TRANSITIONS: UNDERSTANDING ECONOMIC AND WORKPLACE CHANGES AT THE END OF THE CENTURY

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In a Wall Street Journal interview, Michael Hammer and James Champy, authors of Re-Engineering the Corporation (1993), addressed the apparent contradiction in the value of individual performance to the organization performance will serve as the measure by which one will be judged and rewarded, yet good performance will not guarantee a job. Hard work and loyalty will be worth little as organizations continually seek those they need for tomorrow based on tomorrow's skills (Lancaster, January 17, 1995). High school and college students can no longer assume that simply graduating from school will make a career. They will find few secure jobs with lifetime tenure; this type of position will only be available to a small segment of the workforce. This dramatic shift in the organization and structure of the workplace presents a challenge to educational institutions who are being asked to prepare students for a more fluid and demanding workplace.

To answer the question, "How to combine effectively education and workplace readiness?," educators, politicians, and career professionals first must gain some sense of the sweeping changes taking place throughout society: changes that are altering the fundamental contracts between employee and employer we have accepted for the past half century. This section reviews several economic and societal forces influencing work. The discussion continues by connecting the inevitable consequences with responses being formulated in different nations throughout the world.

Change

Melvin Anshen, nearly twenty five years ago, anticipated that the "accelerating dynamics of technology, markets, information systems, and social expectations of business performance" would challenge the status quo, requiring organizations to redesign and redefine the work that they do (Anshen, 1969, p. 159). The last decade has been witness to a rapid shift in the status quo; four triggers behind this shift have been a restructured workplace, technology, societal values, and fragmentation (the diversifying and

increasing complexity of society). While other factors have also contributed to the redefinition of work, this paper will address the restructured workplace, societal values, and fragmentation as major change factors with implications for educational programs designed for future employees.

Economic Restructuring

The transformation of the world's economic structure and the way that work has been configured has swept across the globe, affecting work unlike any other event in over a century. From the early twentieth century manufacturing processes, epitomized by the assembly line, emerged as a hierarchical system of career progression, epitomized in the increasing layers of organizational management. Unit relationships were built upon linear arrangements with decisions and power funneled to the top like a pyramid. Job arrangements mimicked this pattern with titles that corresponded to positions on the corporate ladder from entry level to the CEO. These linear hierarchical arrangements have been swept away and replaced by very different organizational systems. While only a small percentage of both private and public economic actors, including educational institutions, have undertaken the transformation of their organizations, organizations will continue to evolve into flexible entities to respond to these economic dynamics: (1) provision of the highest quality service or product; (2) demand for variety; (3) customization to fit the individual; (4) convenience (any time/any place); and (5) speed (just in time).

The system that has replaced the traditional structure can best be described as a web of interconnected units (see Reich, 1991). Like a spider's web, the center, a tightly spun core, symbolizes the location of those individuals who have a need for a problem to be solved or a product to be developed. The web fans out connecting nodes that are the repository for the expertise required by the core. As needs for the core arise, signals through the web draw together the necessary expertise to address the issue. Once solved, the experts return to their home units (nodes). The spider web is essentially without a defined boundary as filaments can extend externally outside the formal structure of the organization. Webs easily take on global dimensions, further emphasizing the boundary lessness of these new economic organizations. Complexity enters this illustration through: (1) the linkage of single nodes to multiple webs and (2) the fact that, like spider's who regularly re-spin their webs, organizational webs are being constantly re-spun. The result is a kaleidoscope of swirling shapes: a colorful, often chaotic, array of organizational alignments. No longer is the organization a static entity, locked into a rigid structure; the web implies an on-going organizational evolution.

This same transformation has occurred in the workplace, redefining the arrangements by which work is being done. Job titles no longer symbolize someone's place in the organization nor denote the primary functions a worker performs. The introduction of team-centered work units (which pull together employees based on their skills and ability to process and create knowledge) has meant that positions have also become boundary less. With less emphasis being placed on tenure and loyalty, workers now are expected to provide creativity and problem-solving capabilities without the assurance of job security.

Arriving at this point has been traumatic for many employees. Initial workplace reform efforts through downsizing or restructuring had little to do with the transformation of work. Rather, employees at all levels were terminated essentially to reduce labor costs, since benefits such as health care have rapidly increased in cost over the past two decades. Units were spun to the outer edges of webs as independent units, removing large amounts of overhead from the central core. The result has been a significant reduction in the number of workers an organization utilizes: in the United States, Fortune 500 companies employee count dropped from 17% to under 10% of employed workers during the 1980's and continues to decline (Reich, 1991; Wegmann, Chapman and Johnson, 1989). Little attention, until now, has been give to redesigning work processes. Organizations are now realizing the benefits of redesigning how work is done. These new processes will have a tremendous impact in shaping the worker of the next century.

A premium will be placed on education. While some observers couch education in the traditional sense of obtaining a four year college degree and beyond, an education mentally grounded in simply obtaining skills and degrees is short sighted. The new economy will be closely linked to education, more specifically learning. Skills learned in school (at all levels) will quickly obsolesce in a technical workplace. Without an appreciation for learning as a skill, workers will soon find themselves skilless in a very demanding environment.

To sustain an organization whose major function has become the creation and transformation of knowledge through product development or service delivery, the organization needs to evolve into "a learning organization" whereby new and expansive patterns are permitted, allowing employees to learn individually and collectively (continually learning how to learn). The learning organization as defined by Garvin (1993) is "skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights (p. 80)." Learning com-

munities embrace five critical dimensions: (1) systematic problem-solving; (2) experimentation and creativity; (3) learning from own experiences and history; (4) examination of best practices of others; and (5) ability to transfer knowledge for understanding throughout the organization (Garvin, 1993).

Learning organization theorists are posting principles, methods, and approaches for creating learning organizations (Senge, 1990; Hammer and Champy, 1993; Chawla and Renesch, 1995; Conner, 1992, Senge, Roberts, et al., 1994). Five components are required to build a learning organization (Senge, 1990):

- Systems thinking: the utilization and creation of knowledge and tools that provide a conceptual framework that embodies entire processes.
- Personal mastery: being able, through a commitment to learning, to clarify and strengthen a personal vision, focus energy, and view one's environment objectively.
- Mental models: active images of how the world works and road maps to courses of action.
- Shared vision: a picture of what the organization wishes to create.
- Team learning: thinking together to create the results that organizational members require.

For those constructing a learning organization, three obstacles must be overcome according to Kofman and Senge (1993): fragmentation, competition, and reactiveness. In mechanical processes, each step of production is isolated and can be corrected without generally affecting the other steps. Learning organizations can not be sustained in a fragmented condition as the interactions between groups creates learning. Thus, a system which places "walls" between members develops mental models that "point fingers" at other departments. Departmentalization also fosters competition; striving to win interjects reactive behaviors in attempts to out-do other units. These tendencies distract from the organization's ability to learn.

Universities have not readily adapted or restructured their organizations to meet the needs of their consumers (future workers). Universities tend to be mechanical and resistant to change; they function in a passive, reactive fashion; fail to acknowledge differences; and lack the leadership recognized as an essential component for effective change (Kofman and Senge, 1993; Pew Higher Education Roundtable, 1994; Graff, 1995). As Graff (1995) points out, educational institutions perpetuate the very characteristics that Kofman and Senge contend undermine a learning organi-

zation. Fragmentation is embraced through specialization of the curriculum, leading to a heavy emphasis on professional expertise which is reinforced by the rewards system and a primary focus on individual parts. Students move through the institution collecting snippets of facts and skills and depositing them in their trusty bucket; little effort is made at integrating these skills/information to understand their interactions.

Competition follows not only over scarce monetary resources but externally with other programs for coveted rankings and internally in games of "one-upmanship" and tenure. Competition jeopardizes the opportunity to interject cooperation as a balance. Kofman and Senge (1993) also suggest that competition "makes looking good more important than being good (p. 9)" and the "way to succeed [is] to focus on the teacher's questions rather than [one's] own. (p. 10)." Students, as Graff (1995) recognized, quickly adopt strategies that "psych out the teacher" in order to get a good grade (the short term result); the result too often finds the best students (GPA) to be the poorest learners (long term results). In the face of academic competition, students are afraid to fail or to participate actively to avoid any situation that would make them appear foolish. To learn, however, individuals need to realize there are things that are not known and tasks they may not be good at. Still, in the face of ambiguity, they must persist with confidence.

Reactiveness builds upon competition and fragmentation by channeling an individual's energy toward external forces. In other words, people spend most of their time problem-solving. Consider the basic activities that engage students' time: solving problems given by teachers, perusing assigned readings, and writing required papers (Kofman and Senge, 1993). These activities fit the norm and expectations of the educational experience. However, they are the antithesis of real learning which is internally driven through an individual's own questions. This heavy a focus on problem-solving shifts learners away from creating new ideas and solutions and slows the process of change. Educational institutions continue to place more emphasis on producing problem-solvers than developing creative learners.

The shift to a knowledge driven economy raises questions as to higher education's responsiveness to new demands in teaching and training. Parsley (1991) points to the challenge for universities to confront fundamental issues in education in order to address current changes in labor markets. His recommendations are blunt, "be flexible and offer the adult worker the flexibility to pursue degrees without having to relocate to the site of the university or quit their employment (p. 51)." In other words, can

universities provide a program that meets these demands: (1) high quality at a reasonable cost; (2) variety that meets workplace competency needs; (3) customized fitof an individual learner (not necessarily a degree); (4) convenient (courses offered any time/any place); and (5) just in time (when learner needs it).

The Entrepreneurial Worker

Workers will not find the historical pattern of jobs within their organizations. As a project ends and their skills are no longer needed, employees will have to scan their web(s) to identify a new position that can utilize their skills. The challenge becomes one of navigating the web as the cost of staying in one's position becomes too high. To pursue a successful career, an employee will need to adopt an entrepreneurial agenda. Tom Peters has extolled "the entrepreneurizing of every job" by inculcating entrepreneurism throughout the organization (Peters, 1994, p. 65). Don Valentine, a venture capitalist from California confides to Peters that the new technology based economy "thrives best when individuals are left alone to the different, creative, and disobedient (Peters, 1994, p. 55)."

What does entrepreneurism mean for the typical employee? For most employees it means developing a complimentary set of competencies to their technical abilities; competencies that will allow them to deal with change and ambiguity. In the broadest sense, entrepreneurs can be described as mildly insane individuals with the ability to try novel approaches in chaotic situations, knowing the entire time that solutions will be found (Winslow, 1989). A list of characteristics would likely include (Winslow and Solomon, 1993; Herzberg, 1989; Baumol, 1983):

- Flexible: Adjust to unpredictable situations
- Plan well
- Creative: "Developing alternative solutions to unexpected consequences" (Winslow and Solomon, p.79)
- Unconventional
- Able to deal with ambiguity
- Risk taking
- Innovative
- Imaginative (activities are not routine)

Winslow and Solomon (1993) summarize the entrepreneurial experience as involving "exercises of imagination, departure from standard practices, acuteness of perception that permits the rapid recognition of new opportunities and the use of innovative means to take advantage of them (p. 81)." The downside of entrepreneurism is the uncertainty of what the

consequences of this behavior will be. In the old workplace, hard work and adherence to the organizational culture led to promotions and higher salaries; in other words, the consequences were known. Today, employees work hard but are not comfortable with the situation because the future is not clearly spelled out.

While Peters revels in the excitement surrounding the potential of the entrepreneurial worker, William Bridges cautions that the entrepreneurial world can be full of difficulties (Bridges, 1994). Arrangements for a flexible, individualistic labor force will be built upon contingent and temporary work; it will not be based on the long-term employment guarantees that many employees now enjoy. Simply, work will be organized in a series of projects with no guarantee that the next project will require the current mix of skills. A worker needs to anticipate the skills required in the next project which may mean developing new skill clusters to augment current skills. Otherwise, the worker will have to seek out a new employer that has need of the skills the worker currently possesses. Short periods of unemployment will become necessary and common in order for individuals to continue their navigation of the web. The psychological adjustment required in these shifts will elevate the stress among workers until they better understand the newly evolving economic arrangements (labor and work).

Technology

An organization's ability to transform and compete globally has come through the advancement and application of technology, particularly the revolution brought about by the computerized workplace. Society has been wowed by silicon chips that provide ever increasing memory and phenomenal speed as computers have shifted from massive machines to tiny lap-tops from tapes to CD ROM storage devices. These rapid technological advances and promises of future innovations have led to the assumption that technological advancements have caused the dramatic changes in workplace organizations.

Actually technology may have done less than it is been given credit. Bresnahan and Greenstein (1994) have found that technological developments are often far ahead of the organization's ability to adapt them. For technological developments to be adopted, organizations have had to be reorganized and culture's redefined to incorporate them. More importantly advancements in software were necessary, so that computer applications could be tailored to the work of those employees who still remained with the organization.

Expectations are that technology will continue to affect labor markets; the extent to which labor will continue to be reshaped depends on organi-

zational readiness for change or willingness to continually redefine itself. A reasonable prognostication is that society is only on the cusp of the possibilities of technology's impact in the workplace. As software application and the integration of workstations continues apace and as workers become more comfortable with technological systems, the workplace will continue to transform.

Even now technology has altered the relationship between worker and job location. Computer technology frees labor from a particular location. This is particularly true for those workers Reich designates as symbolic analysts — those possessing the highest skills demanded in the workplace as they involve the creation and dissemination of knowledge (Reich, 1991). Knowledge workers can work anywhere; they simply have to have access to a computer connection. Even within the team framework, workers can stay engaged in their mutual tasks even if not in close proximity to each other. Delocalizing work has been touted as one of the more appealing aspects of technological advances in the workplace. While delocalization gives freedom to control one's time and increase involvement with family members, especially children, by working at home, the psycho/social aspects of work are often ignored. People still need the workplace to socialize and develop psychological connections; the reluctance of workers to trade-off this aspect of work to operate in isolation may slow the adoption of technology in the workplace. Nevertheless, technology is posed to unleash significant new processes for work if workers embrace them.

Technology will also affect worker's performance. Technology has the potential to provide instantaneous feedback to workers on their performance. Unlike the sporadic evaluations of their supervisors, technologically driven processes will incorporate features that allow employees and their supervisors to monitor constantly activities utilizing objective measures of performance. Ongoing evaluation requires employees to have established specific personal and team goals and plans for each evaluation period. This type of evaluation is predicated upon each employee being committed to training and education (Boyett and Conn, 1991).

The downside of a technological workplace is the difficulty workers will have in recapturing their contribution to the process in terms of salary and leisure. As the knowledge they create is integrated with other inputs in the system, individual contributions become blurred, making it difficult to identify the individual's value contributing to the product or service. From a team perspective, the individual will benefit monetarily from the value which has been added to by the team's effort. Employers, however, remain in a position not to redistribute earnings to workers in the form of

salary. Technology does not necessarily translate into more leisure time for employees. Certain aspects of their work may become easier; but more likely the workers remaining in a restructured organization will be working longer hours. In fact many employers introduce technology with the expectation that employees will be highly productive which means being able to do more work.

Technological advancements once introduced into the workplace will redesign the work processes and redefine the skill clusters these processes will require. In her study of technology and work, Zuboff (1988) described the intervention of technology as the process of "informating" work. Work will no longer be physical requiring that workers manipulate materials or papers; rather workers will transmit information to a computer which will control machines that actually perform the work. All types of jobs will be affected. As organizations transform, the application of technology multiplies the effect on labor and directly on the education (learning) required in the workplace.

To summarize, technology impacts the workplace by:

- Eliminating simple, routine, and repetitive jobs.
- Replacing labor, causing jobs to be lost.
- Creating new jobs, requiring a different set of skills than the jobs eliminated.
- Shift where work takes place.
- Changing the way new employees are initiated into the workplace with less reliance on mentors and at times, fewer interactions with co-workers.
- Allowing for the vertical manipulation of production/service processes.

As industries transform in response to technological advances, case studies, such as those conducted by the National Center on Education and Employment, document the impact on human resources. Bailey's examination of the textile industry illustrates several key points, common to other industry transformations (Bailey, 1988a). In adapting new technologies, employees are required to demonstrate higher competencies in the basic skills of literacy, mathematics and communication. In addition, technical skills are needed to operate and maintain these technologies. Technologies have eliminated many routine jobs, but have not necessarily deskilled the workplace. In the textile industry, workers now interact with advanced machines, run by sophisticated software and electronic equipment. Workers can no longer tinker with machines, using a mallet and

screwdriver; they are now called upon to re-program machines or repair electronic components. The same job titles now require workers with better educations and technical understanding.

Operating new technological systems was only one factor textile employees had to deal with. To utilize the potential of these technologies, work processes were changed; relationships among co-workers altered; and interactions with customers increased. These changes resulted in more variety; for example, a textile plant a decade ago only produced three styles of denim while today it produces more than 25 (Bailey, 1988a). Retail banking once offered only passbook savings and a checking account; now bank patrons face a myriad of services (Bailey, 1988b). Variety in product means that workers are involved in more production activities and in designing new products. As a result, decision making responsibilities have been moved to lower levels; fragmented tasks have been realigned to be performed by teams (Bailey, 1988a). Introduction of technology triggers multiple changes from new skill demands to interaction with co-workers; some changes were anticipated but many were not.

Values

Strongly associated with the transformation of the U.S. and Canadian economies has been a shift in the personal and societal values among its participants. The centuries old spirit of rugged individualism, independence, and self-reliance that settled these countries captures much of the values being championed in this transition. The small, the dynamic, the flexible has brought with it a new set of values and expectations that differs from the traditional corporate system being replaced. A basic tenet believes the economy operates more efficiently with less government involvement, especially by curtailing spending and regulatory authority.

This view cuts into a broad array of public programs, seeing them as less desirable in a new economic context. Welfare, for example, is seen from this perspective as undermining society by making individuals dependent, and unwilling to accept the personal level of responsibility necessary to function in the world of work. Rather than being paid to avoid work, welfare recipients will be required to work. If monetary support is provided, the amount has been decreased as has the amount of time payments can be drawn. Affirmative action, a target of many disenfranchised males, means more access to opportunity for everyone and less emphasis on quotas which some believe reward those less qualified. This shift toward entrepreneurial, anti-government business values has resulted in a marriage with the religious right (in the United States) which demands an even wider social agenda.

Education has been under scrutiny for sometime by these groups and the reform efforts that they support have been taking hold. A profile of public education, often drawn from poorly understood or inaccurate statistics (Berliner and Biddle, 1995), has found the existing system lacking in terms of preparing students for the work place, sustaining traditional values, and catering to a broad social agenda not related to academics. The answer, in part, is to develop a market for education where a variety of educational options are available. Unless public education can compete by designing and selling a superior product, the outcome will be similar to U.S. made televisions, VCRs and the Edsel — they are no longer in business.

Higher education is not immune from similar criticisms and is seen as failing to keep pace with the evolution of educational or organizational theories which argue for transformational learning which produces personal and organizational change. Leading transformational theories (Mezirow, 1991; Clark, 1993; Daloz, 1986) have argued that while all learning results in change, transformational learning produces far-reaching change which has a significant impact on learner's subsequent experience. Such learning takes place when certain conditions are met (Mezirow, 1991); (1) accurate and complete information available; (2) environment free from coercion; (3) opportunity to weigh and evaluate evidence; (4) time to reflect; (5) acceptance of alternative perspectives; and (6) opportunity for all to participate in experience. These characteristics correspond to the conditions that Baxter-Magolda (1992) describe for contextual learning situations.

Communicative learning approaches which dominate higher education fail to meet all, if any, of these conditions. More emphasis needs to be placed on experiential, participative, and projective learning methods (Mezirow, 1991) to enhance the capabilities of students. Action and reflection are critical components of learning that connects the explanation, through practice and testing, to the evaluation of experiences against what is taught. Experiential activities or actions help students understand their critical thinking and identify options to solve problems. This type of involvement oriented education permits participants to assess changes, not only in application of knowledge, by the relationships, organizations, and systems that are also involved in the learning process. Mezirow (1991) contends that transformational learning balances the traditional methods of instruction with preparation for taking learning into social environments.

Globally, both businesses and educational organizations will continue to be buffeted by these valued laden political shifts. Rather than fight the tide or stick one's head into the sand, leaders from all institutions need to focus, not on whose values count, but what values do we share in common

that sustain a culturally diverse world. Rushworth Kidder (1994) undertook an effort to find the common values that are shared across cultures through extensive interviews of leading "men and women of conscience" throughout the world. These interviews revealed eight shared values: love, truthfulness, fairness, freedom, unity (counterbalance to individual conscience), tolerance, responsibility, and respect for life. These values can serve as a unifying, foundation which provide a way to navigate through these changing times.

Companies know that their reputations still depend on social consciousness which entails community and environmental responsibilities. In a study of graduate students, Michael Driver found a strong sense of social responsibility among a group of students, many of whom were moving more toward the entrepreneurial model and spurning the major corporations (Labich, 1995). Alexander Astin (Dey, Austin, and Sutton, 1991) found among freshman not only a commitment to education for the purpose of employment, but a strong commitment to local community and environmental issues (as opposed to similar issues at the national level).

Fragmentation

The transformation of large economic units into an array of smaller, interconnected units corresponds to a general trend in society that has witnessed a fragmentation of many social and national entities. Complexity theorists would explain that systems naturally evolve into chaotic patterns which in actuality represent highly complex, highly integrated smaller units (Waldrop, 1992). Not all of these splintering actions are viewed positively. Those under the age of 35 (13th Generation) fear fragmentation, as many faced it directly in the dissolution of their families (Howe and Strauss, 1993). At a time when things should be coming together, students see the break-up of nations (Yugoslavia, Russia), companies, and government where more and more serious problems are being handled by local levels of government or not at all. The most troubling conflicts stem from the changing population profiles in many countries which are experiencing a rapid diversification of groups. Often these groups seek a cultural identity through isolation or separation from the dominant culture. This brings more groups into conflict over access to opportunities, resources, and education.

The challenge in this fragmentation process is to find some sense of security. Since World War II, individuals have found a sense of identity in the work they do and the community associated with work (Newman, 1988). Even though highly valued by employees and those seeking work, employers can no longer promise a job that offers an identity; not even in

the entrepreneurial world will security be held out as a term of employment. College graduates place their highest priority on finding a secure job. Their challenge, however, has become one of redefining their expectations and finding security in their skills and experiences; a process few have taken seriously nor know how to do.

Implications

Only a few sectors of the economy will not be significantly affected by the transformation of the economy (farming, public employment, and education) due to their isolation or protection from global competition. The types of jobs being created will shift, however. Approximately 35% of all jobs can be defined as routine production jobs involving repetitive tasks and few skills. This segment will continue to experience job loss through elimination of positions (computerization) or upgraded, requiring more advanced skills. Another 30% of workers are in service related positions, such as sales or customer related services. This sector continues to expand, creating a wide variety of jobs. Some positions will require a high level of technical skill development; nearly all, however, will utilize interactive or people skills.

The final group, termed symbolic analysts by Reich (1991), will comprise about 20% of the workforce. Employees in these positions will manipulate information, identify and solve problems, and translate reality into symbols or abstract images. To obtain such a position will require the highest level of competencies. Jobs for symbolic analysis are being created or upgraded slowly; certainly not expanding fast enough to accommodate all those who seek these types of positions.

As positions are redefined, it becomes difficult to assign a job title to a particular category. Take a secretary, for example. Secretaries have traditionally been grouped as a routine production worker, typing letters and filing paperwork. However, many secretaries now manipulate information through sophisticated software and prepare material using graphs, pie charts and other symbols. With the elimination of many middle management positions, secretaries now find more of their work reflects that of the symbolic analyst.

As the type of jobs available in the new economy change, so do the skills demanded of the workers filling or seeking these positions. Bailey spoke to this trend in his study of the textile industry. Daggett (1992) who followed high school graduates into the workplace documented the skills required of them and their level of preparedness. He identified key skill areas in communications (reading, writing), mathematics, science, interpersonal/teamwork and self-management. Beyond these general competencies, he explored specific skill deficiencies masked by these broader

classifications. For example, he found that workers lacked technical reading and writing skills. Ironically, educators were responding by increasing assignments in personal response and report reading and writing. Similarly, simply adding more math requirements to obtain a high school diploma was not as constructive as developing opportunities for applied or integrated math instruction. Both Daggett and Bailey demonstrate that basic skill standards will be much higher in the new economy.

For college graduates the picture seems to be more complicated. Over the past thirty years, proficiency in one's academic major was sufficient to obtain a good job. Today, academic knowledge is necessary but not sufficient to secure employment. While domain or knowledge competencies serve as the doorkeeper to employment, Bikson and Law (1994) have found them only moderately important compared to general cognitive abilities (applied problem solving), people related or social skills (teamwork, interpersonal communication), and personal traits (initiative, accountability). These same competencies appeared in Kelly and Caplan's (1993) study of early success in the workplace. Nine key competencies drove success: taking initiative (accepting responsibility, volunteering for additional assignments, promoting new ideas); networking (sharing ideas, access to co-workers); self-management (monitoring work commitments, time, performance level); teamwork (coordinating efforts, accomplishing shared goals, joint responsibility); leadership (developing shared goals); followership (helping to reach organizations goals, working autonomously with minimal supervision); show-and-tell (persuasively presenting ideas); organizational savvy (navigating the organization, address conflicts, promote cooperation); and perspective (see larger context of job, accept other viewpoints). Few of these competencies are addressed directly in the classroom; development comes through experiences outside the classroom that require application of learning and practice in different contextual situations.

Conclusion

The national economy is undergoing a major transformation that is redefining how work will take place and what will be demanded of workers. While there are many forces influencing the context of both work and social environments, a critical dimension to preparing students to be workers is the alignment of the education process with the work process. Many students are gaining the content or basic skills required to perform work tasks; but many lack the interactive or context skills that will lead to eventual success in the workplace. Success comes through practice and reflection which permit workers to learn. Educational institutions are doing far too little in structuring educational experiences that allow stu-

dents to practice applying what they have learned and reflecting on the consequences of their applications. One approach to better prepare students to work is offer opportunities that introduce them to the workplace while they are enrolled in school. Struggling with the chaotic context of work is an essential element of one's educational experience.

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