

CHAPTER 2

REVIEW OF THE LITERATURE

The literature review is organized into categories that include contextual learning, work-based learning, school-to-work transition programs, and cooperative education. Review of the literature in each of these categories contributes to the understanding of the study purpose.

Contextual Learning

During the last decade, many educational researchers have become convinced that learning in context is more effective than traditional ways of learning, such as through lectures and textbooks. Contextual learning takes on several forms, among which are applied learning, vocational/academic integration, and work-based learning. Cognitive psychologists maintain that an active, experiential instructional approach must be used in school-to-work transition programs, and recent research emphasizes the power of context to motivate effective learning.

Karweit (1993, p.7) declared the essence of the concept of contextual learning as follows:

The traditional view of learning as abstract and generalizable is challenged by a new view of cognition as situated and specific. Rather than seeing knowing as something that is true for all time and all places, knowledge is seen to be dependent upon and embedded in the contexts and activity in which it takes place. Schools, by abstracting learning from use in an attempt to promote generalization, create unusable or inaccessible knowledge.

In comparing learning in and outside of school, Resnik (1987), the leading theorist of contextualized education, identified four ways in which she thinks schools do not provide learning environments that will help students to transition to the workplace.

First, school-based learning is individually arranged, while in workplace settings shared learning takes place. Second, schools emphasize unaided thought, without extensive tools and materials, while situations outside of school encourage the use of available tools. Third, schools emphasize abstract concepts and symbol manipulation, while real life usually requires reasoning connected to actual events and objects. Finally, schools try to teach general skills and theoretical principles, while outside of school, people usually need situationally specific, relevant knowledge.

Resnik and other advocates of the contextualized learning approach cited examples of individuals who can perform fairly complex mathematical calculations to solve real-life problems but cannot solve the same problems in the abstract. For example, child street vendors in Brazil used creative mathematical approaches to resolve problems in their sales but could not solve the same problems using abstract theorems and a pencil-and-paper approach. Along the same lines, construction workers outperformed eighth-grade students in solving scale problems on architect's drawings. The construction workers relied on their experience in using the drawings, while the students relied on the algorithms they had been taught.

Contextualized learning's enthusiasts' critiques of traditional education have generated proposals for "cognitive apprenticeships" in which students gain experience and understanding by working on projects under the mentorships of experts. In Karweit's (1993, p. 7) terms, "the process of gaining experience in apprenticeships is one of observation, coaching, and practice guided by experts as the apprentice learns particular skills." The student learns through "successive approximation of mature practice," and "learns generality by [the] observation and experience of particulars."

While these are intriguing and intuitively appealing theories, is there systematic evidence that they work? Do students learn better in contextual education than in traditional education? Empirical research suggests that they do.

Education researchers at Vanderbilt University have conducted experiments to test the effectiveness of a method called “anchored instruction.” This instructional approach uses videodiscs to engage students in stories and simulated situations, which serve as “anchors” for learning. That is, they provide the context within which students can observe and learn from situations and identify and solve problems. In repeated experiments, students using the videodiscs outperformed control students in writing assignments, knowledge tests, and reasoning problems. Students taught through the anchored instruction method also had more positive attitudes toward math. At-risk students, in particular, seemed to benefit most from the anchored instruction approach (National Assessment of Vocational Education, 1994).

Karweit (1993) discussed a second type of contextualized learning, called “functional context education,” that was developed for use in military training. The first formal use of the functional context training model was the Army’s 20-week course on radio repair. This course began by addressing specific issues, questions, and problems in radio repair and then moved to general theory. Only the theory needed to make a particular repair was taught. To avoid overwhelming trainees, the extent of information to be conveyed in training was reduced and tailored to the content needed and the time available. In random-assignment experiments, functional context trainees far outperformed control groups in hands-on performance tests such as troubleshooting, use of equipment, and repair skills, although they did no better on paper-and-pencil multiple choice tests. These experiments revealed that the functional context training method reduced training time, reduced training attrition rates, and improved the performance of

trainees. The military has made extensive use of functional context training in the 30 years since these first experiments were conducted.

In general, experimental evidence exists that use of contextualized learning is more effective than traditional instruction for most learners. The experiments on anchored learning took place in traditional classrooms and tended to be “academic,” involving the manipulation of symbols, reading, writing, and taking tests. Teaching strategies such as role plays and simulations are examples of anchored learning that provide students with actual workplace situations from which they can identify and solve problems. The Army’s functional context approach comes closer to “hands-on” education. However, this approach involves teaching and learning highly task-specific skills through the transfer of a very limited body of knowledge. Thus, contextualized education has shown to be empirically more effective than traditional academic education in learning both academic and (in the military) occupational skills.

Hull and Parnell (1991) maintained that educators have failed to match the goals of schools with the real-life needs of individuals in today’s society. They felt that educators often depict learners as empty containers into which knowledge may be poured; when in fact, learning actually occurs when the learner constructs and solves real-life problems. They further noted that education has become “disconnected from real life, real work, and real citizenship . . . the ideal context for learning” (p. 14). Thus, when classroom learning becomes detached from meaningful context, learning is reduced to a process of memorizing isolated facts. Therefore, students need to have educational experiences that enables them to see the connectedness of school-based learning to real life experiences.

In a 1992 SCANS Report for America 2000 (Learning a Living), the SCANS Commission concluded that learning in order “to know” should not be separated from

learning in order “to do.” They argued that the two should be combined by teaching “in context.” They cited examples of contextual learning where students learn and apply knowledge in real-life situations. Examples included student participation in work-based projects, internships, job shadowing, and mentor programs. This commission cited two school districts, one in Indiana and one in Texas, offering contextual learning activities to students. Their findings indicated that SAT scores increased 46 points and the dropout rate has decreased significantly as a result of contextual based curriculum. These school districts are examining instructional strategies to ensure that contextual learning is encouraged around the SCANS (1991) foundational skills and competencies.

At the core of this study is the importance of contextual learning. Contextual learning forms the base to determine the linkages between students’ school-based learning and work-based performance and between students’ work-based experiences and school-based performance.

Work-Based Learning

As defined by the School-to-Work Opportunities Act (1994), a school-to-work program must include a school-based learning component, a work-based learning component, and a connecting-activities component. The work-based learning component must include: (a) work experience opportunities for students; (b) job training and work experiences coordinated with learning in school-based programs that are relevant to students’ career major choices, and lead to the award of skill certificates; (c) workplace mentoring; (d) instruction and activities in general work place competencies, including positive work attitudes, employability, and practical skills; and (e) broad instruction, to the extent practicable, in all aspects of the industry (The National School-to-Work Office, 1997).

Hoerner (1995, p. 23) defined work-based learning as "the knowledge/learning imparted to every student from the beginning of schooling that maintains a theme or focus that people work in order to live and that there is a positive 'connectedness' between the schooling process and living productive lives." He stated that this definition must be emphasized throughout the schooling process by every educator, parent, and adult. Hoerner further noted that learning must be broader than just work as adults have many roles other than working to make a living--parenting, citizenship, partnerships and the like. He said, "if you can't make a living, you can't be successful at these other adult roles" (p. 24).

A 1993 study by Raymond, McNabb, and Matthaai examined the skills that both employers and students feel are important and the teaching methods they perceived as the most effective in helping students learn and develop these identified skills. The purpose of the study was to clarify what both employers and students perceived as the most important skills and abilities for entry level positions. Additionally, employers identified what they felt to be the major strengths and weaknesses of business school graduates. The objective of the research was to help prepare business students for the workplace by identifying the opinions of employers that recruit for entry-level positions. Three universities were used in the study: a medium-sized private university in the Northwest, a large private school in the Northeast, and a large state university in the Southeast. The study involved 196 business students, with the majority of the students having a marketing concentration. The 87 employers represented in the study were from manufacturing and service firms in these three areas and were primarily directors or managers who recruited for entry-level positions. The study consisted of self-administered questionnaires given to both students and employers. As part of the study, respondents were asked to rank order various teaching methods in terms of effectiveness for obtaining desired skills.

The study revealed that internships, such as those provided students in cooperative education, and projects providing a “real-world” experience can “help students learn to think and solve problems and develop their communication skills” (p. 202). Further, work experience helps students understand the importance of dependability and initiative. Internships also provide a learning opportunity for students to sharpen their communication and interpersonal skills, which are needed for negotiating, working with clients, and working in teams. Additionally, internships expose students to ethical issues and global dimensions. “Hands-on” learning experiences combined with academic skills that students learn in the classroom help to provide business students with a competitive advantage.

In another study, Perry (1989) found that business professionals surveyed by two midwestern schools think internships are a key part of the academic experience because they provide practical experience and they make students think. In addition to the experience gained from internships, employers want team players, innovators, and risk takers. Also, they want new employees to have an awareness of the external factors affecting business. In his study of employers, educators, and researchers, Rankin (1991) also found that students need to learn how to solve problems and to think. Several studies have been completed to determine what employers require of students entering the workplace and/or what students perceive are desired characteristics for employees (Boatwright & Stamps, 1988; Gaedeke & Tootelian, 1989; Kelley & Gaedeke, 1990).

Boatwright and Stamps (1988) used conjoint analysis to determine employers’ importance ratings of desired skills for different types of jobs. For entry-level sales jobs, the most important attributes identified were leadership and self-starter skills; for managerial and retail jobs, communication skills were considered most important; and for accounting and computer positions, academic skills were identified as most important.

Gaedeke and Tootelian (1989) discovered that employers and students have different perceptions regarding the importance of desirable employee attributes. In their study, employers ranked the top five attributes as (a) enthusiasm/motivation, (b) interpersonal skills, (c) initiative, (d) oral communication skills, and (e) maturity. Students ranked oral communication skills, enthusiasm/motivation, self-confidence, ambition, and entrepreneurship as the top five attributes, respectively. The employers also cited written business communication skills and work experience as reasons for choosing employees.

Kelly and Gaedeke (1990) found that both students and employers agree that criteria related to personality, communication, and technical skills are the most important employee attributes. Employers in their study mentioned communication skills, interpersonal skills, and enthusiasm as important for employees. while poor communication skills and unrealistic expectations were identified as the major weaknesses of business graduates.

The Office of Vocational and Adult Education (1991) reported that employers were concerned about the shortage of workers for the new workplace and were increasing their investment in partnerships with local schools. These partnerships were opening up more jobs for students, with supportive supervision, so that students could understand and learn to meet the expectations for high performance. Some business/school partnerships were also producing major changes in the curriculum the school offered.

Work-based learning is an integral part of cooperative education programs. This study examines how the internships provided through cooperative education programs

help students to make the “connection” between their academic experiences and their workplace experiences.

Connecting Activities

The School-to-Work Opportunities Act (1994) describes not only school-based learning, and work-based learning, but also connecting activities. These activities, as listed in the Act, are: (a) matching students with work-based learning opportunities of employers; (b) school-site mentors to act as liaisons among school, employer, and community partners; (c) technical assistance to small- and medium-sized firms and other parties; (d) assistance to schools and employers in integrating school-based and work-based learning; (e) encouraging active participation of employers in cooperation with local education officials; (f) assistance to participants in finding jobs, continuing their education, or entering additional training and linking them with other community services to assure a successful transition; (g) collecting and analyzing post-program outcomes or participants; and (h) linking youth development activities in this Act with other employer and industry strategies (School-to-Work Opportunities Act, 1994).

School-to-Work Transition Programs

Businesses and schools have developed working relationships since the late 1800s, and these relationships have formalized into partnerships since the late 1970s. However, the conditions in the United States in the early 1980s--the education crisis in public schools, the low skill level of entry-level workers, and the demands of the evolving economy--accelerated the development of these partnerships (Lankard, 1995). Lankard further reported that between 1983-84 and 1987-88, the number of business/education partnerships rose from 42,200 to 140,800. As they expanded in number, these partnerships also expanded in dimension, from simple one-to-one agreements to complex

multiagency collaborative arrangements. This expansion of partners and agents has resulted in an expansion of benefits for all of the partners embracing the partnership goals.

School-to-work transition is an inclusive phrase used to include cooperative education, tech prep, youth apprenticeship, career academies, and other school-based enterprises ("Why students need," 1994). School-to-work transition programs serve students from varied backgrounds and diverse circumstances. Hudelson (1994, p. 18) stated "School-to-work programs assist students in making the transition from school to a good first job and a high skill, high wage career track." School-to-work partnerships established between schools and employers assist students in preparing for high quality jobs requiring technical skills or further education and training.

Researchers of the Manpower Demonstration Research Corporation (MDRC) studied sixteen U. S. school programs that link high school and work experience in significant ways. They maintained that "simply getting students out of the classroom and into a workplace does not guarantee that they will learn anything significant and transferable. In fact, ill-designed workplace experiences, like ill-designed and poorly delivered classroom instruction, can damage and demotivate students." Based on their field research, these researchers developed ten elements of quality worksite learning (Goldberger, S., Kazis, R., & O'Flanagan, M. K., 1994, p. 35).

The elements begin with the partnership goals, discuss the structure and content of the workplace experiences, how workplace experiences are reinforced in the classroom, and conclude with discussions of the academic, social, and administrative support systems that can make a difference between success and a program that fails to reach its potential. The ten elements include: (a) Partners formally agree on the goals of the work-

based program and how to achieve them. (b) Student learning at the workplace progresses according to a structured plan. (c) Work-based experiences promote the development of broad, transferable skills. (d) School-based activities help students distill and deepen lessons of work experience. (e) Student learning at the workplace is documented and assessed. (f) The program prepares students to enter the workplace. (g) Students receive ongoing support and counseling. (h) The program provides orientation, training, and ongoing support to worksite and school staff. (i) Administrative structures are established to coordinate and manage the worksite component. (j) Mechanisms exist to assure the quality of students' work-based learning experiences. (Goldberger, S., Kazis, R., & O'Flanagan, M. K., 1994, p. 36).

The MDRC study also emphasized the importance of providing each student with worksite orientation to build a direct relationship of responsibility and obligation between the student and the employer. This orientation serves to emphasize that students have a role and function in the workplace. Orientation training includes how to listen and take directions, observe safety precautions, ask questions and seek help, act in a professional manner, and handle interpersonal conflicts. This preparation can be provided by the school in classroom instruction, workshops, and mini-courses and should be supplemented by visits to the workplace to address the connection between the students' upcoming work-based experience and their educational and career plans (Goldberger, S., Kazis, R., & O'Flanagan, M. K., 1994).

School-to-work initiatives are committed to broadening career opportunities for students by encouraging stronger partnerships between employers, schools, postsecondary institutions, and communities. These partnerships create educational programs that link schooling and work by providing contextual or situated learning opportunities for students to apply theory to practice. Collaborative efforts must exist

between the school and the workplace if students are to be provided academic and other skills valued by the workplace. Thus, this study examined the perceptions of students, teachers, and employers to determine how school links with work and how workplace experiences can be transferred to school-based learning.

Cooperative Education

According to the *National Assessment of Vocational Education: Interim Report to Congress* (1994) cooperative education is the most commonly available option for work-based learning in the United States, and is offered in about half of all secondary schools. The General Accounting Office (GAO) reported in 1990 that 4% of students in grades eleven and twelve participated in cooperative education programs. The GAO further reported that most programs have admission standards that require students enrolled in cooperative education to maintain an average GPA (at least 2.0 in most programs), good attendance, and a positive attitude, and to demonstrate a lack of disciplinary problems.

Schools take the lead role in maintaining these programs, enlisting local employers to “cooperate.” Individual schools incorporate cooperative education as part of their vocational education programs, and students hold part-time jobs during the school year in their field of vocational specialization. The job placements are normally arranged by the classroom vocational instructor or by the school’s teacher-coordinator of vocational education (National Assessment of Vocational Education, 1994). A training plan that clearly states what the student is expected to learn and what the employer is expected to provide is developed. The student’s supervisor on the job evaluates performance in terms of the training objectives, and this evaluation becomes part of the student’s grade in the cooperative education class. The classroom instructor has some released time to visit

students' job sites and monitor the situation. Cooperation thus involves job supervisors taking on some of the responsibility of instructors, and vice-versa. Cooperative education is intended to create a close connection in students' minds between the job and the classroom. Business and marketing programs are currently the largest sponsors of cooperative education (Office of Vocational and Adult Education, 1991).

The empirical evidence suggests that cooperative education does contribute to clarification of career goals, self-confidence, awareness of interpersonal relationships, and increased motivation. General impressions are almost always positive; however, Stern et al. (1990) suggested that while research does find that students enrolled in cooperative education are relatively satisfied with school, there is not consistent evidence that they learn more, become more productive, or find better jobs. Stern and his associates maintained that methodological problems with the evaluations may mask stronger positive outcomes from cooperative education participation. They concluded that even though positive economic outcomes are not shown, there is some indication that students who participate in cooperative education are finding higher quality jobs than high school students find on their own. This group of researchers argued that cooperative education placements provide students with positions of greater responsibility, better supervision, mentoring, and more opportunities to learn complex skills. Using data from one western state, Stevens (1993) also found that students with cooperative education job placements who remained with the same employer after leaving school experienced higher earnings than students not enrolled in cooperative education who also remained with the same employers.

In general, cooperative education offers potential advantages to students, employers, and schools. Students gain access to meaningful jobs where they can acquire skills and knowledge that are relevant to their possible careers (Stone, et al., 1990).

Employers gain access to a relatively reliable and well-motivated group of students, whose performance on the job is also be monitored by the school. For the school, cooperative education instruction offers a real-world work setting where students can see the relevance of what they are studying. Hoerner (1995) contends that if properly implemented, cooperative education provides greater meaning to students' classroom learning, thus, leading to a more motivated student.

While the research suggests that cooperative education does contribute to clarification of career goals, self-confidence, awareness of interpersonal relationships, and increased motivation, this study specifically examines the perceptions of students, teachers, and workplace supervisors to determine if each of these individuals sees a connection between school-based and work-based learning. Additionally, input was sought regarding other school-based learning activities that might be provided for students in their cooperative education experiences that would help them transition to the workplace.

Summary

A review of relevant literature was presented in this chapter. The review indicates that researchers have found that most students learn by doing and they learn more effectively when they understand the skills and knowledge they are developing are essential to accomplishing meaningful tasks. Empirical evidence reveals that contextualized learning experiences are more effective than traditional instruction according to experimental evidence.

The literature review further reveals that the past decade has seen a renewed interest, at both secondary and post-secondary levels, in work experience programs as a means to ease the transition from school to work of youth who will not pursue four-year

baccalaureate degrees. The School-to-Work Opportunities Act (1994) describes school-based learning, work-based learning, and connecting activities that should be provided by schools involved in school-to-work transition programs. The literature reveals that just providing students with a work experience is not enough. There must be a bridge between school and work by which students are provided workplace experiences that are structured to promote and reinforce school-based learning.

This chapter presented outcomes of studies that examined the skills that both employers and students felt were important for employees. These studies revealed that employers value oral and written communication skills, interpersonal skills, initiative, and basic academic skills. Additional support for that “hands-on” work experiences combined with contextual learning of academic skills provide students with a competitive edge in the workplace. For high school students, a variety of work experience programs, including co-op, apprenticeships, school-based enterprises, job shadowing, and mentoring, are available. These programs give students the opportunity to use skills acquired in the classroom in a workplace setting. This study examines situated learning experiences of students enrolled in cooperative education programs and how these experiences provide linkages between school-based and work-based learning as perceived by cooperative education business or marketing students, their teachers, and their workplace supervisors. Methods used to address the purpose of this study are presented in Chapter 3.