training needs, and have used additional strategies to engage the employers. One site used an employer/union membership association to organize a group of employers from targeted sectors to define common skills needs.

- **Participant/job matching.** Throughout their recruitment, screening, and intake processes, the programs have encouraged appropriate career matches by participants. They have identified individuals with interest in and aptitude for particular sectors, and then ensured that these people had the basic skills needed for training and met the occupation-specific requirements for particular positions (e.g., had a driver's license for a construction job).
- **Skills training.** Programs have provided training on the full range of skills needed for particular jobs, including technical job-specific training, job-readiness workshops geared to particular industry settings, and basic training in English and math skills. The three programs have made all training accessible (whether they provided the components themselves or contracted part of the training to other agencies).
- **Encouraging training completion and job success.** In addition to providing training to participants, the programs offered supports such as child care, transportation, housing and financial assistance, and tutoring. Again, the programs either provided these services directly or in partnership with outside public or private agencies.
- **Adjusting to changing conditions.** All three programs have shown flexibility by making changes in occupational or industry focus, their curriculum, the mix of services they provide, and/or their collaborations (due to changes in partner agencies or funding).

The evaluation has used an experimental research design to measure program impacts on the employment, earnings, and other outcomes for participants. (The description and results of the impact study discussed in this section come from Maguire et al. [2009]).

The three programs recruited 1,285 people who met their eligibility criteria, and the recruits were randomly assigned to the treatment group, which could participate in the programs, or to a control group that could not receive services from the sites for two years but were free to seek services from other programs. Thirty-two percent of control group members indeed received other training services.

The population served by these programs appears to be at least as disadvantaged as that of WIA training programs. Sixty percent of the treatment and control group members were African American and 21 percent were Hispanic. On average, the sample members had worked seven months in the year before random assignment and about a third were employed at the time of assignment. Nearly 40 percent of the sample had received public assistance, including a quarter on welfare at the time of enrollment, and 5 percent had experienced homelessness in the last year. More than a quarter of the sample was under the age of 24 (the median participant age was 30). Three-quarters of sample members had a high school diploma or a GED, 8 percent had an associate's degree, and 9 percent had a bachelor's degree. Although there were differences across sites, the overall sample included approximately equal numbers of women and men.

Participants in sector-focused training earned 18 percent (about $4,500) more than controls during the two-year period covered by the study. The positive effect on earnings started in the eighth month following random assignment and continued through the end of the two years. Most of the increase in earnings occurred during the second year, which is not surprising given that the training was received in the first year, limiting participants' availability for work. The participants earned 29 percent more than the controls during the second year (about $4,000).

Part of the observed earnings gain is due to the training intervention's impact on employment—that is, program participants were more likely to find work and worked more consistently. During the two years over which they were followed, participants were significantly more likely to be employed, and worked on average 1.3 more months than controls. In the first several months of the follow-up period, while most treatment group members were in training, control group members were more likely to be employed. However, by month eight, after most participants had finished training, treatment group members were more likely to be employed than controls through the remainder of the two-year period. Employment rates hovered around 70 percent for treatment group members in the second year—about 10 percentage points higher than the rates for control group members. In addition, participants were significantly more likely to work all 12 months in the second year, indicating that the training helped them find steadier employment.

As valuable as these new findings are, it is worth noting two of their limitations. First, while the features of the three programs seem consistent with those of other well-implemented programs in other demonstrations, the impact results still cover only three urban programs serving only new employees and operating during a period when the economy was expanding (2004–2008). Thus, it is not clear whether comparable programs would have comparable impacts under different external conditions. Second, the impact study has only measured the effects of the training treatment as a whole. Thus, the value added by particular program components, such as the career-matching focus, cannot be established by the impact results. Other information must be taken into account in trying to draw inferences about the factors determining program impacts.

Employers

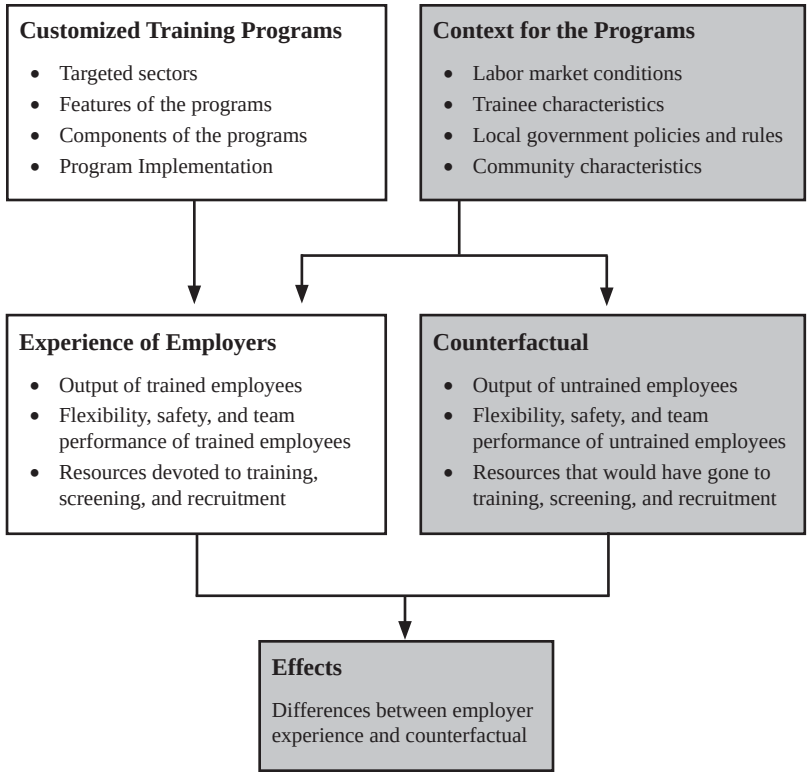
Customized training's effects on employers include increased output, improved flexibility and team performance, and a better pipeline of skilled employees. The boost in output can be generated by improved work quality, reduced time per task, improved ability to use new technology, reduced error rates and waste in production, improved coping skills, reduced absenteeism, and other results of the training. The training may also increase the task flexibility and team performance of employees, leading to potential productivity gains beyond those produced by the trained worker per se. Training programs that recruit and screen potential employees, as well as train them, provide a source of skilled employees that reduces a firm's need to either carry out these tasks on its own or to pay a human resources contractor to carry them out.

For incumbent workers who go through training, improved employee outcomes—in terms of skills, wages, performance ratings, absentee rates, and promotions—provide a reasonable, if imperfect, basis for judging the boost in output and profitability of the firms who provide the training. The available evidence indicates that this boost is substantial, far exceeding the increase in the wages they paid trained workers (Lowenstein and Spletzer 1999). Taking account of both this productivity gain and the effect of the training on employment (new hires and reduced layoffs), Hollenbeck (2008) has estimated that the

total return to firms on their investments in incumbent worker training is at least 17 percent.

For new workers, however, the task is harder. In principle, the performance of new workers from customized training programs should be compared to the workers who *would have been recruited and hired* in the absence of the programs, as shown in Figure 4.2. This is virtually impossible to estimate with confidence, however, creating the need to use statistical modeling to isolate the value added by training interventions. Also, beyond the productivity and employment gains generated for incumbent workers, customized training leads to reduced recruit-

Figure 4.2 Factors Determining Effects of Customized Training on Employers



ment, screening, and hiring costs for new workers, as well as improved performance of the teams to which trained workers are assigned.

Probably the best available research evidence of the potential value of customized training to employers comes from studies of the value of in-house training provided by the employers themselves to new employees—in effect, perfectly customized training. For example, economist Lisa Lynch conducted a study almost 20 years ago on the impact of private sector training (Lynch 1992). She used data from the National Longitudinal Survey youth cohort to determine how individual characteristics, including employment histories, determine the probability of receiving training in the private sector; and, in turn, the effect of this training on wages and wage growth in young workers. Thus, the trainee experience came from survey sample members who had received training, and the counterfactual was estimated based on outcomes of sample members who had not received training and the characteristics of both trainees and sample members who had not received training.

The training studied by Lynch was employer-provided job-specific training. Lynch found that this training had a significant impact both on wage determination and on the career patterns of individuals. Indeed, she found that a year of formal private-sector training had as much effect on non-college youths (in the form of increased earnings) as did a year of college. The return to employers was even greater than the return to their employees, because employers and employees shared the gains from improved productivity due to training.

Economist Ann Bartel carried out a study of the relationship among training provided by a business to employees, the employees' subsequent wages and job performance, and the full return on investment to the company (Bartel 1995). The data came from the personnel records of a large manufacturing firm, and covered training provided in 1986–1990. The company spent about $1,950 on formal training per employee during 1990, which was more than five times the average for U.S. firms at that time. The study's sample included 19,000 observations of the firm's professional employees (about 3,800 per year). The occupations were distributed across finance, engineering, manufacturing, marketing and sales, information systems, research and development, staff services, and support services. The training itself fell into a range of core, employee development, and technical categories. The average sample member was older, more educated, and had more work experience than

most of the individuals who have received the customized training described in this chapter.[14]

The study's main findings were that training led to improvements in job performance (as measured by performance rating scores), had a positive and significant effect on wage growth, and produced a positive rate of return for the firm. The training significantly increased the probability of improved job performance scores in the year following training and significantly reduced the probability of score declines. The measured effects of training on wage growth were particularly large for the employee development and technical training categories, the types of training provided to employees who were more comparable to those who participated in the demand-led training initiatives discussed in the last section of this chapter. Finally, Bartel estimated the short-term rates of return to the firm under alternative assumptions about the depreciation of job skills over time. The estimated return on dollars invested in employee development training ranged from 20 to 50 percent, and the return for technical training was between 21 and 52 percent.

Economy

Finally, customized training is thought to have additional effects on the broader economy. The effects of skills training programs on marketplace functioning are important, but hard to measure. The importance of skills acquired from schools, colleges and universities, training programs, and other sources is well documented. The pertinent economics literature shows, among other things, that differences in labor force skills explain most of the variance in economic growth among countries (Hanushek and Woessmann 2008). However, isolating the specific contribution of training programs—in particular, customized programs—is more difficult.[15] Economist David Ellwood assessed the potential effects as part of a project for the Aspen Institute (Ellwood 2003). He argues that the U.S. economy faces a future skilled labor shortage of dramatic proportions, and that the United States should address the issue head-on rather than being overtaken by it. Ellwood notes that skills training encourages economic growth and that customized training encourages particularly rapid growth because it speeds the match between the appropriately trained worker and the firm that needs the worker. Moreover, he makes the case that neither businesses nor individuals,

by themselves, could undertake the job-specific training that is needed. Ellwood's prescription was demand-driven training involving government-supported partnerships within specific industries.

WHAT ARE THE CRITICAL UNANSWERED QUESTIONS?

This review of what is known about customized training indicates that a good deal has been learned from recent research on pertinent initiatives, but also that key questions remain both about such training's value and about how the training should best be structured. This concluding section lists three of the most critical open questions about customized training.

What is the return on investment in customized training?

As indicated earlier, the direct costs of customized training are shared by institutions in the public sector and firms in the private sector. Indirect costs are also borne by participants in training, who often must forgo employment or other activities while they are enrolled, as well as by private firms. A key question, therefore, is: What is the return on the investments made by these groups? Ultimately, this is the calculation that each group must make in deciding whether customized training is a good idea.

Rigorously measuring the impacts of customized training on earnings, as the SEI study has recently done, provides a good start. Much of the value of the training to participants, as well as its opportunity costs to them, is captured by these impacts. Also, part of the return on investments by public institutions is driven by the program impacts on earnings. However, these impacts tell us little about the return on investment to employers. As indicated in this chapter, the best current evidence on the *potential* return to employers comes from research on the return on training by employers themselves. Evidence regarding the actual return to employers would be much better.

What is the relationship between program effectiveness and economic conditions?

It is important to gain a better understanding of the extent to which the effectiveness of customized training depends on local and national economic conditions. One way to do this would be to assess customized training program impacts in sites facing a range of unemployment levels and local labor market circumstances, and to assess the impacts during all phases of the business cycle. Another way would be to conduct a more systematic assessment of program flexibility and responsiveness to changing economic conditions—that is, the ability of programs to make appropriate changes in occupational and sector focus, curriculum, and services as needed.

Can effective customized programs be replicated?

If we find an approach to customized training that is determined to be cost-effective, and is effective in a variety of conditions, then it will be important to determine whether the training model can be successfully replicated. This will be a challenge, as illustrated by the USDOL's experience in trying to replicate the success of CET. Despite receiving technical assistance, most sites in the CET replication project were unable to establish programs that met several operational criteria; and the sites that could not duplicate the CET model were found to produce no impacts on employment or earnings. However, if customized training does prove to be effective, this is undoubtedly a challenge that the Labor Department, as well as policymakers in other countries, would be happy to take on.

Notes

1. Because of the increased use of distance learning, there are more and more examples of partnerships where the training providers and partner firms are not in the same geographic area.
2. Labor market intermediaries serve dual customers: businesses (seeking qualified workers) and potential and current workers (seeking jobs or career advancement). In addition to local board and community organizations, intermediaries include business associations, chambers of commerce, staffing and temporary agencies,

community colleges and other educational institutions, and labor unions. For discussion, see Soukamneuth and Harvey (2008).

3. A recent survey of more than 200 workforce development organizations in the United States provides an overview of the kinds of partnerships and programs that currently deliver customized training. The programs targeted approximately 20 industries (Conway et al. 2007).
4. By the last quarter of 2008, total trade (exports plus imports) reached 31 percent of estimated GDP, according to the U.S. Bureau of Economic Analysis (BEA). This fraction is about three times what it was in 1970. News releases by the BEA can be accessed at www.bea.gov/newsreleases.htm.
5. For example, the BEA has reported that exports of education, financial services, telecommunications, professional, and business and technical services grew to $224 billion in 2007, more than 50 percent larger than the imports of $144 billion in these same service categories during the same year (Koncz and Flatness 2008).
6. While the average tenure in workers' longest job rose from 22 years in the late 1960s to 24 years in the late seventies, it has declined ever since (Stevens 2005).
7. The survey covered 1,062 establishments with more than 50 employees. Among establishments with 500 or more employees, 57 percent had used community colleges for training during the last 12 months. For establishments with 100–499 employees, the figure was 35 percent, while 27 percent of businesses with 50–99 employees used the colleges (Dougherty 2003).
8. The Urban Institute and Johns Hopkins University are evaluating this initiative. For discussion of the project and its implementation, see Nightingale et al. (2008).
9. Further details are available at www.workforcealliance.org.
10. This finding comes from the evaluation of the original initiative, which involved nine sites and focused on program implementation and participant outcomes (see Roder, Clymer, and Wyckoff [2008]). Based on interim results, three of the original sites were chosen to be part of a controlled experiment, which has produced the impact results described later in the chapter.
11. The Portland site in this evaluation, which used an experimental research design, achieved substantially larger impacts than the other sites. The program's education, training, and placement services were explicitly designed to generate jobs with satisfactory wages, fringe benefits, and good career prospects (see Scrivener et al. [1998]).
12. This was one of the early lessons from the demonstration (see Anderson, Kato, and Riccio [2006]).
13. CET, which stresses hands-on training and maintains close relationships with employers in the San Jose area, had substantially greater impacts on employment and earnings than other sites of two major evaluations (Burghardt et al. 1992; Cave et al. 1993). Later, in a 12-site demonstration that sought to replicate CET in other locations, moderate success was achieved in sites that faithfully implemented CET's model, and no impacts were found in sites that were unable to carry out the model (Miller et al. 2005).
14. For example, the average age of sample members in the SEI impact study was 30, compared to 36 in Bartel's study. Only 18 percent of the SEI sample had education

beyond high school, whereas the average sample member in Bartel's study had 4.5 years of schooling beyond high school. The SEI sample was made up of new employees, while the average sample member in Bartel's study had worked seven years with the firm (Bartel 1995; Maguire et al. 2009).

15. It is clear that additional vocational education or training—measured in months or credentials received—increases the productivity of workers (measured by earnings) (Bailey, Kienzl, and Marcotte 2004). Distinguishing the value added by particular types of vocational training is empirically difficult.

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