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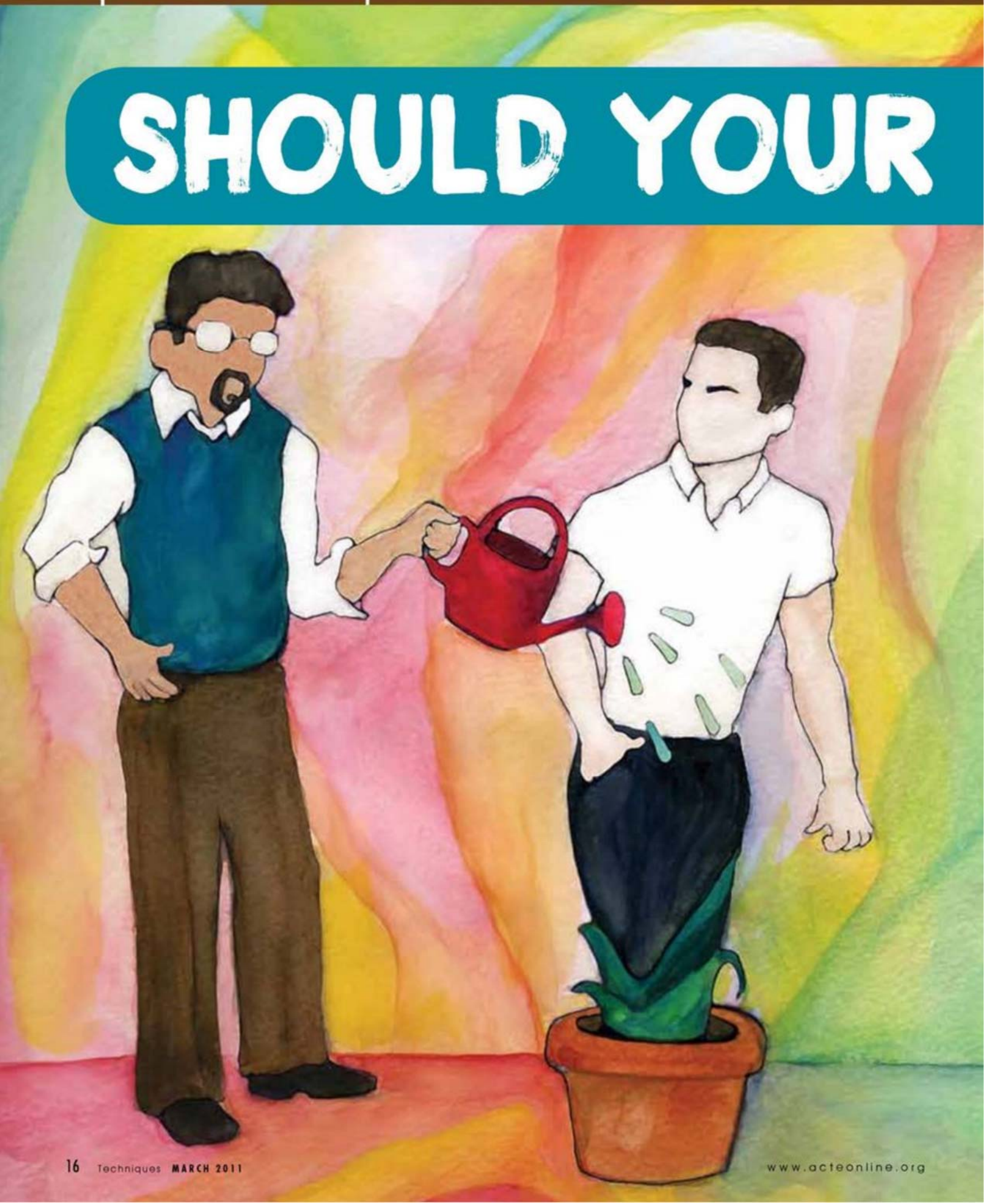

SCHOOL OFFER APPRENTICESHIP TRAINING?

BY MORGAN V. LEWIS AND JAMES R. STONE III

As America and the rest of the world struggle to regain robust economic growth, the importance of a well-educated workforce is receiving increased attention. In the United States, most of the emphasis is on moving young people to college in the belief that more education of any kind will lead to better labor market opportunity for young people. This focus on college ignores other pathways to success, such as apprenticeships. Apprenticeship is one of several approaches to work-based learning (WBL). Job shadowing is perhaps the most common approach to WBL with various forms of paid and unpaid internships, school-based enterprise, and cooperative education, as other alternatives.

Apprenticeships have all the features needed to prepare workers for occupations that require extended study to attain competence. Apprentices begin with relatively simple tasks and progress to those requiring more complex skills. Apprentices receive individualized instruction from workers who have demonstrated proficiency in what they teach. The procedures learned and equipment used are in the workplace, so there is no need to transfer what is learned in the classroom to what is done on the job. The work itself provides multiple opportunities to practice the skills being learned. Perhaps most inviting of all, apprentices are paid to learn.

A recent report from the Organization for Economic Cooperation and Development (OECD) titled *Learning for Jobs* shows that beyond smoothing the transition from school to the workplace, WBL offers a powerful tool for increasing transferrable soft skills critical to workplace success; these skills are largely ignored in more conventional school-based learning.[1] Studies of employers show that they strongly value soft skills like the ability to work in teams, communication skills, problem-solving, entrepreneurship and work discipline. But perhaps the most important value WBL provides is the opportunity to improve literacy and numeracy skills in a practical environment, an appealing alternative for those youth not inclined toward the more abstract pedagogies commonly used in school-based learning. Finally, and perhaps most germane to U.S. education debates,

ILLUSTRATION BY RACHEL EDWARDS

"But perhaps the most important value WBL provides is the opportunity to improve literacy and numeracy skills in a PRACTICAL ENVIRONMENT, an appealing alternative for those youth not inclined toward the more abstract pedagogies commonly used in school-based learning."

ILLUSTRATION BY RACHEL FLEMING

research by Bishop and Mane shows that countries in which high percentages of youth engage in intensive career and technical education (CTE) and WBL, like apprenticeships, have higher rates of school completion and participation in tertiary education than in nations like the United States in which such participation is low.[2]

Proponents of registered apprenticeship argue that the value of this kind of WBL comes from its formal and regulated structures. Apprentices sign formal contracts with their employers that spell out the terms of their agreements. These include skills to be learned, hours of on-the-job and classroom training to be provided, and pay increases to be received as the apprentices' skills improve. Information provided by the U. S. Department of Labor indicates that for the fiscal year ending September 30, 2009, the average starting wage for a registered apprentice was $13.99 per hour, and the average wage at completion was $25.82.[3]

The Office of Apprenticeship also reports that programs have been approved for more than 1,000 occupations.[4] Traditionally, the construction trades—such as carpentry, electrical, plumbing and masonry—enroll the largest number of apprentices, but opportunities are available in a wide variety of career areas, including information technology, health, hospitality, retail, environmental protection and transportation.

To qualify for registration, an apprenticeship program must require a minimum of 2,000 hours of on-the-job and classroom learning, and most require considerably more. The average apprenticeship is four years in length. The traditional contract indicates hours of training, with the most common being 2,000 on-the-job hours and 144 classroom hours per year. About 10 percent of programs have moved to a competency-based system that describes the skills an apprentice must demonstrate and the ways in which these skills will be measured. Some programs, referred to as "hybrid," specify the skills to be demonstrated and the minimum and maximum hours required to attain each competency. The minimum age to enter an apprenticeship is 16, with a minimum age of 18 for hazardous occupations.

Limited Usage

Despite the many advantages of apprenticeship, relatively few workers in the United States receive this type of training. Many reasons have been offered for why apprenticeship has never been widely adopted here. Some scholars have traced the low usage as far back as the American Revolution, an era in which cultural values emphasized equality and rejected relationships based on social status. Others have cited the appeal of the American frontier and the possibility of owning land rather than working for wages. More direct explanations have included the long periods of indenture required by apprenticeships, the difficulties of enforcing contracts, higher wages for factory work than those for paid apprentices, and the reluctance of employers to train young people who have not made a firm commitment to an occupation or who may take their skills to another employer.

At the present time, the main barrier to wider adoption of apprenticeship may be the many job changes that most young people make in their post-education years. During their initial years in the labor market, most workers change jobs several times as they seek the best match between their interests and abilities and the demands of different types of work. As they acquire more experience, their interests crystallize, their expectations adjust to the opportunities open to them, and they are less likely to change jobs. Although frequent job changes are part of the career development process, such changes cause employers to be reluctant to invest significantly in the training of young workers. This reluctance is reflected in the average age at which registered apprentices start their training—between 27 and 29.

Youth Apprenticeships

There have been attempts to make apprenticeship more appealing both to young people and employers. During the 1990s, there was considerable interest in youth apprenticeships like those promoted by Stephen Hamilton in his book, *Apprenticeship for Adulthood* (Free Press, 1990), and in the pilot program he and his wife, Mary Agnes Hamilton, helped start. During the four years the Hamiltons studied the program, it enrolled a total of 100 students. It continues now at the Broome-Tioga Counties BOCES (Board of Cooperative Educational Services) in New York with an average yearly enrollment of about 30 to 35.

As in the case of the program started by the Hamiltons, youth apprenticeships persist in some states but with relatively few participants. Wisconsin was an early leader in this area. The state established youth apprenticeships in 1991 with the passage of state legislation to promote school-to-work initiatives.[5] In 1994, when similar federal legislation was passed, Wisconsin had youth apprenticeships in nine occupational areas enrolling 348 students. By 1999, the number of occupations had increased to 21 and enrollment was at 1,522. By 2002, one additional occupation had been added and enrollment reached a peak of 3,393. Two years later, after federal funding ended and state funding declined, enrollment dropped to 2,230. In 2005, enrollment was 1,944. In 2007 and 2008, the state increased funding, but enrollment fell further to 1,791. To put this number in perspective, during the 2007-2008 school year, the state's total 11th- and 12th-grade enrollment was 144,887. The number of youth apprenticeships represented about 1.2 percent of this total.

Georgia is another state that began youth apprenticeships in the early 1990s and has continued to strongly support them. In its report for the 2008-2009 school year, Georgia enrolled 7,129 students in its youth apprenticeship program—3.5 percent of the total 11th- and 12th-grade enrollment.[6]

Although youth apprenticeships in the state enroll a low percentage of students, the employers who hire these apprentices are very satisfied with their performance. For the past six years, the Georgia Department of Education has surveyed employers and asked a series of questions designed to measure overall satisfaction with apprentices. Most of the employers who responded to the survey for the 2008-2009 school year, 91 percent or more, indicated that their apprentices perform at the level expected, have satisfactory communication, math, computer and problem-solving skills, and that their companies benefit from the program and would recommend it to others.

During the 1990s, the U.S. Department of Labor funded 15 youth apprenticeship demonstration projects and a four-year longitudinal evaluation of their implementation. The evaluators found wide variability in the amount of on-the-job learning across the sites.[7] Some consisted of only job shadowing, whereas others involved two full days of work per week. Only three of the 15 sites came near the goal of equally dividing the time in school-based learning and WBL. Barriers to more extensive involvement included child labor laws, aligning school and work learning, and scheduling and transportation for the time at school and at work.

Despite the variability in their worksite involvement, the participants in youth apprenticeships had positive attitudes about their experiences. They liked the project-based nature of their learning and the direct application of academic skills to real-world problems. They also saw the requirements for participation, such as a specified grade point average and few absences, as motivating them to work harder. Unfortunately, these features did not attract sufficient students to support the continuation of the demonstration projects.

Pre-Apprenticeships

Even during the 1990s, when youth apprenticeship received the most interest, some critics claimed that because the programs were not registered with state or federal offices that they should not be called "apprenticeships." That criticism has also been directed at programs labeled "pre-apprenticeships." Pre-apprenticeships attempt to prepare participants for entry into employment that has a structured training component or further education and training. They do not focus solely on preparation for registered apprenticeships, however, which leads to the charge they should not be called pre-apprenticeships.

In 2009, the Aspen Institute conducted a survey of pre-apprenticeship programs that prepared participants for the construction industry.[8] They identified 260 programs that met their criteria, of which 236 provided information for the survey. The responses reflected a wide variety of services often directed to population groups that are underrepresented in construction occupations (*e.g.*, females). Among the types of training most frequently provided were safety, math/measurement, hand and power tool identification and use, introduction to the construction industry and one or more of its trades, and blueprint reading. Only 2 percent of the organizations conducting pre-apprenticeship programs were local school districts; 18 percent were post-secondary institutions. Almost half (44 percent) of the programs were offered by community-based organizations.

The respondents to the Aspen survey were asked to estimate the percentage of participants that completed their programs and how many were placed in registered apprenticeships, other construction jobs, and further education. Most programs reported that half or more of their participants completed their programs, but relatively few were placed in registered apprenticeships. The majority of programs (59 percent) placed

20 percent or less, and an additional 22 percent placed between 21 percent and 50 percent. Placement rates were a little higher for construction-related jobs and further education.

Things to Consider

Apprenticeships have much to offer American youth and the American economy, but the results of past efforts to increase apprenticeships suggest that it is unlikely that high schools or community colleges could enroll large numbers. Apprenticeships can, however, provide a way to respond to labor market needs when there are too few opportunities for placement to warrant classroom-based training. The essential components, of course, are employers willing to enter into formal apprenticeship agreements with students. Employers who are willing to do so should be encouraged to register their programs with state or federal Offices of Apprenticeship.

Programs with only one apprentice can be registered. If employers are unwilling to register a program, the school or college should ensure the program meets the standards for apprenticeships that have been established by these offices.

An individual who is knowledgeable about apprenticeships should coordinate the recruitment of employers and the development of program contracts. Anyone assigned these responsibilities should work closely with the state or federal offices to ensure that standards are met and efforts are not duplicated. Of course, the students who are placed in apprenticeships should demonstrate aptitude to learn the skills to be studied and a commitment to the occupations. An extended period of job shadowing should be required of all students expressing interest in apprenticeships to ensure they have a good understanding of the nature of the occupations they are considering. Nothing will kill an apprenticeship initiative faster than employer dissatisfaction with the students who are placed.

A survey of sponsors of registered apprenticeships suggests that there is potential for increasing the number of employers willing to become involved. The survey conducted in 2007 by the Urban Institute found a high level of satisfaction among sponsors.[9] Almost all (97 percent) said they would recommend apprenticeship to other employers, and almost as many (86 percent) said they would strongly recommend it. Virtually the same percentage (83 percent) replied that a "very important" benefit was that it helped them meet the need for skilled workers.

When asked about the costs and drawbacks associated with apprenticeships, about half the sponsors reported dropout rates, and other employers who hire away (poach) apprentices who have completed their programs. The responses in both these categories were about evenly divided among sponsors who considered these to be major or minor problems. Managing their programs and paperwork requirements were cited as major problems by less than 10 percent of sponsors and as minor problems by 30 percent or less. Over half of these respondents (53 percent) had small programs with only one to four apprentices. Slightly less than one-third (30 percent) had five or more apprentices and one-sixth (17 percent) had no apprentices at the time they responded to the survey.

Although the attitudes held by sponsors of registered programs may not be the same as the average employer, the results of this survey, like those from the

employer surveys in Georgia, show that those who try apprenticeships like them. Apprenticeships can provide a way for educational institutions to meet the need for skilled workers and improve educational outcomes with no capital expenditure and minimal instructional costs. T

Endnotes

1 The OECD's "Learning for Jobs" report is available from **www.oecd.org/edu/learningforjobs**.

2 Bishop, J. H., and Mane, R. (2004). "The Impacts of Career-technical Education on High School Labor Market Success." *Economics of Education Review,* 23, 381-402.

3 Information on registered apprentices was provided by Michael Trupo, Office of Public Affairs, U.S. Department of Labor, in a personal communication dated September 22, 2010.

4 A full list of occupations for which apprentice programs have been approved is available from **www.iowaworkforce.org/apprenticeship/apprenticeableoccupations.pdf**.

5 The information presented here is summarized from a Wisconsin Department of Workforce Development Web site **www.dwd.state.wi.us/youthapprenticeship/history.htm**.

6 Information on Georgia's Youth Apprenticeship program was provided by Dwayne Hobbs, Career, Technical, and Agricultural Education, Georgia Department of Education, in a personal communication dated October 12, 2010.

7 Silverberg, M., Bergeron, J., Haimson, J., and Nagatoshi, C. (1996). "Facing the Challenge of Change: Experiences and Lessons of the School-to-Work/Youth Apprenticeship Demonstration" (Final Report). Princeton, N.J.: Mathematica Policy Research.

8 Aspen Institute. (2009). "Construction Pre-Apprenticeship Programs: Results from a National Survey". Washington, D.C.: Author.

9 The Urban Institute. (2009). "The Benefits and Challenges of Registered Apprenticeships: The Sponsors' Perspective." Washington, D.C.: Author.

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