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WORK-BASED LEARNING AND EDUCATION REFORM

**THOMAS R. BAILEY
KATHERINE L. HUGHES AND
DAVID THORNTON MOORE**

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*Work-Based Learning and Education
Reform*

**Thomas R. Bailey
Katherine L. Hughes
David Thornton Moore**

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This book has been 20 years in the making. David Moore was the first of the three of us to conduct research on this topic. From 1978 to 1981, with funding from the National Institute of Education, he studied high school interns in 25 workplaces. In that research he began to develop the theoretical framework that we have used in this book. We also used some of the examples that he described in that project in our own discussions about the issues around work-based learning. Margaret Tipper, the chief research assistant in the original study, not only kept that work going logistically but contributed important ideas about the curriculum of experience.

Tom Bailey and Kathy Hughes were inspired initially by Stephen Hamilton's influential book *Apprenticeship for Adulthood* (1990), which argued for the educational benefits of the German apprenticeship system, including the work-based component, and offered a possible model for education reform in the U.S. But reading that book raised three questions: First, would it be possible to recruit enough employers to provide internships for a large enough number of students to make work-based learning a significant educational strategy? Second, what was the theoretical basis of the claimed educational benefits of work-based learning? And third, even though educators had much to say about pedagogy in the classroom, there was no developed on-the-job pedagogy. This book addresses those issues.

Our research went through many stages before its culmination. We began with a small project on apprenticeships for the Manpower Demonstration Research Corporation (MDRC). Rob Ivry provided important help on that project. We also explored the problem of employer recruitment in a conference organized by Tom Bailey for the Brookings Institute and funded by the German Marshall Fund. Henry Aaron of Brookings and Jeff King, then of the Fund, were both helpful in bringing that conference about. Margaret Vickers, David Stern, Robert Poczik, and Paul Osterman contributed papers for that conference and many of their insights influenced our thinking. In 1995 the National Center for Research in Vocational Education (NCRVE) funded a survey of employers participating in internship programs and a sample of comparison nonparticipating employers.

That research was the basis for [Chapter 4](#). During the course of that work, we had extensive conversations with David Stern and Cathy Stasz. The reader will see that we also made liberal use of conclusions and examples from Stasz's published research on work-based learning.

Also in 1995, the Institute on Education and the Economy received a grant from the Pew Charitable Trusts to continue our research through case studies of programs that included internships and through the observation and shadowing of interns on the job. This was the largest and most important grant among all of the sources of funds for this project. The data collected from these case studies and particularly the observations of interns form the foundation of the empirical work presented in [Chapters 5–10](#) in this book and the basis for our most important contributions. Michael Timpane, President of Teachers College at the time, was helpful in securing the grant. Robert Schwartz, then at Pew, helped get the project started and Janet Kroll, also at Pew, worked with us later during the grant. Both made valuable substantive inputs. In 1997, we received a grant from the DeWitt Wallace-Reader's Digest Fund to do some supplemental analysis of the hypothesis that internships reinforce academic learning, which is the subject of [Chapter 5](#) of this book. Our program officer there, Peter Kleinbard, provided important advice and support for our work on that topic.

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CHAPTER 1

Work-Based Learning and Education Reform

During the 1990s, the United States economy enjoyed an unprecedented period of growth and low unemployment. Although the economy began to cool off at the turn of the century, even during the height of the boom, large sections of the nation's educational system remained in deep trouble. Increasingly, young people without some post-secondary education could not expect to earn enough money to support a family; yet large numbers of people still failed to finish high school, and another third who earned their school degree did not acquire any additional education (U.S. Department of Education, 2000a). Moreover, many high school graduates did not have high school level skills—hundreds of thousands of students entering post-secondary schools had to take remedial instruction to prepare them for college-level work (U.S. Department of Education, 1999). Beyond these well-known problems, researchers found that most high school students were not engaged in their schooling and made an effort only so that they could get into college (Johnson, Farkas, & Bers, 1997). Learning was often far down their list of priorities. Yet almost all students who finish high school can gain access to some post-secondary institution. Therefore, many students do not see strong incentives for working hard in high school (Rosenbaum, 1997).

As these problems persisted throughout the 1990s, reformers increasingly called for higher expectations and more stringent standards for high school graduation and even promotion from grade to grade. High school students' participation in occupationally specific courses dropped 14 percent between 1982 and 1994 (U.S. Department of Education, 2000b). On average, high school students earned 4.7 vocational credits in 1982; by 1994, that number had dropped to 4.0. At the same time, however, academic course-taking increased by 23 percent. In some states, examinations that had previously been taken only by the minority of students headed for four-year colleges were made the standard for high school graduation. Increasingly, the success of elementary and secondary education systems was judged on the basis of the performance of their students on tests of academic achievement and on traditional measures such as college-going rates.

The emphasis on high standards leaves open the question of what approach educators will use to achieve those standards. Perhaps the most common response has been to stress and often require all students to take the types of academic courses traditionally used to prepare students for college. Although these are effective for many students, they fail to engage and motivate others. Moreover, even students who successfully negotiate the academic curriculum are often coasting.

Over the last 15 years, some education reformers have argued that integrating experiences outside of the school with classroom learning is an effective approach to engaging students in their studies and helping to prepare them for education and work after high school (Hamilton, 1990; Jobs for the Future, 1994). Often these experiences involve work in private-and public-sector organizations. Reformers make a variety of claims about the educational benefits of this type of work-based learning, and in many cases these have struck a responsive chord.

Dressed in a clean shirt and tie, a young man named José sat at a desk in the first-floor housekeeping office of a nondescript hotel near a busy airport. As a summer intern from a travel and tourism academy in a big city, his job this morning was to answer phone calls from guests and staff, figure out what needed to be done, and delegate the work to the appropriate person. Room attendants called to report that they had finished cleaning rooms, and he entered the information into a computer. Guests notified him that they needed towels, or soap, or a repairman; he sent someone out. At 9:20, the phone rang and he answered: “Good morning, housekeeping, this is José.” Hanging up, he wrote a note on a pad just as the housekeeping assistant manager, Ruth, walked in and told him that the rooms on the 14th floor were checked out. He told her that an attendant on that floor wanted her to call back. The phone rang again: “Good morning, housekeeping, this is José...okay.” He informed Ruth that Room 929 wanted matches; she told him they don’t stock matches, and called the bell captain to see if he had any. Another guest called to ask whether they had special equipment for the disabled. Ruth said yes and instructed him to get the room number; he did, and said, “Someone will be there shortly.” The phone rang again, José answered, and informed the assistant manager that the guest who wanted matches was “getting a little hostile.” José bummed some matches from a visitor, and Ruth sent a houseman up to the room to deliver them.... As the morning wore on, José kept answering the phones, handling the room attendant reports, and updating the duty list.

This book explores the potential for using work-based learning as part of a broad education reform strategy. It is our contention that work-based learning, if it is

done well, can play an important role in strengthening the educational preparation of many young people. Although students can learn job-specific skills in internships or apprenticeships, these types of experiences can have broader academic and developmental benefits as well. Thus work-based learning can be a productive part of a secondary school education designed explicitly to prepare students for college.

Most adults realize the importance of learning outside of school. Much of what makes them effective, they learned on the job or in the community. And during the last decade, many education reformers have argued that learning in the workplace should be a much more significant part of the country's basic education system. One of the major educational initiatives of the Clinton administration envisioned a system of internships or other types of work-based learning for a greater number of high school students. Yet despite enthusiasm for the notion of work-based learning, reformers have had difficulty convincing teachers and parents that acquiring experiences in the workplace is an optimal use of educational resources and of students' time. As reformers in the 1990s worked on increasing the number of internships, they often found that it was easier to find employers willing to take interns than to find interns willing to fill those slots (Hughes, 1998).

Ironically, during the 1990s work-based learning was seen as an integral part of a new and innovative educational strategy, even though internships and apprenticeships have been around for centuries. Moreover, at the same time that some educators and parents see work-based learning as a serious threat to good education, it is accepted as a fundamental aspect of graduate training. And post-graduate education in the U.S. is considered the best in the world. Professionals with no experience (i.e., who have had no work-based learning), regardless of the perceived quality of their education, are not considered skilled workers (Bailey & Merritt, 1997). Indeed, professional education is moving to incorporate more formal work-based learning and more authentic experience earlier in the period of training. Medical training programs are now getting their students into clinical settings earlier and even law schools are questioning the wisdom of the traditional training that gives students no concrete idea about what they will be doing as lawyers. In any case, law students have traditionally understood the importance of summer internships in which they could actually get some experience.

Despite this increased commitment to work-based learning for higher levels of education, work-based learning at the secondary school level has remained a marginal academic strategy. Even vocational education, a program that would seem to be most likely to involve work-based learning, is primarily classroom-based. To be sure, several hundred thousand students every year enroll in cooperative education programs in which they earn credit for work supervised by their schools, but these students are, for the most part, headed directly to work

after high school. Thus cooperative education is often associated with traditional vocational instruction for the “non-college bound.” Formal apprenticeships also enroll a few hundred thousand students a year and there is a general perception that apprenticeships, especially in construction, produce highly skilled and effective workers. But these apprentices are often in their mid–20s and many are high school graduates. For the most part, formal apprenticeships are not part of a secondary-level education.

One could argue that in cooperative education, apprenticeships, and professional training, work-based learning is, in effect, a transition strategy for young people who have already chosen their occupational direction. Once someone has chosen to be a doctor or a carpenter, then it makes sense that they should get experience in the actual activities of their chosen profession—that they should be inducted into the “community of practice” associated with that profession (to use a term that has become popular in current discussions of education and learning on the job). The underlying (and usually unarticulated) logic of the current structure of secondary school education is that during the period of study before the young person has chosen a career goal, or at least in the early stages of preparation, students are better served by concentrating primarily on learning academic skills using school-based pedagogy.

Increasingly in the United States, secondary schools must prepare all students to enter at least a two-year college. Young people with no more than a high school degree have very restricted occupational options. Therefore, high school is no longer a place to prepare directly for work. If work-based learning is considered primarily a strategy to prepare students for imminent work, then it would seem to have at most a marginal role in high school. To some extent, an analogous situation is taking place in community colleges in which increasingly programs are expected to at least hold open the door to transfer to a four-year school, even for students who enter the program explicitly aiming at a two-year terminal degree (Morest, forthcoming).

Thus the controversy arises, not so much over the wisdom of work-based learning in the abstract, but rather over when it should take place within the overall trajectory of a young person’s education. Most educators agree that work-based learning can be useful as a last educational step before a young person starts work in a particular occupation. But as the 1990s progressed, work-based learning advocates increasingly argued that the approach was not only a means of transition to work once an occupational direction had been chosen, but rather a strategy for exploring career possibilities and gaining the underlying foundation of knowledge and skills needed by everyone to prepare for adulthood.

Maureen, an intern from a rural New England high school, worked as an assistant to the music teacher in a nearby central school. One morning, Maureen consulted with Mr. P, a substitute teacher, on the agenda for the

day in his 5th- and 7th-grade class. Mr. P told Maureen what activities the regular teacher had planned, and asked her some questions about the normal classroom practices. She answered him with confidence. The class got underway a bit late, and the kids were a little restless. Maureen went to the side of the room and flicked the lights several times, getting the kids' attention. After taking attendance, the teacher informed the class that they would be doing practice and assessment exercises that day. He looked at Maureen to see how they should keep track of the students, and she told him they could write the kids' names on the board. Mr. P and Maureen then grabbed a pile of assessment forms and handed them out to students. For the next 35 minutes, they worked individually with students, watching them play songs of their choice and evaluating them on hand position, notes, rhythm, and tempo. At one point, Maureen knelt to a student's level and asked if he wanted to play a duet; he didn't know what that meant, and she explained, then played a short song with him. The boy smiled broadly. Maureen walked over to a girl who seemed to be struggling a bit with the rhythm and tempo of the music. She meticulously went over the notes with her, demonstrating the beat by clapping and explaining the rhythm. When another pupil played a selection correctly, Maureen smiled and said, "You did very well! You learned a lot today."

This book is about work-based learning as a basic educational strategy, especially for secondary school students (and to some extent for those in community colleges). We have five broad goals.

The first is to clarify questions surrounding work-based learning and to encourage practitioners, policymakers, and researchers to identify their views and objectives. There has been some controversy about work-based learning, based on a lack of clarity about its purposes. For example, if work-based learning can improve academic skills, then which academic skills are involved? Can work-based learning replace academic classes? If so, how many and which ones? Or should work-based learning be primarily about career exploration, or about general youth development? Advocates have not been clear about exactly what they expect to achieve with work-based learning, exactly what it is *for*, thus leaving skeptics and others confused.

Second, we want to make the arguments much more systematic and concrete. When work-based learning advocates have identified objectives, they have generally been vague about why they believed that the strategy would achieve those objectives. For example, what type of program design might deliver academic skills as opposed to career exploration? What specific experiences can improve academic skills? Unless those mechanisms are specified, it will be difficult to understand whether work-based learning is effective and to figure out what characteristics lead to effectiveness.

Third, we want to begin to subject the various claims about the benefits of work-based learning to more systematic theoretical and empirical scrutiny. We do this both by reviewing the theoretical and conceptual discussions of the topic, and also by examining work-based learning programs themselves and the experiences of dozens of young people participating in these programs.

Fourth, the book strives to develop a better understanding of what we call work-related pedagogy. This effort will be built on our understanding of the mechanisms through which learning takes place both on the job and in the classroom. We will provide some guidelines that can help program operators find or design high-quality work-based learning experiences, and then enhance students' learning from those experiences back in school.

Fifth, we also want to focus attention on the cost side of work-based learning. One unique aspect of work-based learning is that it incorporates the workplace into the core educational system. Even if in principle this is a good idea, it requires the cooperation of the employers. We want to understand the extent to which difficulties with recruiting employers will stand in the way of a broad-based, work-based learning system.

What Is Work-Based Learning?

Learning takes place in every workplace, as one saw from the earlier vignettes. This learning can be narrow and employer-specific, or general and applicable to many situations. Our focus is on work-based learning as a specific educational strategy for high school students. The goal of this strategy is to enhance the traditional objectives of schooling—teaching academic skills, preparing students for citizenship and work, and helping them to develop into mature and responsible members of society. Work-based learning comes in many forms.

Full-scale apprenticeships are the most ambitious. Much of the thinking about youth apprenticeship in the U.S. is based on knowledge about the German system, in which two- to four-year apprenticeships start at about age 16, and combine work and classroom instruction that is closely coordinated with the activities on the job (Hamilton, 1989). The U.S. does have about half a million registered apprentices, and the system enjoys a positive reputation, but these are usually older students, often high school graduates. As a result, the system is not looked to as a component of secondary school education reform.

Internships are usually a much less ambitious and much less well-defined form of work-based learning. Typically, students spend from a few weeks to many months in a position that may be paid or unpaid. The learning intensity and the links to school curricula vary widely. In some cases, positions are chosen to match the in-school curriculum; in some cases, the links are made through a seminar in school in which students discuss their experiences on the job; and in other cases, there is very little connection between the internship and schooling.

Cooperative education placements, which involve several hundred thousand high school students, are a form of internship. Traditionally these have been for students in vocational education programs designed to place them in employment immediately after high school. Co-op programs have been the foundation of many of the recent work-based learning initiatives, with program operators trying to broaden their educational objectives (Urquiola et al., 1997).

A variety of other forms of experienced-based learning are also common and indeed have been popular for many years. These include service-learning; volunteer work; 4-H and other agricultural-oriented programs, such as Future Farmers of America; and a variety of clubs and extracurricular activities such as Vocational Industrial Clubs of America. Although these programs have loyal and enthusiastic supporters, for the most part they have not been incorporated into the work-based, learning-oriented, education-reform initiatives of the last 15 years. One exception to this may be service-learning. Schools are increasingly promoting community service to students and linking it to classroom activities, in the belief that such experiences can improve student education and personal development (Eyler & Giles, 1999; Kleiner & Chapman, 2000).

In the basement of a major urban hospital, the physical therapy clinic occupied a large, open room lined with parallel bars, wheelchairs, and faux staircases. One Wednesday morning, Rob, a student in a medical careers academy, got out the equipment that would be needed for several patients waiting near the door. A therapist, B, finished getting an elderly man started, then joined Rob in helping a female patient walk up and down the hall using a walker. After one pass she took a break, and Rob went over to the bulletin board to arrange name labels on a chart that tracked the appointments and arrivals of the patients. B and Rob went back to the woman patient, who complained that she needed oxygen; they hooked her up to a tank and walked her up and down the hall again. D, the PT manager, instructed a therapist on the care plan for each patient, and Rob helped him out. He walked behind a frail patient as T, another therapist, guided her through the parallel bars, ready to catch her if she should fall. D directed B and Rob to walk a particular patient 50 feet and then come back; she explained that there were distance markers on the ceiling. An elderly woman also waiting in the exit line announced that she had to go to the bathroom; she repeated the statement, but no staff responded. Rob went over and said he was sorry that transport was slow in picking her up—but he did not take her, believing it was not his place. Later, he admitted feeling uncomfortable about the woman's situation and the staff's lack of response.

According to a 1992 national survey of public secondary schools, almost 20 percent of such schools sponsor at least one school-based enterprise, another form of work-based learning (Stern, 1992). In school-based enterprises, groups of students, under the supervision of a teacher or adult adviser, organize and staff businesses or services within the school itself. (See Stern et al, 1994, for a book-length discussion of SBEs.) They may run a school store, provide printing and duplicating services, or make and sell garments. One advantage of a school-based enterprise is that the activities are under the complete control of the school itself. At the same time, there may be only limited scope for these activities and schools are often reluctant to compete with local businesses. Virtual enterprises eliminate the problem of competition with real businesses. There are currently over 50 virtual enterprises in the New York City high schools that buy and sell virtual products from one other.

The least ambitious and the easiest to implement form of work-based learning involves student visits to workplaces, though this category of activity also varies in intensity. In individual job shadowing, students follow and observe workers over a period of hours or even days. At its best, this gives young people a chance to learn what is involved with a particular job and to talk to experienced workers. Important mentoring relationships can also develop out of job shadowing. Group tours of workplaces are the most easily arranged form of student visits, yet they can only give students a superficial understanding of the nature of the work and requirements for the jobs.

Finally, in addition to school-based enterprise, educators have used a variety of strategies to simulate some of the characteristics of the work-place. An emphasis on open-ended group projects is one of the most common. Such projects can simulate features of work such as working with others, taking responsibility, and developing approaches to solving problems when there is no "correct" answer and when there are a variety of alternative strategies.

Therefore, what is referred to as work-based learning by education reformers is, in fact, a continuum of activities that vary along several dimensions. One important dimension concerns the control that the school has over the experience. The school has most control over project-based learning or school-based enterprise whereas it has least control over paid internships. Another dimension, which is related to the extent of control, concerns the difficulty of setting up a work-related experience. It is easier to set up a group visit to a workplace than to organize a two-year sequenced apprenticeship. Other important dimensions are the extent to which the experience is actually involved with the employer's production process; the investment of time for the student; the potential conflict or connection with school-based studies; the intensity and nature of the learning that takes place in the experience; the nature of the relationships that the student forms with other adults at the worksite; and the extent to which the placement provides the student with a realistic experience of what she would encounter if

she were employed in these positions. In many cases, these different dimensions conflict with each other. For example, programs over which the school has most control and that are easiest to set up are less likely to provide the most realistic experience. In some jobs a realistic experience may not provide much of an opportunity to learn or reinforce academic skills being taught in school. And a more intense work-based experience is likely to create a greater potential conflict with time spent in the classroom or on homework. Thus program designers need to have a clear idea of exactly what they are trying to achieve when they organize a work-based learning program.

Even though much of what we have to say in this book is relevant to many of the types of work-based learning, we focus primarily on paid or unpaid internships, including cooperative education placements, that last from a few weeks to several months. We do not focus on the more ambitious and longer-term apprenticeships, as these are so difficult to organize and present such a potential for conflict with school-based learning that they are not a realistic option for broad-based education reform in the United States (Bailey, 1993). Project-based learning is a central component of a constructivist educational strategy and there is extensive literature on this approach (Thomas, 2000). There is already a major study of school-based enterprise (Stern et al., 1994). Worksite visits and job shadowing may have important benefits, but they are also easier to carry out; therefore the costs and benefits do not have to be weighed as carefully. On the other hand, organizing high-quality internships does take staff time and resources and requires the development of extensive relationships with employers. And internships potentially take time away from classroom instruction and homework. Given these costs and conflicts, reformers need to develop a clearer sense of what they hope to and what they can achieve from internships and similar forms of work-based learning. This is the objective around which this book is organized.

Work-Based Learning and Teenage Employment

National data show that nearly two-thirds of high school seniors work for pay (U.S. Department of Education, 2000c). What if anything distinguishes such work from the internships that are the subject of this book and what can we learn from the experiences of those students about the potential costs and benefits of work-based learning?

There is abundant, somewhat conflicting literature on the benefits and costs of working while in high school (see Mortimer & Finch, 1986; Shoenhals, Tienda, & Schneider, 1998; Stasz & Brewer, 1998; Stone & Mortimer, 1998). Some researchers have found a negative relationship between the number of hours worked during the school year and both high school and post-secondary school attainment measures (Marsh, 1991). Unfortunately, this research is not able to fully sort out the direction of causality—for example, whether students with

lower GPAs tend to work more hours or whether the work lowers the grades. The observed effects may be spurious because they do not take into account pre-existing differences between students who work and those who do not (Shoenhals et al., 1998). In any case, few internships require long hours during weeks when school is open. And working during the summer, when many schools schedule internships, is not associated with the same negative effects (Marsh, 1991).

One consensus of the research seems to be that the nature and characteristics of the jobs do have an influence. Part-time work can be a very formative experience as employment represents a new social role for an adolescent. Thus the influence of a particular job on a youth likely depends on whether the experience is a good or bad one (cf. Stern & Briggs, 1999). One study finds that “the quality of the work (i.e., its stressful or rewarding character) is a more important determinant of adolescent psychological functioning than either work status or its intensity” (Finch et al., 1991, p. 606). Mortimer and Yamoor (1987) point out that the opportunity for self-direction in a work setting can have positive consequences for a worker’s self-concept and interest in work.

These results do suggest some clear implications for the design of internships. Moreover, there has been some research that compares the characteristics of internships and of regular jobs that students find without the supervision of the school. This research finds that the negative relationship between hours worked and grade point average is less strong for high school students in co-op placements than students in nonschool-supervised jobs (Stern et al., 1997).

In addition, surveys of 1998 seniors who were attending schools participating in school-to-work partnerships¹ found that the workplace opportunities offered through the schools had important advantages over

the workplace activities students reported finding on their own. School-developed positions tended to be in a wider range of industries, and tended to more closely match students’ career goals. Students with school-arranged paid jobs were more likely than other students to spend at least half their time in training on the job. The former type of students were also more likely to report discussing possible careers with adults at their workplace, and were more likely to receive a performance evaluation from school or employer staff. Students who had obtained positions through school more often reported using academic or technical skills learned in school at the workplace, and were more likely to draw on their work experience in school assignments or discussions, thus experiencing more substantive connections between their studies and work experience.

¹ These data are from the Mathematica Policy Research national study of the implementation of the School-to-Work Opportunities Act. See [Chapter 3](#) for more details. See also Stern et al, 1990.

Several researchers have observed that youth perceive school and the workplace as conflicting, not complementary, and argue that more efforts should be made to integrate the two (Marsh, 1991; Stern & Briggs, 1999). Stern and Briggs suggest a stronger connection between school and work so that the two might reinforce rather than undermine each other (p. 1).

Policy and Legislation for Work-Based Learning

Work-based learning has had a long but varied history in the development of education in the United States over the last century. In 1917 the Smith-Hughes Act was passed, formalizing federal support for vocational education. Many educators supported this legislation at the time, as it was seen as a means both of meeting employers' need for skilled factory labor and of keeping working-class and immigrant youth in school because they would see its usefulness in preparing for specific jobs. However, other educators, such as John Dewey, spoke out against it, arguing that it would create a tracking system that would isolate and stigmatize immigrant and lower-class youth (Lazerson & Grubb, 1974). Thus, Dewey and others opposed vocational education as it was developed following the Smith-Hughes Act, although much of what Dewey wrote can be interpreted as being favorable to work-based learning. Indeed, the association of work-based learning with popular images of vocational education has often been the source of confusion and controversy regarding the educational value of work-based learning.

Work-based learning, primarily in the form of cooperative education and apprenticeships, remained a vital, but marginal component of American education during the middle 50 years of the century. Throughout these decades, work-based learning, as it was practiced, continued to be seen as a capstone educational experience designed to help students make the transition from school into the occupations in which they intended to work as adults. By the last quarter of the century, educators began to set broader goals for work-based learning. The influential report of the Coleman commission (1974) blamed schooling, in isolating young people from adults and from productive work, for actually retarding youth's transition to adulthood. The report called for placing young people into work situations earlier, to bring about "social maturity." Thus Coleman saw work as a tool for social development. Presumably, work would provide a valuable educational experience, even if the work took place in an occupation not related to the eventual employment. In his influential 1990 book, *Apprenticeship for Adulthood*, Stephen Hamilton further developed the notion that work-based learning had broader social and psychological benefits.

The 1990 reauthorization of the Perkins Vocational and Applied Technology Education Act (VATEA) emphasized academic as well as vocational skills, thus breaking down the divide between the two, in mandating their integration in

secondary schooling. Although the implementation of the Act occurred primarily in traditional vocational terms, much of the discussion that accompanied the Act emphasized the potential to use occupational education as a vehicle to teach academic skills. Secondary vocational educators began to emphasize that many of their students went on to college. Indeed, Tech Prep, an important component of the VATEA, called for explicit articulation between high school and post-secondary occupational programs. Thus vocational education was experiencing a transformation from an emphasis on education *for* occupations to education *through* occupations, to use Dewey's phrase. This change was signaled by the 1995 publication of a two-volume collection of essays edited by Norton Grubb titled *Education Through Occupations*. These essays were based on research done over the previous 10 years by the National Center for Research in Vocational Education (NCRVE), which was funded by the U.S. Department of Education. The notion that vocational education could serve broad academic and developmental ends had moved into mainstream educational discourse, even if it had not reached mainstream education practice.

Yet the 1990 reauthorization of the Perkins Act did not particularly emphasize work-based learning. Work-based learning was much more prominent in the 1994 School-to-Work Opportunities Act (STWOA). This legislation emphasized many of the themes of Perkins—integration of academic and vocational education and Tech Prep, for example. Although the Act was associated in the public's mind with vocational education, the authors clearly saw it as a broader educational strategy in which pedagogies traditionally associated with vocational education and occupational themes would be used for general educational goals. Work-based learning played a central role. For example, the legislation supported “a planned program of job training and work experiences” (U.S. 103d Congress, 1994, Section 103) that would be coordinated with career awareness activities and academics in the classroom. A stated purpose was “to encourage the development and implementation of programs that will *require* paid highquality, work-based learning experiences” (U.S. 103d Congress, Section 3, emphasis added).

In its origins in the 1980s, many advocates of the school-to-work strategy saw educational approaches with a strong work-based learning component as particularly important for students not headed for college. School-to-work was designed to help the “non-college bound” get good jobs after high school or perhaps after a year or two of post-secondary school. But during the 1990s, this rationale shifted. School-to-work became a strategy appropriate for “all” students, as the Department of Education said, as it is good preparation for career *and* college. From this perspective, work-based learning is not seen as primarily a capstone educational experience to help students move from school to work, but rather it is a foundation experience also meant to prepare students for additional education.

What accounted for the growth of interest in work-based learning and its subsequent transformation to a comprehensive educational strategy with broad academic and even psychological and developmental goals? After all, work-based learning had existed for decades in secondary schools and was an accepted part of graduate training. Even the education-*through*-occupations notion had been articulated by Dewey as early as 1917. Moreover, influential education reforms advocated by *A Nation at Risk* (National Commission on Excellence in Education, 1983) emphasized an increase in traditional academic courses for high school students, which would seem to suggest a de-emphasis on work-based learning.

Three trends accounted for the growing emphasis on work-based learning during the late 1980s and early 1990s. Two involved developments in research on learning and pedagogy—the growing popularity of “constructivist” pedagogy, and developments in cognitive psychology that emphasized the effectiveness of “learning in context.” The third trend concerned the apparent economic strength during the 1980s of Germany and Japan relative to the United States.

Advocates of constructivism are critical of a pedagogic approach that involves the straightforward presentation of material by a teacher or expert to the student. In a constructivist approach, as we will explain in detail in [Chapter 2](#), students are expected to be guided by their teacher in such a way that they “construct” their own knowledge. This is closer to the type of learning characteristic of apprenticeships, as opposed to the classroom lecture, and this at least opened the door for a more favorable view of work-based learning. Nevertheless, most advocates of constructivism visualize it as taking place in schools and indeed are often suspicious of education that seems to cater too much to the needs of the workplace, which presumably work-based learning does. Thus school-to-work advocates, while making use of constructivist theories and research, have never formed a strong alliance with the reform networks based on constructivist notions.

In the 1980s and 1990s, cognitive psychologists argued that students learned most effectively if they were taught skills in the context in which they would use those skills. This research (which we also review more fully later) draws attention to the importance of context and social interaction in learning. Learning that does not occur in contexts of interaction and is not practiced in different domains turns out to be “brittle” or to not “transfer” very well from one context to the next (Anderson, Reder, & Simon, 1996; Brown, Kane, & Long, 1989; Lave, 1988). Work-based learning advocates generally invoke contextual learning as a justification for their approach; indeed the school-to-work legislation stated that “many learn better and retain more when the students learn in context, rather than in the abstract” (U.S. 103d Congress, Title VIII, Section 2).

Thus, theories about constructivism and contextual learning created an environment favorable to work-based learning. Relative international economic trends seemed to provide evidence that education systems that emphasized work-based learning and that had strong ties to employers and the workplace were more effective at least at preparing the workforce. The School-to-Work Opportunities Act in particular was motivated by anxiety over the economic position of the United States with respect to other industrialized countries—especially Japan and Germany, the two countries that seemed at the time to be challenging U.S. economic predominance. Although the Japanese and German education systems had significant differences, both placed a great deal more emphasis on learning on the job and on close relationships between employers and schools. The economic performance of these countries and the stronger performance of their students, especially on math and science tests, seemed to suggest that the U.S. might benefit educationally and economically by strengthening the connections between school and work and by making better use of the workplace in the education of young people (Commission on the Skills of the American Workforce, 1990; Dertouzos et al., 1989). Moreover, these countries seemed to do particularly well at preparing their middle-level workforce—those workers who had graduated from secondary school and perhaps had some post-secondary education but did not have bachelor's degrees. Given this history, it is not surprising that the influence of the German apprenticeship system is clearly evident in the STWOA.

But seen from the beginning of the twenty-first century, much has changed in the circumstances that led up to the initial passage of the STWOA. Clearly the economic motivations that pushed the initial interest in emulating the German system have died down. The performance of neither the German nor the Japanese economies created compelling arguments to emulate their education systems. Indeed, European educational systems that have traditionally relied heavily on work-based learning were at least slowly moving away from those strategies (Vickers, 1995).

Thus the growth of interest in work-based learning grew out of a particular conjunction of pedagogic and economic developments. But the situation changed. Clearly the economic context has moved against the advocates of work-based learning. The pedagogic arguments still seem relevant, although it is fair to say that their application to work-based learning has been somewhat superficial. Most reports or policy statements that call for work-based learning invoke these pedagogic strategies without a systematic analysis of how and under what circumstance they might apply.

Employer Participation in Work-Based Learning

Whatever the pedagogic benefit of work-based learning, it will not spread if employers are not willing to provide internships and other work placements. Germany, like other European countries where work-based learning is widespread, has a culture of employer participation in education and workforce development. Some analysts have been skeptical that employer participation would be adequate for a widespread system of internships in the United States (Bailey, 1995; Osterman, 1995; Stern, 1995). Indeed, earlier drafts of the 1994 School-to-Work Opportunities Act had a larger role for employers and these were scaled back partly due to skepticism about employer participation. Although programs often use the schools themselves as work placements, assigning students to jobs in administrative offices or to help out in classrooms, in-school placements do not provide a sufficient basis for a broad program. Eventually, many employers will have to be willing to work closely with educators and to provide places for young people to work and learn. Yet employers have rather weak incentives for participation.

The question of employer participation needs to be addressed for two important reasons. First, recruiting employers may take a great deal of effort and resources, so at some point the cost of those required resources may outweigh the benefits the program may bring to the students. That is, the teachers and staff who work with the employers and monitor workplaces might spend their time more productively in developing in-school activities. Second, the willingness of employers to participate will influence the quality of the work-based learning experiences. Assuming that the educationally optimal work-based learning experience does not occur naturally, then employers would be called on to change their behavior in order to ensure quality experiences. But if they only participate reluctantly, educators will not be in a position to ask that they make the effort to create higher-quality experiences.

Outline of the Book

This book proceeds through several sections in order to describe and analyze the current state of the art in work-based learning. Following this chapter's review of the history of work-based learning and its place in the policymaking around school reform, we use [Chapter 2](#) to establish the theoretical and empirical basis for the rest of the book. In the first section of the chapter we describe the four claims made by advocates about the benefits of work-based learning: that it reinforces and improves academic learning by participants; that it enhances students' work-related skills and their understanding of careers; that it advances their social and emotional development toward effective adulthood; and that it engages them in new modes of thought seldom found in schools. We then lay out a brief

description of the learning theory on which our test of those claims is based. This step is important to our argument about work-based learning: Whether or to what extent each claim is warranted must be decided upon based on observations of actual students in actual programs. Grounded in a combination of ideas from pragmatism, symbolic interactionism, constructivist psychology, activity theory, and the notion of situated cognition, this theory argues that if you want to claim that a person is learning certain kinds of knowledge and skill, you must be able to *see* that person engaging that form of knowledge in situated practices in some setting—whether in a workplace or a school classroom.

This theoretical foundation provides the rationale for our research methodology, which we describe in the final stage of [Chapter 2](#). Using a form of ethnographic inquiry, we observed 25 students in their internship sites and schools, interviewed them and their work supervisors and instructors, and collected artifacts from those settings. This method goes well beyond the questionnaires and other measures used in many other studies.

[Chapter 3](#) starts by defining the extent of work-based learning nationwide and examining the characteristics of student participants in the strategy. Some of the material in the chapter is based on general sources, but much of the information comes from student surveys conducted to assess progress in achieving the objectives of the School-to-Work Opportunities Act. Although work-based learning certainly predates the legislation, the Act was a well-financed, high-profile, national effort to promote work-based learning, so an analysis of the spread of the approach through the Act can give a good indication of its potential. The central conclusion of the chapter is that the form of work-based learning that grew most in the years following the passage of the Act was short-term job shadowing rather than more intensive activities such as internships. In addition, based on students' own descriptions of the internships and jobs that they obtained through their schools, there appears to have been little improvement in the educational quality of these experiences over the life of the legislation. Thus, despite the emphasis the Act placed on intensive work-based learning activities, schools did not succeed in either expanding the range or enhancing the quality of these activities substantially.

In [Chapter 4](#), we begin to address the causes of that limit by exploring the participation of employers in providing work-based learning. This chapter is based on fieldwork in 12 different programs that emphasize work-based learning, as well as a telephone survey of 334 employers providing internships to 5 of the 12 programs. We also surveyed 323 nonparticipating employers located in the same labor markets as the participating employers. Our central conclusion is that employer participation is not the primary factor thwarting the growth of work-based learning. First, we were surprised to find that in the cities that we surveyed, already about one-quarter of the employers had provided or were providing some type of internship. Moreover, program operators did not see