

REGISTERED APPRENTICESHIP: FINDINGS FROM SITE VISITS TO FIVE STATES

Authors:
Pahl Gunn
Lalith De Silva, Ph.D.

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U.S. Department of Labor
Employment and Training Administration
200 Constitution Ave., N.W.
Washington, D.C. 20210
Project Officer: Charlotte Schifferes

Submitted by



1375 Piccard Drive, Suite 150
Rockville, MD 20850
(301) 987-7441
Project Director: Lalith De Silva, Ph.D.

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Pahl Gunn
Lalith De Silva, Ph.D.

TABLE OF CONTENTS

Executive Summary	i
Introduction	1
Background	2
Methodology	4
Characteristics of Programs, Sponsors, and Apprentices	5
Views of Sponsors	7
Views of Apprentices	10
Completion of Apprenticeship Programs	12
Registered Apprenticeship and the One-stop System	12
Community Colleges and Apprenticeship	14
State Apprenticeship Agencies	16
Data maintained by Sponsors	17
Effective Practices	17
Conclusions	19

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EXECUTIVE SUMMARY

In an effort to better understand current issues in registered apprenticeship, the Employment and Training Administration of the U.S. Department of Labor commissioned a study that entailed site visits to five states and a survey of registered apprenticeship sponsors. This paper focuses on the site visits, during which researchers talked with apprenticeship program sponsors, apprentices, state apprenticeship agency staff, One-Stop Career Center managers, and community college administrators. Of the 37 sponsors contacted, about a quarter were in high-growth industries and a third were responsible for joint programs involving both employers and organized labor.

The paper discusses sponsors' views on the benefits and drawbacks of registered apprenticeship, completion rates, state apprenticeship agencies, and the registered apprenticeship system overall. The paper also discusses the perceptions of apprentices and administrators in the workforce investment system and in community colleges providing related instruction for apprenticeship programs. Finally, the paper provides information on three examples of promising practice and on the availability of data from sponsors regarding the costs and benefits of registered apprenticeship.

Overall, registered apprenticeship appeared to enjoy strong support from the sponsors and apprentices interviewed for this study. Most sponsors stated that they would strongly recommend registered apprenticeship to other employers. Apprentices appeared satisfied, if not enthusiastic, about their apprenticeship experience, expressing appreciation for the opportunities it afforded them to develop a profession and earn a good income during and after their training period.

There were few drawbacks and problems identified by current sponsors, but one problem cited by sponsors was the difficulty in finding high-quality related instruction. Parallel to this, community college administrators expressed concerns about finding high-quality instructors and recouping the costs associated with providing related instruction. Apprentices expressed concerns with the long period of their training, relatively low pay in its initial stages, problems with mathematics in some related instruction, and difficulties in meeting the demands of work, education, and family.

Costs, as identified by sponsors, varied widely (from \$600 to \$52,000 per year), depending on the factors sponsors thought were important to include. However, costs were not identified as a problem by the sponsors interviewed, though a handful recommended direct Federal support or monetary incentives for operating apprenticeship programs.

Coordination and linkage between registered apprenticeship and the One-Stop system appeared to be weak, as evidenced by the statements of almost all the One-Stop administrators and the very few instances of referrals or placements from the workforce investment system identified by the sponsors and apprentices interviewed.

Many of the recommendations from the sponsors for improving registered apprenticeship related to elements that exist within the current system, such as increased monitoring of program quality, increased publicity for apprenticeship, reduction in paperwork, and more support from other programs in the workforce investment system. Similarly, some of the concerns expressed by apprentices, such as instances of poor quality of work assignments and poor supervision, might be addressed by better monitoring of programs and offering additional training to companies.

There were relatively low levels of staff in the state apprenticeship agencies visited, with the exception of one office that enjoyed substantial state revenues. The low staff levels, and the many tasks currently required of staff, suggested there would be constraints on substantially expanding registered apprenticeship or addressing the recommendations made by sponsors.

Promising practices identified by researchers included the Communities in Schools program in Philadelphia (which used pre-apprenticeship), expanded outreach and services to business in North Carolina, and the use of consortia in three states to provide a cost-effective way for multiple employers to participate in a manufacturing apprenticeship program.

Finally, in regard to future research examining costs, benefits, and return on investment, the data provided by sponsors would be a possible source of information on costs and completions, but not on quantifiable benefits.

REGISTERED APPRENTICESHIP: FINDINGS FROM SITE VISITS TO FIVE STATES

INTRODUCTION

Registered apprenticeship in the United States is a time-tested worker training approach. It involves on-the-job learning, incremental wage increases with skill attainment, related classroom instruction, and achievement of a recognized credential, all outlined in an agreement between the apprentice and the employer. These agreements, as well as apprentices themselves, are registered with the U.S. Department of Labor's (DOL) Office of Apprenticeship or state apprenticeship agencies operating within the framework of DOL regulations.

Promoting and expanding registered apprenticeship has long been a goal pursued by DOL, as a matter of policy and legal requirement. Efforts to promote registered apprenticeship have expanded in recent years to encompass occupations in high-growth industries. An effort to promote apprenticeship in these new industries is one component in the broader DOL initiative to create a "demand-driven" workforce investment system responsive to employer needs and successful in developing workers' talents.

To better understand critical issues in registered apprenticeship both in general and in newer industries, DOL commissioned a study that entailed discussions with key apprenticeship stakeholders and a survey of a nationally representative sample of 1,100 sponsors. Site visits to five states were conducted in 2006 and involved discussions with sponsors, apprentices and administrators in state apprenticeship agencies, One-Stop Career Centers, community colleges, and other training providers. The site visits capture the perspective and concerns of multiple stakeholders in the apprenticeship system, as

well as providing additional background information for understanding the findings from the sponsor survey (conducted in 2007 and described in a forthcoming paper).

Information from both the site visits and the survey is intended to be used in policy formulation and for planning future research on registered apprenticeship. This paper focuses solely on what was learned in the site visits.

BACKGROUND

Registered apprenticeship is a national system that combines on-the job training by a mentor or journey worker, related classroom instruction, mentoring, and incremental wage increases as apprentices progress through their program. Programs specify a fixed period of one to five years (depending on the program) until the program is completed and the apprentice receives a recognized credential. Apprentices are employees and their apprenticeship is governed by an agreement between the employer and the apprentice detailing program attributes such as the skills an apprentice is to learn, courses to take, the ratio of experienced workers to apprentices, and wages at different phases of the program. To be registered by the state apprenticeship agency, the agreement also must conform to the requirements established in DOL regulations.¹

Registered apprenticeship programs are sponsored by individual employers, employer associations, or jointly by a labor union and management; classroom instruction is provided by public community and technical colleges, private for-profit schools, and union or joint labor-management training entities. Since all of the hands-on and much of the classroom training is financed by employers (and in some cases, unions), registered apprenticeship presents minimal costs to the taxpayer.

¹ Found at 29 Code of Federal Regulations (CFR) parts 29 and 30.

Registered apprenticeship is used in an estimated 28,000 programs, involving 250,000 employers and almost 468,000 apprentices. A large portion of registered apprenticeship programs have traditionally been in the building and construction trades and in manufacturing, though there are hundreds of other occupations in which this form of in-depth training is used.

Registered apprenticeship is authorized under the 1937 National Apprenticeship Act, which charges DOL, in cooperation with the states, to oversee the nation's registered apprenticeship system. DOL's Office of Apprenticeship (OA), in conjunction with State Apprenticeship Agencies (SAAs), is responsible for registering apprenticeship programs that meet federal and state standards, issuing Certificates of Completion to apprentices, encouraging the development of new programs through outreach and technical assistance, protecting the safety and welfare of apprentices, and assuring that all programs provide high quality training to their apprentices. OA staff in 25 states and SAA staff in 25 states, the District of Columbia, and three territories share these responsibilities. These offices generally operate separately from the One-Stop system funded under the Workforce Investment Act.

Since 2000, DOL has focused on expanding registered apprenticeship into high-growth industries such as healthcare, transportation, information technology, biotechnology, and others. DOL has also attempted to strengthen registered apprenticeship more broadly as well, through promoting technological and administrative improvements in the administration of the program.

Since the DOL has focused on the expansion of registered apprenticeship into high-growth industries and new occupations, the site visits explored apprenticeship in

these industries as well as in the more traditional ones. In addition, the site visits also explored the degree of interaction among SAAs, sponsors, and the One-Stop system, since DOL has been keenly interested in promoting linkages and coordination among programs in the workforce investment system.

METHODOLOGY

The site visit study involved face-to-face, on-site individual and group discussions with key stakeholders in five states during the winter and spring of 2006. Those interviewed included employers, apprentices, state apprenticeship agency (SAA) administrators, One-Stop Career Center directors, Workforce Investment Board (WIB) chairs and staff, community college officials and instructors, and coordinators of joint labor-management apprenticeship programs. Apprentices were interviewed primarily in focus groups, although there were a few individual interviews. Sponsors were chosen with the assistance of the SAA and purposely included both programs in traditional apprenticeship industries and programs in high-growth industries.

States were selected in consultation with OA and included a deliberate mix of federally-staffed and state-staffed offices. An effort was also made to achieve regional diversity (consistent with project resources). The five states were Iowa, New Hampshire, North Carolina, Pennsylvania, and Texas. Iowa, Texas, and New Hampshire are federally-run states with Federal staff; North Carolina is state-run and state-staffed; and Pennsylvania is state-run but has both state and Federal staff.

Discussion guides were developed in consultation with the DOL and interviews were conducted with the following stakeholders in the five states:

- 19 SAA staff including directors, Apprenticeship Training Representatives (ATRs), and other staff;

- 14 One-Stop Career Center managers;
- 29 Classroom training providers (18 community colleges and public technical schools and 11 union-run programs);
- 37 Sponsors (including 25 employer only and 12 joint labor-management programs);
- 79 Apprentices; and
- 15 Other stakeholders including WIB chairs, community-based organization directors, and consultants.

Each site visit lasted a week and involved prearranged interviews supplemented by observations and written documentation. Interviews with program stakeholders lasted about one hour. Interviews with apprentices lasted from 15 minutes for individual sessions to 45 minutes for focus group sessions.

CHARACTERISTICS OF PROGRAMS, SPONSORS AND APPRENTICES

Programs: The site visits examined 37 apprenticeship programs in industries such as advanced manufacturing, aerospace, healthcare, biotechnology, education, geospatial, hospitality, information technology, and childcare. Of the programs visited, company size ranged from less than ten to several thousand employees (with hundreds of apprentices), but most had between 25 and 60 employees. About a quarter were in high-growth industries and the remainder in more traditional industries. Some of the high-growth programs appeared to still be in the formative stage and had only a small number of apprentices.²

Only a few apprenticeship programs involved a consortium of employers. Also, of the 37 programs visited, about 33 percent were jointly run with organized labor as a partner. Finally, almost all apprenticeship programs used traditional “time-based” measures rather than competency-based measures for assessing progress.

² For example, there were four apprentices in a home-based childcare program in one state and only one in a biotechnology apprenticeship program in another state.

Sponsors: The evaluators interviewed 37 apprenticeship program sponsors, many of whom were highly involved in providing training and services to apprentices and demonstrated a high level of enthusiasm and dedication for apprenticeship as a training model. They had a keen understanding of what the benefits were for their companies, but also for apprentices and sometimes for the workforce as a whole. However, sponsors involved in the high-growth programs did not have much experience with registered apprenticeship and were thus unable to offer responses to a number of questions in the interviews.

Apprentices: The evaluators interviewed 79 apprentices in individual and focus group sessions. About half of the apprentices were in jointly sponsored labor-management programs and half in employer-only programs. The apprentices interviewed ranged in age from the late teens to the mid-fifties, but most appeared to be in their twenties. The amount of time the apprentices had been enrolled in apprenticeship ranged from several months to almost five years (and just a few days from the completion of their apprenticeship program).

Of the apprentices interviewed, men outnumbered women by about 8 to 1, and just fewer than 20 percent of those interviewed were minorities. Some of the newly developed apprenticeship programs, such as early childhood development specialist and home health care worker, appeared to have primarily women apprentices. These occupations tended to have much lower wages (at or just above minimum wage) as compared to the traditionally male-dominated occupations, such as the construction trades.

VIEWS OF SPONSORS

Motivating Factors: The most frequently cited motivating factor, stated by over 22 sponsors (60 percent of those interviewed), for having an apprenticeship program was to ensure a supply of qualified workers with documented knowledge and skills. This was often mentioned in regard to the need for replacements for aging or retiring workers. Other motivating factors cited were safety, quality support, building worker longevity with or loyalty to the company, and tradition.

Value and Benefits: The sponsors interviewed were generally positive and, in a number of instances, enthusiastic in their support of apprenticeship. The most frequently cited benefit of registered apprenticeship was that it produced employees who were dedicated and skilled workers who could be relied upon to consistently do their jobs well.

The positive attitude of the sponsors was heard also in their willingness to promote the program to others. Almost all sponsors stated they would “strongly recommend” apprenticeship to their peers. Specifically, some employers indicated that they felt the program was “effective and efficient” and that individuals who complete apprenticeship programs are “dedicated, well trained, well skilled, and reliable.” A few sponsors expressed reservations about providing a strong recommendation, citing difficulties accessing related instruction as the primary reason.

Future Plans: Without exception, all sponsors stated that they base their future plans for apprentices on demand for their product or service as well as the need to replace or add new workers. At the time of the site visits, several sponsors mentioned that they had suspended enrolling new apprentices for a year or two because their current supply of trained workers met their anticipated needs.

Costs: Sponsors were asked to estimate the costs of related instruction and the overall costs for their apprenticeship programs. Cost categories thought to be relevant by sponsors and calculation methods varied substantially among the respondents. Some included all of apprentices' wages, while others calculated just an estimated loss of productive time. Some sponsors included costs of building educational centers, wasted or ruined materials, costs of redoing unsatisfactory work, supervisors' wages, and costs for record keeping and program management.

Estimates of annual costs per apprentice ranged from a low of \$600 (for tuition only) to \$52,000, in which related instruction, wages of supervisors training apprentices, and other costs were all factored. Estimates of the expenditures for related classroom instruction, including tuition, fees, books and supplies, ranged from zero (where a state was paying for tuition) to \$5,000 per year.

The costs for related instruction were borne by sponsors in over 90 percent of the programs visited. However, even when employers paid most of the costs, related instruction was often subsidized at least in part with public funds, either through student financial aid, state education funds (which made tuition low or even free to residents of the state), or veterans' benefits.

Some sponsors also required apprentices to make a financial investment in their related instruction in order to promote their personal commitment. For example, one program required apprentices to buy their own textbooks. In another, tuition was first paid by the apprentice with reimbursement by the employer contingent on the apprentice receiving a satisfactory passing grade. Other programs required apprentices to pay for any missed classes during a course and some programs required apprentices to be

dropped from the course after missing a third class and to retake the course. There was one program in which 75 percent of the tuition fell to student apprentices to pay from their own resources.

Drawbacks: Sponsors, while generally supportive of registered apprenticeship, identified some drawbacks or problems associated with it such as difficulty finding related instruction and the quality of instruction. Many sponsors attributed this difficulty to the current focus in high schools on college preparation to the diminution and exclusion of vocational training. Sponsors also felt there was a need for more promotion and dissemination of information on registered apprenticeship, including information on the diversity of occupations that could be apprenticed and the possibility of competency-based measures.

Views on State and Federal Agencies Policy: Overall, the sponsors interviewed voiced favorable comments about the ATRs with whom they worked. ATRs provide technical assistance to sponsors in helping them establish the registered apprenticeship program, find curriculum or training providers, and help with recruitment. In addition, ATRs monitor programs to protect apprentices and assure quality. Nearly half of the respondents commented on what appeared to them to be the ATR's heavy workload, but also noted that their ATR made time available to work with the sponsor.

Sponsors of both joint and unilateral programs had a number of common recommendations, including the following:

- Federal funding and support for apprenticeship (as in many other countries), including monetary incentives to operate apprenticeship programs;
- Increased government monitoring of program quality;
- Increased publicity for the apprenticeship training models, since, as one of the employers noted, registered apprenticeship appears to be “one of the best kept secrets in America today”; and

- Reduction in the paperwork.

Employer sponsors discussed the need to provide financial incentives to the smaller companies to operate apprentice programs and to move to competency-based rather than time-based skill attainment.

Among sponsors who were union representatives, some expressed a desire for government to enforce regulations to protect workers' status and skills and also to make related systems work more efficiently with registered apprenticeship. These sponsors cited problems with Unemployment Insurance and the lack of referrals and responsiveness from the One-Stop system.

VIEWS OF APPRENTICES

Value and Benefits of Apprenticeship: Apprentices identified a number of benefits from their registered apprenticeship programs, including learning a skill, earning good wages, and having a future career path. Many emphasized that they were doing well economically compared to their peers. Individual comments exemplifying these sentiments included:

- “I’ve got a good job, four years experience, an AA degree, state and federal credentials, a house and some toys [a truck, an all-terrain vehicle, and a good car]; while a lot of my friends have a huge debt [for tuition] and are looking for a decent job.”
- “I’m doing pretty good. Let’s just say [when I go out with my friends] I buy dinner a lot!”
- “I’ve got a house, car, job, and no debt. Friends [I went to high school with] are just getting out of college, don’t have a job or know if they’ll find one, and have serious debt.”

Problems or Drawbacks: Apprentices identified several problems or drawbacks with registered apprenticeship. The most frequently cited drawbacks were the long periods of

time spent in their apprenticeship program and the relatively low levels of pay in its early stages. Some apprentices said that they had had some personal issues with a supervisor or teacher, though they did not view the problems as systemic. Similarly, some apprentices mentioned that there were supervisors who only assigned menial tasks and were not really teaching valued skills on the job site, and a few also indicated they were not able to get credit for previous experience or training.

A few apprentices noted that personal issues arose as they pursued their apprenticeship programs, including difficulties in combining fulltime employment, responsibilities to family and attending school two nights a week and/or all day on Saturdays; difficulties with mathematics in the classroom instruction; and difficulties with comprehending textbook materials written in what they perceived to be “high level English” especially in cases where tutoring was not provided by staff or fellow students. All apprentices interviewed felt that employers lived up to their obligations and rated the related instruction between very good and excellent.

Learning about Apprenticeship Opportunities: Many of the apprentices said they were recruited from within their company. Of those not recruited internally, many learned of the apprenticeship opportunity through school-related activities, such as open houses, career days, a presentation to a class by the ATR, or through vocational education programs. The majority of apprentices in labor-management sponsored programs said they learned about their apprenticeship opportunity through family or friends. One woman became a building trade apprentice after marrying a man who was a journey person in the same trade.

Suggestions for Improving Apprenticeship: The apprentices interviewed did not offer recommendations regarding improving the apprenticeship system and did not see problems as systemic. Most were not even aware of the Federal role in registered apprenticeship. However, apprentices did express several ideas for improving particular aspects of apprenticeship. Suggestions included: making sure that on-the-job supervisors taught needed skills and did not assign menial tasks; having more hands-on laboratories; basing progress through apprenticeship on the ability to perform a set of tasks, rather than a certain length of time; and allowing apprentices to be able to receive credit for previous work experience or training at another institution.

COMPLETION OF APPRENTICESHIP PROGRAMS

Completion rates for apprentices, as estimated by sponsors, appeared to vary considerably. In companies that recruited from among their own workers, completion rates were reported as 95 percent and higher. For programs where apprentices were recruited from outside the company, the dropout rate was reported to be between 30 and 40 percent, occurring mostly in the first year of an apprenticeship. Of those apprentices who continued after the first year, sponsors thought that 90 to 95 percent completed.

Researchers asked sponsors why some apprentices leave programs without completing. Sponsors cited problems with basic work discipline, trouble with related instruction (especially math), lack of maturity, and issues with drugs or the criminal justice system as reasons they had observed for apprentices dropping out.

REGISTERED APPRENTICESHIP AND THE ONE-STOP SYSTEM

Interviews with representatives of 14 One-Stop Career Centers in the five states, as well as the comments of sponsors and apprentices, indicated there were very limited

coordination and virtually no integration between the registered apprenticeship and the One-Stop system. The occasional posting of apprenticeship opportunities at One-Stop Career Centers appeared to be the extent of coordination in most cases. In discussions with sponsors and apprentices to determine interactions with local One-Stop Career Centers, there were only four definite referrals cited. Sponsors of some joint apprenticeship programs, however, stated they routinely posted their recruitment notices with the One-Stop agency, but were unaware how many, if any, persons were referred to them from that source. Only one of the apprentices interviewed reported learning of an apprenticeship opportunity through a One-Stop Career Centers and applying after seeing a notice there.

Staff in most of the 14 One-Stop Career Centers interviewed said they were unaware of any referrals made to their clients regarding apprenticeship opportunities. In addition, no records were kept regarding apprenticeship postings and, in some centers, staff did not appear to have any knowledge of apprenticeship programs in their specific workforce investment areas. None of the One-Stop Career Centers visited engaged in developing related pre-apprenticeship programs.

The comments of a One-Stop Career Center manager (who nonetheless expressed appreciation for apprenticeship) summed up the relationship between the systems as follows: “As far as we are concerned here, apprenticeship simply does not exist.”

Other One-Stop managers offered other explanations for the relatively low level interaction with registered apprenticeship, including that:

- “It has never been done.”
- “We just don’t do that here.”

- “It has never been required.”
- “We don’t know much about them.”
- “We don’t have enough staff.”
- “There is no place to record or report on it.”
- “It would take too long for a placement.”
- “They [the systems] have always been separate.”

The lack of interaction with registered apprenticeship was particularly interesting since over half of the apprenticeship representatives (either state directors or ATRs) interviewed were also members of local WIBs, most often serving on youth councils. Further, several apprenticeship state directors and ATRs spoke of the outreach they conducted regularly to help integrate the systems. Two state apprenticeship directors provided a copy of well-prepared presentations they regularly made to their state, to local WIBs and to local One-Stop Career Center staff. However, these efforts, and the generally positive relationships observed among apprenticeship and the local One-Stop system, apparently did not produce concrete results.

There was one exception. In one local area, the WIB provided a community-based organization with WIA funding for outreach and support to minorities interested in apprenticeable construction occupations.

COMMUNITY COLLEGES AND APPRENTICESHIP

Interviews were conducted with community college administrators and instructors in colleges that have articulation agreements with registered apprenticeship programs to provide related instruction. Most of these arrangements also offered apprentices the opportunity to obtain college credit and earn an Associate’s degree if they so chose.

Classroom instruction for apprenticeship programs was in most cases offered on a semester basis, but was often held at night or on Saturdays to accommodate apprentices' work schedules. There were some variations in the timing and staffing of this instruction, however. Classes for apprentices at one community college ended earlier in the semester than for general academic offerings and, at another college, the teachers for related instruction were employees of the sponsor, rather than the college.

Course content was developed in several ways. Some courses were almost completely employer-developed while others were jointly developed by community colleges and employers. Some courses were noted to have been designed long ago and revised yearly or as necessary to meet national standards. Other courses were adopted or adapted from models offered at different institutions.

All of the institutions had a working relationship with the state level apprenticeship agency staff, but only one of the institutions stated that the One-Stop system facilitated their involvement with apprenticeship programs. There were two instances where a One-Stop Career Center was located on the college campus, but the college and the Center did not have any cooperative efforts. In one case, staff members had never met despite the co-location.

Community college administrators and staff discussed two problems associated with providing related classroom instruction: a shortage of qualified instructors and difficulties with recouping the costs of providing related instruction for apprenticeship.

Administrators noted that, in a number of colleges, tuition does not cover all the costs associated with providing such instruction, such as for equipment, lab supplies, or, in some cases, rental of lab space. They noted that colleges absorb these costs as

overhead rather than charge additional fees, since providing the courses is viewed as consistent with the colleges' commitment to the community. Costs issue also arose, the respondents said, because there were often too few apprentices to make a course financially viable. This problem could be addressed, in some instances at least, by adjusting class schedules to attract a larger student pool. Finally, the administrators and instructors felt there was much uncompensated time spent in doing the paperwork associated with offering related instruction.

College representatives also felt there was a shortage of skilled instructors who possessed both adequate occupational knowledge and good teaching skills. Attracting high quality instructors was difficult, with geographic distance identified as a problem in some instances.

Several respondents noted that without college staff personally dedicated to apprenticeship, the issues cited above might cause their institutions to discontinue their involvement with related instruction.

STATE APPRENTICESHIP AGENCIES

The evaluators observed a wide variation among the five SAAs in the level of staffing available to perform the tasks necessary to operate and oversee apprenticeship programs. All but one of the states appeared to be thinly staffed for the amount of work required. Staff in these states said they had little time to work on expanding apprenticeship with new employers, establishing networks, connecting with stakeholders and communicating promising practices primarily due to a lack of funding.

In the one state – North Carolina – with adequate staffing (made possible through extensive state funding) service quality to businesses appeared to be significantly higher.

By contrast, states without a significant investment of state revenues appeared to have limited time for extensive outreach efforts. For example, the State of New Hampshire had only one staff person for the entire state and there were only four for all of Iowa. Texas, a state large in both population and geographic distances, had only six apprenticeship staff for the entire state. State apprenticeship staff under such circumstances appeared to have relatively little time to develop new initiatives and to recruit new program sponsors.

DATA MAINTAINED BY SPONSORS

All sponsors kept records on the number of apprentices, completions, and completion rates and almost all had data on the number of apprentices who met licensing and certification requirements. Most sponsors had, or felt they could obtain, accurate figures on the direct costs of related instruction and management associated with their registered apprenticeship program.

Few sponsors had data on hand, or thought they could compute accurate figures, on production efficiency and output or the costs of non-productive apprentice or journey person's time. Thus when asked about costs, many sponsors stated that it would be difficult for them to estimate the overall costs to train an apprentice, taking in all factors, and that they did not develop such estimates.

EFFECTIVE PRACTICES

The evaluators found several programs and practices³ that appeared to be particularly effective. Three examples, with strong linkages and partnership elements, are described below:

³ Permission was granted to identify these programs and activities.

Collaboration among Institutions and Use of Pre-Apprenticeship: In Philadelphia, the Communities in Schools program developed a comprehensive information technology (IT) apprenticeship for inner-city high school students in collaboration with community-based organizations, training institutions, and other partners. The students were provided pre-apprentice training, worked with school IT staff, and then received related training and supportive services. The students' earnings in first year of the apprenticeship program were about \$23,000. When they finished the program, the apprentices typically obtained jobs with the school system or other employers with reported annual salaries around \$35,000. A special circumstance in the program was the school system's need for IT staff in its schools and its ability to offer immediate employment activities.

Expanded Outreach and Services to Business: In North Carolina, there were over 20 SAA staff who provided high-quality services to the business community. In addition to the administrative staff and ATRs, the SAA had two Job Profiling Specialists, who assisted in expanding and improving apprenticeship opportunities by defining requirements, job tasks, and skills for new apprenticeable occupations and customizing apprenticeship programs to meet individual employers' requirements. The SAA also conducted surveys with stakeholders to evaluate the SAA's performance and to specify what other services were needed. Staff followed up with actions based on survey responses. The SAA also maintained and analyzed highly detailed administrative records, developing new initiatives partly in response to that analysis.

Use of Consortia: In three of the states, consortia of similar manufacturing firms had been formed to operate an apprenticeship program for a number of businesses. These consortia-based registered apprenticeship programs differed from one another in many

ways, but each offered a cost-effective way for multiple employers to participate in apprenticeship. Each had an apprentice completion rate of at least 90 percent. Mentoring was provided more centrally in one program, where the administrator served as the mentor to all apprentices. In another, one of the larger employers of the consortium had a self-contained suite of classrooms and laboratories where all apprentices received their related training.

CONCLUSIONS

The site visits offered an anecdotal snapshot of the issues and concerns of stakeholders in the apprenticeship system. While the findings are only suggestive, several in particular are worth noting:

First, registered apprenticeship appeared to enjoy strong support from the current sponsors and apprentices interviewed. The sponsors expressed high levels of satisfaction with, and in some cases, enthusiasm for, registered apprenticeship. Most sponsors stated that they would strongly recommend registered apprenticeship to other employers. Apprentices too were satisfied, if not enthusiastic, about their apprenticeship experience, expressing appreciation for the opportunities it afforded them to develop a profession and earn a good income during and after their training period.

Second, there were few drawbacks and problems identified by current sponsors, but one problem cited was the difficulty in finding high-quality related instruction. Parallel to this, community college administrators also expressed concerns about finding high-quality instructors as well, and difficulties in recouping the costs associated with providing related instruction. Apprentices expressed concerns about the long duration of the training, relatively low pay in its initial stages, problems with mathematics in some

related instruction, and difficulties in meeting the demands of work, education, and family.

Third, as identified by sponsors, costs varied widely (from \$600 to \$52,000 per year) depending on the factors sponsors thought were important to include. However, costs were not identified as a problem by the sponsors interviewed. A handful of sponsors recommended direct Federal support or monetary incentives for operating apprenticeship programs, suggesting that reducing costs was seen as a way to spur the greater use of registered apprenticeship as a training method.

Fourth, coordination and linkage between registered apprenticeship and the One-Stop system appeared to be weak, as evidenced by the statements of almost all the One-Stop respondents and the very few instances of referrals or placements among the sponsors and apprentices interviewed. Promoting greater interaction by the One-Stop system, as in the recently issued DOL Training and Employment Guidance Letter No 2-2007, may help to get the two systems to work more closely together.

Fifth, many of the recommendations from sponsors for improving registered apprenticeship related to elements that exist within the current system, such as increased monitoring of program quality, increased publicity for the apprenticeship training, reduction in the paperwork, and more support from other programs in the workforce investment system. Similarly, some of the concerns expressed by apprentices, such as instances of poor quality of work assignments and poor supervision might be addressed by better monitoring of programs and offering additional training to companies. A few sponsors recommended more far-ranging changes, such as direct Federal support for apprenticeship and monetary incentives for operating apprenticeship programs.

Sixth, there were relatively low levels of staff in the SAAs visited, with the exception of one agency that enjoyed substantial state revenues. The low staff levels, and the many tasks currently required of staff, suggest that there would be constraints on substantially expanding registered apprenticeship or addressing the recommendations made by sponsors.

Seventh, a number of respondents lamented the current focus on college preparation in high schools, to the diminution and exclusion of vocational-technical education. Promoting apprenticeship, model programs, and the opportunities it offers young people might warrant further exploration.

Finally, in regard to future research examining costs, benefits, and return on investment, the data provided by sponsors would be a possible source of information on costs and completions, but not on quantifiable benefits. Efforts to collect information on the benefits of registered apprenticeship will thus have to rely on sources other than employers' administrative data. Also, employers' widely varying estimates of costs suggest that future research should utilize a precise and commonly applied method for identifying these costs.