

Frustration at the Factory: Employer Perceptions of Workforce Deficiencies and Training Needs

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1. Introduction

Over the past thirty years there has been a growing realization that a productive, well-trained labor force is the key to success in an information-driven, increasingly global and competitive economy.¹ After decades of being the preeminent and unchallenged leader of the industrial economies and of the free world, the United States was forced to come to terms with its economic, political, and military vulnerability in the face of its embarrassing Vietnam experience, the resignation of a president, the profound effects of an oil embargo orchestrated by lesser developed nations, and the stagflation of the late 1970's and early 1980's. A new political and economic order began to take shape, and the cruel realities of drastic change were felt by many Americans.

Americans found out that, borrowing a phrase from the great American philosopher Mike Ditka, "Winning is more than just wanting to." The phrases "Made in Japan" and "Made in Taiwan" came to symbolize something more than cheap merchandise; for many products, increasingly low prices now came with quality and superior technology. The American steel, automobile, electronics, and textile industries, among others, faltered and many hundreds of thousands of Americans found themselves out of work and deficient in the skills necessary to get a good job in the changing economy. Over time, increasing attention was given to retooling American machines and workers, not to mention

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¹e.g., see Reich (1987), Reich (1991), Carnevale (1991), Bingham and Eberts (1990).

American firms. But could American workers and businesses overcome the inertia that had for so long forestalled change?

By most measures, the American economy in 2000 is a very different economy than prevailed during the Nixon administration, or even the Reagan administration. Americans continue to reap the benefits of the longest sustained good economic conditions in our history, though not all segments of society or the economy have participated, or participated equally in the recovery. A variety of widely reported statistics indicate a growing inequality in the distribution of income. Information technology, dot.com's, and the Internet have created instant businesses and instant millionaires. Yet, millions of Americans remain destitute and without a job despite widespread and well documented labor shortages.

One message of this paper is that the good economy of the late twentieth and early twenty-first centuries has not been merely a fortuitous occurrence, but rather a logical outcome and consequence of the increased attention given to developing a better educated, better trained, and more productive workforce. Yet, amid the great forward strides in workforce development and productivity, concerns about real and perceived deficiencies in basic workforce skills among American workers remain. A subset of this concern is that there will be too few well-educated and trained workers looking for their first job in the future (Peddle, 1992, p. 3). Therefore, it seems prudent to examine some of the core foundations of education and training as productive inputs and as economic development tools. In particular, examination of evidence about the skills sets possessed by workers and about the skills sets needed by employers seems appropriate.

This article examines the results of nearly a dozen employer-based education and training needs assessments conducted by the author for various higher education clients over the past eight years. The paper begins with a discussion of the foundations of education and training as a tool for increasing productivity and economic development, as well as competitiveness. The next sections of the article present results from the various needs assessments. The final section of the article highlights some of the implications that can be derived from the needs assessments.

The Importance of a Skilled Workforce

“Over the past several years, changes in the basic structure of the U.S. and the world economy have fundamentally altered economic relationships....[The new] economy requires that economic actors be adaptable to change, and that public and private policymakers recognize and take the steps necessary to foster business and human resource development policy...” (Peddle, 1992, p. 1). Numerous authors, including former Secretary of Labor Robert Reich, have spoken of the centrality of a skilled workforce that allows more full exploitation of existing techno-

logical advances, and the collective development, diffusion, and commercialization of new technologies.² Today's economy is different than the one that brought the United States to world preeminence in the middle of the twentieth century. The new economy is:

- information-based
- entrepreneurial
- worldwide
- based on continuous, often radical technology change
- decentralized
- attentive to the notion that appropriateness, rather than merely scale, affects production costs and quality improvements

“As the new economy emerges, the role of people at work is also changing....Human responsibilities and skill requirements are increasing and becoming less job specific, job assignments are becoming more flexible and overlapping, and employees are spending more time interacting with one another and with customers” (Carnevale 1991). Changes in workers' roles have altered labor-management relations and have required significant adaptation and flexibility on the part of workers and businesses. In this environment, the labor force has become a prominent factor in business location decisions, and has affected the attitudes of firms and employees toward a variety of economic development policies, projects, and institutions. For example, the American Society for Training and Development (ASTD) has noted that the nature of employer interest in improving basic skills and in other types of education and training has changed. One reason for this change in interest seems to be the increasing inability of businesses to replace workers in an environment characterized by a shrinking supply of capable workers. Many firms have found themselves undertaking education and training as a result of a realization that skills deficiencies among their workers were adversely affecting their bottom line. Notably, the ASTD has noted that increasingly employers have been forced to make rather than buy productive employees. This has also meant a greater interest among employers in providing training in basic workplace skills. Employee interest in education and training, including lifelong learning, has also grown as the range of skills necessary to participate successfully in the new economy has expanded. Therefore, it seems important to understand employer attitudes regarding the quality of the labor force that supplies them with human resources, as well as employer attitudes towards a variety of education and training issues related to current and future workforce preparation.

²e.g., see Reich, Tales of a New America, Random House, 1987.

The information discussed in this article should be useful to education and training providers in their efforts to become full partners in the kinds of workforce development activities most needed and valued by firms and workers. Those geographic areas which are best able to facilitate these types of education and training activities will be much more attractive to businesses as prospective sites for location of a wide variety of productive economic activities. We now turn to some of the aforementioned assessment results.

Overview of the Needs Assessments

The Center for Governmental Studies (CGS) at Northern Illinois University (NIU) has conducted at least twelve employer-based education and training needs assessments since 1992. The author has been the principal investigator or a co-principal investigator on all of these projects. In this section of the article, we review selected results from some of these surveys, as well as offer general perceptions of employer evaluation of workforce issues over this time period across Illinois, but especially in the northern Illinois region.³ The discussion of the results is organized chronologically. While some results might be easier to understand and compare if organized topically, a chronological presentation will allow a better appreciation for how insights into particular workforce development issues crystallized over time. One might also observe some changes in the type of results that are presented as a result of changes in the research methodology that were made in response to issues raised in the implementation of the needs assessments over time. The reader is encouraged to pay particular attention to changes that have occurred over time in the types of things that employers have told us about the labor market, their work force, and the need for future education and training of workers. However, the general message of the article

³ The majority of the needs assessment work done by the Center for Governmental Studies has been for a consortium of colleges and universities who deliver education services, and who are primarily located, in a region that includes McHenry, Kane, Kendall, Boone, DeKalb, Kendall, Ogle, and Winnebago Counties in northern Illinois. Approximately half of these counties are officially part of the Chicago metropolitan region, and the others are the counties that comprise the metropolitan area of the second largest city in Illinois, Rockford. The counties range from highly urbanized to highly rural and agricultural. The economy of the region is extremely diverse and includes major manufacturing facilities for firms like Caterpillar, Daimler-Chrysler, Warner-Lambert, Motorola, Sundstrand, Hormel, and Dean's Foods. Major warehousing and distribution facilities for companies like 3M, Goodyear, Bergner's, and Pillsbury are all located in the region. The second busiest United Parcel Service air hub is in the region at the Greater Rockford Airport, with a Motorola repair facility an ancillary development at the air hub. The nature and level of economic activity in the region provides a good microcosm of the variety of economic activities seen in other parts of Illinois, in the Midwest, and in the United States. Thus, we believe the results are likely to be transferrable and generalizable.

is really in the incredible consistency in employer concerns and attitudes over time. This consistency should be particularly notable in its implications for policy response by education and training providers.

Targeting Educational Services for Economic Development. In 1992, the Illinois Board of Higher Education (IBHE), in cooperation with the Illinois Community College Board (ICCB) and the Illinois State Board of Education (ISBE), prepared a report entitled "Policy Directions for Workforce Preparation." This report outlined the challenges to education institutions at all levels in ensuring their impact on workforce preparation. In particular, the leaders of the Illinois education community were interested in workforce preparation as a tool for economic development, and in improving the availability of education and training services in underserved areas of the state and for underserved populations (especially those who are placebound) in all areas of the state. As part of this effort, the Center for Governmental Studies received a grant to work with three community colleges in northeastern Illinois to assess the education and training needs of employers, employees, and residents in their community college districts.⁴ A group of students who were enrolled in NIU off-campus courses were also surveyed. While our focus in this article is on results from the employer interviews and focus groups conducted as part of the project, some results from other surveys will also be reported, as they provide some insight into workforce preparation issues from the perspective of the workers themselves.

Representatives of twenty-one manufacturing firms were interviewed as part of this project. Most of the interviewees were human resource professionals, though some CEO's and other administrators were interviewed depending upon the size and structure of the enterprise. Interviewees were asked about the structure of their labor force, their employment over the past year and in the future (up to five years out), the nature of changes that might occur in the mix of workers they would be employing in the future, perceptions of changes in technology and market conditions that might affect their firm and industry in the future, and their assessment of workforce preparation and the need for different types of education and training programs.⁵ An immense amount of

⁴ The community colleges were William Rainey Harper College in Palatine, Elgin Community College in Elgin, and McHenry County College in Crystal Lake. It should be noted that these three community college districts were those in closest proximity to and whose students, residents, and employers were very likely to use a new education center that NIU was building in Hoffman Estates, Illinois adjacent to the new Sears corporate headquarters. The results of the project are reported in Peddle (1992) and Peddle (1995).

⁵ One should note and recall that these interviews took place during a recessionary economic time, an environment quite different from that which prevails in the United States and in northern Illinois at the time that this paper is being written.

information was gathered from these interviews. In the interest of brevity, focus will be placed on three themes from the interviews: 1) general assessment of workforce skills; 2) implications of the “new economy”; 3) workplace skills and attitudes of employees and prospective employees. Insights with respect to workforce skills and their implications for education and training included:

- The size of the firm did not appear to be a major determinant of the firm’s commitment to education and training.
- A substantial number of firms reported low levels of competency among workers in all areas of basic problem solving, and to a lesser degree in goal setting, reasoning, creative thinking, and basic group effectiveness skills.
- Employers reported that many of their employees needed help beyond that which could be provided by the firm in basic skills like reading, writing, computation, speaking, and basic problem solving.
- Most firms reported significant deficiencies in technical skills, with the precise skills deficiencies varying from firm to firm and industry to industry. Especially significant needs for education and training programs were associated with skills in advanced reading, advanced writing, business/technical writing, and computer literacy.
- Despite identified skills deficiencies associated with their line workers, most manufacturers that we talked to were much more likely to support education and training for their management and supervisory level employees than they were for their line or production workers.

The source of employer feedback about the implications of the new economy and about workplace skills deficiencies came primarily from focus groups that were conducted for employers in the health care, social services, primary and secondary education, local government, finance, insurance and real estate industries. Issues and commentary about the implications of the new economy for workforce development and productivity included:

- Employers indicated that the new economy places more emphasis on worker empowerment, and that this means a greater need for employees with strong interpersonal relations and teamwork skills. Firms noted that hierarchical business structure is a thing of the past.⁶

⁶ It should be noted that this point also is relevant to the workplace skills deficiencies identified in the next set of bullet points.

- The new economy requires firms and workers to be prepared for and adaptable to change.
- The new economy requires more cross-training of workers and a higher level of skill sets for the average worker. Indeed, many employers commented that there has been a tremendous increase in the educational requirements for most jobs.
- The increased globalization of the economy and increased diversity in the workforce has exacerbated the need to be adaptable to change, not to mention the need to be sensitive to a greater variety of cultural norms in the workplace and to encourage worker empowerment.

Insights about workplace skills deficiencies included:

- Employers expressed a growing need for educators (especially colleges and universities) to take responsibility for instilling a “corporate culture” into students. The firms we talked to felt that they were doing a good job of teaching corporate culture as a part of their training of new employees, but did not feel that the primary responsibility for such training should be falling on the employer. In particular, employers indicated a need for employees with the following skills: how to do the work, how to work with other people, and how to operate in a business setting.
- Firms generally found that neither entry level nor college level applicants were prepared to work, and most employers expected the gap between required skills and applicant skills to widen in the future.

Perhaps of greatest concern among the wealth of information gathered from employers was a general feeling on their part that there had been a deterioration in applicant skills levels and that the number of qualified applicants had been significantly decreasing over time despite the relatively tough economic times that prevailed at the time of the focus groups. In particular, several focus group participants and interviewees noted that they now needed to train their workers in skills and knowledge bases that employers previously could have expected the workers to have acquired as a part of their education prior to hiring on with the entity. One of the interesting aspects of having done a number of employer needs assessments over a several year time period is that these opinions can be tracked over time, albeit with varying groups of employers and varying foci for the assessments.

One of the particularly interesting aspects of the 1992 needs assessment was that an employee survey was also conducted as a means of helping to corroborate the information provided to us by employers. These employee surveys were conducted at a limited group of firms representing all of the industry clusters for which interviews or focus

groups were undertaken. About 500 responses representing a stratified sample of employees from each industry group were tabulated. A few of the results from the employee survey bear mentioning in view of the reported results of the employer interviews and focus groups:

- Employees perceived their skill levels to be much higher than did their employers.
- About 80% of the employee respondents felt adequately prepared for work in terms of most skill sets. The notable exception to this was that less than half of respondents felt adequately prepared for work in terms of their management skills.
- About 60% of respondents indicated that it was very likely that they would need new or different skills to continue to do their job well over time. Another 33% felt that this was somewhat likely.
- Almost half of the employee respondents expressed concern about losing their job over the next five years.⁷
- Areas of greatest interest among employees for training programs were: computer and management training.
- Perception of job preparation varied by job category. Most assembly line workers and general laborers felt less than adequately prepared in terms of technical skills. More than 40% of CIS professionals felt somewhat unprepared in terms of their technical skills. Discomfort with their technical skills preparation was also expressed by between 25% and 40% of middle managers and office workers. Workers in all categories expressed concern about their preparation with respect to management skills.

The 1992 project confirmed the importance of education and training to workforce development, and the importance of basic skills education and training to competitiveness. However, the immediacy of workforce issues as a significant factor in competitiveness did not come through in employers' responses, and workforce quality and development did not appear to be the key locational factors that the literature on business site selection might have otherwise suggested. However, it should be noted that in the suburban Chicago area education is readily available and the workforce is relatively mobile. Therefore, intraregional business location decisions would not generally be expected to be based on workforce issues. On the other hand, the ready availability of a diverse, skilled workforce would appear to be an attractive feature of the Chicago area for relocation

⁷ It should be noted, once again, that this was a recessionary time period.

and location decisions at a wider geographic level.⁸ The insights from the 1992 IBHE project proved useful in later needs assessments.

Local Employer Needs Assessment for the Fox Valley Educational Alliance. In 1995, the Center for Governmental Studies conducted its first needs assessment⁹ on behalf of the Fox Valley Educational Alliance (FVEA), a group of higher education institutions predominately serving the northern Illinois counties of McHenry, Kane, Kendall, DeKalb, Boone, Winnebago, and Ogle. The 1995 needs assessment focused on the demand for occupational education and training services in the region, with special attention given to community college curricular programming in AAS and certificate programs. This study focused on secondary data that allowed assessment of the degree to which programs at the community colleges accurately reflected occupational trends and future education and training needs. As such, most of the results of this study are not germane to the current paper and discussion of this report will be dispensed with in the interest of time and more targeted insights.

The 1996 FVEA needs assessment (Bennett and Peddle, 1996) was an employer-based needs assessment that concentrated on the present and future needs of employers in the local government, local health care, local hospitality, and local finance, insurance, and real estate (FIRE) industry clusters. Data on state and national employment trends were supplemented by information from focus groups and interviews that were conducted as part of the project. Among the conclusions of the report were:

- Employers did not have the ability to hire the workers they needed.
- Computer and information technology are important to the operation of firms and will be increasingly vital in the future.
- Firms differed markedly regarding their use of telecommuting, with the most prevalent use occurring in the finance, insurance, and real estate industry.
- Better linkages need to be made between community colleges and firms so that the needs of both groups can be assessed and responded to.
- Health care will be a high growth industry over the next ten to fifteen years, though much of the job growth will be in nontraditional and new forms of health care.

⁸For example, see Schmenner (1982) for an extensive discussion of the multi-level nature of business location decisions, as well as the differences in the factors that are important at each of the stages of the location decision.

⁹See Peddle (1995). This needs assessment was the first of six annual needs assessments conducted by CGS on behalf of the FVEA.

- Nearly 18 percent of the American workforce at that time engaged in some form of at-home work.
- Temporary and part-time work is an increasingly prevalent part of the American labor market.

Some of our recommendations to the client higher education institutions, based on our research and employer feedback, also bear mentioning:

- Greater attention needs to be paid to basic skills development as part of student coursework, and instructional staffing patterns should assure the availability of individualized attention to students through resources such as learning labs, skills workshops, and computing seminars.
- Schools need to help facilitate the development of appropriate workplace behaviors among students through such things as interview preparation workshops, seminars on workplace norms, promotion of internship experiences, and coordination of visits by business people to campus as a way of encouraging more interaction with prospective employers.
- Schools need to work with businesses to develop short-term certificate programs to aid in retraining, retooling, and remediation efforts aimed at development of needed skills sets.
- Greater attention should be given to integrated education and training programs that begin at the high school level and continue through college or vocational school.

The results of the 1996 needs assessment (Bennett and Peddle, 1996) reiterated employer concerns about the basic skills deficiencies of their employees and job applicants. However, evidence from the 1996 focus groups and interviews provided more precise knowledge about the particularities of the perceived skills deficiencies. Communication skills, including teamwork, writing, oral communication, and client relations skills all received mention as areas of concern. Furthermore, employers we spoke with in 1996 expressed continuing concern about the lack of readiness of most entry level employees to be part of the generally accepted culture that governs day to day interaction in business. This problem of lack of workplace skills, also identified in the 1992 needs assessment, had still not disappeared from the radar screens of most employers by the late part of 1999, at least according to the CGS needs assessments that were conducted at that time.

The author and Eric Bennett continued their relationship with the Fox Valley Educational Alliance by designing and conducting the FVEA's 1997 employer needs assessment (Bennett and Peddle, 1997). This needs assessment was similar in structure to the 1996 needs assessment,

but focused on a different set of industries: early childhood development, higher education, telecommunications, unit school districts, and (non-hospital) health care. Information obtained from the focus group and interview participants suggested the following generalizations about employer needs in these industries:

- As was the case in 1992 and 1996, most employers believed that they did not currently have the ability to hire the workers they needed.
- Technological change was expected to have its most profound impact on the higher education and telecommunications industries.
- Continuing education and training were seen as a vital aspect of most jobs for all industries studied.
- Technological change was expected to make the accompanying work tasks easier over the next five years.
- Employers suggested that colleges and universities should expand internship opportunities for students to help ensure that the needs of industry employers are met.

Once again, our recommendations for action may offer insight into the implications of the information that we gathered in the interviews and focus groups. Our observations included the following:

- As computers become more common and more integrated into learning, addressing the issue of deficiencies in computer skills in a fashion similar to basic reading and writing becomes more urgent, but also more possible.
- There is an increased need for programs that link associate degree and bachelor degree programs to better allow career advancement and effective continuing education and training of entry level employees (e.g., linking physical therapy assistant programs to bachelor degree programs in physical therapy).
- Once again, we reiterated the need for more attention to the support of basic skills enhancement by schools at all levels.

Little new ground was broken with the results of this needs assessment. The results were highly consistent with those in the 1992, 1995, and 1996 needs assessments that were previously discussed. However, corroboration and reinforcement of concerns about basic skills, the need for articulation of different types of vocational programs within the higher education community, and commitment to the need for continuing education and training were useful outcomes of the project. One recommendation in the report suggested that future attention be given to the means of delivering education and training programs, such that greater accessibility to education and training would be provided for

those individuals who sought it but for one reason or another could not take advantage of available courses or programs. The FVEA committees concurred with this recommendation, and the 1998 needs assessment was designed to focus on alternative delivery mechanisms for serving placebound students, with an emphasis on technology-based delivery.

Assessment of Alternative Educational Delivery Technologies for Servicing Placebound Students. Bennett and Peddle (1998) reports the results of the 1998 FVEA needs assessment. This study focused on assessment of alternative educational delivery technologies that might be used to serve placebound students. The results of this study indicated great potential for the use of distance learning technologies as a means of providing a variety of education and training programs and courses. This potential is particularly significant in an environment where firms are increasingly seeking to grow their own high quality employees through investment in education and training. In general, the use of distance learning technologies provides the following advantages:

- the opportunity for asynchronous learning
- ability to deliver coursework to small numbers of students in geographically separated venues
- ability to deliver coursework to students at a place in close proximity to their work and/or home

These advantages mean that technology can be used to provide education and training opportunities to persons in locations that are otherwise isolated in some way from receiving such programs through traditional delivery mechanisms. Furthermore, education and training can be delivered to individual places of employment without requiring instructor or student travel. Therefore, employers can provide a wider variety of in-house education and training for their employees without incurring the expense of on-site customized training programs or the lost work time necessary to send employees to off-site providers. Some technologies like interactive television may require significant investment in delivery infrastructure, but most technologies can be adapted and made available on a relatively cost efficient basis. With the advent of affordable digital cameras¹⁰ and the ubiquity of Internet access, these technologies are now prevalent in residences as well as in businesses of all sizes. Nevertheless, the average (accounting) cost of delivery and of taking a course delivered through technology tends to be somewhat higher than that of a traditionally delivered course. However, when opportunity costs and the productivity gains from such enrollment are considered

¹⁰Acceptable quality digital cameras for use with a personal computer were available for about \$100 as of March 2000.

(not to mention the morale and energy boosts attributable to the convenience factor), the cost equation would appear to be significantly more favorable. Increasingly, the businesses we have spoken with over the past several years have expressed strong support for the use of technology-based methods for delivery of education and training programs. One advantage cited by these firms is the ability to choose from a broader menu of course offerings (e.g., through the National Technological University) than would be feasible at local colleges and universities or through partnership agreements with a small number of institutions. Firms cite better range of choice, better quality, and more customized coursework as justifying significant investments in computer-based and other distance learning technologies.

1998 and 1999 Needs Assessments

Over the past two years, CGS has undertaken several more large-scale projects designed to get input from employers regarding many issues related to education and training.¹¹ Highlights from some of these studies may offer insight into employer attitudes about workforce quality and the future need for education and training aimed at improving workforce productivity and competitiveness. Those institutions and communities which are best able to meet the needs of firms seeking to meet their education and training needs will be the most attractive business locations in the twenty-first century.

Trott, Bergeron, Lewis, and Peddle (1998) reports the results of a statewide employer survey done for the Illinois Board of Higher Education. The survey focused on employer satisfaction with higher education in Illinois, and revealed some interesting information:

- 87% of employers indicated that they are very satisfied or satisfied with the overall skills and knowledge of their recently hired college graduates.
- Nearly one company in five rated the overall preparation of college graduates for the workplace as only fair or poor.
- While 70-80% of the responding employers reported that the skills of recently hired graduates were very good or satisfactory in 10 of 12 specified skill areas, some deficiencies were noted in the areas of

¹¹These studies included a statewide survey of employers for the Illinois Board of Higher Education conducted in early fall 1998; a survey on behalf of the Illinois Manufacturing Extension Center and Chicago Manufacturing Center conducted in 1998; a needs assessment for the Lake County, Illinois Multi-University Center conducted during the 1998-1999 academic year; a 1999 needs assessment focusing on computer-based learning for the Fox Valley Educational Alliance; and a survey of Springfield, Illinois, area employers for the Illinois Board of Higher Education conducted in the summer of 1999.

supervisory skills and advanced computer skills (i.e., operating systems, networks, etc.).

- The most common areas of training that employers provide for, pay for, or both provide and pay for were: teamwork and problem solving skills, supervisory skills, management skills, computer literacy, and equipment operation. More than 75% of employers reported providing or paying for training with respect to these skills.
- More than 80% of employers reported that they neither pay for nor provide training in reading or basic skills.
- More than two-thirds of the companies rated teamwork and problem solving, reading, and communication skills as very important training needs now and in the future.
- The need for basic math training is significant among manufacturers, but less important to non-manufacturing firms.
- Among firms for whom more than 75% of their employees *hold 4-year college degrees*, 75% report that *reading training* is a very important need.
- Raising the proportion of Illinois citizens who hold college degrees was not rated as a very important goal by the employers.

Once again, the message that employers sent loud and clear was the increasing importance of education and training to worker productivity and competitiveness. In addition, this study corroborated findings from the earlier studies which emphasized the need for basic skills training, even for college graduates. It is particularly interesting that basic skills training persists as a major issue for employers, even in the midst of many years of increased commitment to improvements in education and training by businesses and educational institutions. The 1998 IBHE study also identified an increasing need for workers to have excellent teamwork, problem solving, and communication skills that are coupled with a basic understanding of the work environment/business environment. While the need for these skills had been identified as early as the 1992 study, the emphasis that the new economy places on teamwork, problem solving, and interpersonal communication has become more evident over time, and the results of the employer needs assessments reflect growing awareness of the new economy's demands and the deficiencies in current workers' abilities to meet those demands.

During the spring of 1999, the author directed a study in Lake County (IL) (Peddle, Lewis, and Trott, 1999) designed to investigate employer and employee education and training needs and effective demand. The study combined a thorough analysis of survey data from other IBHE studies conducted in Lake County during 1998 with a series of interviews with key Lake County employers in the biotechnology and pharmaceuticals, health care/health services, K-12 education, federal

government, and local government industries. The study, like those previously discussed, confirmed the major outcomes of the several years of previous research efforts. Employers continue to be concerned about communication, basic reading, basic math, and basic teamwork skills among their employees and applicants. Results from the IBHE's 1998 survey of Lake County employers offered information about the reasons why firms felt that they needed to train entry level workers, as well as employer satisfaction with the overall knowledge and skills for their recently-hired college graduates. Many of the large employers indicated have brought basic skills training in-house and have helped grow a group of qualified applicants from a pool of unqualified or underqualified applicants. Some of the interesting findings of the study included:

- The firms who were least satisfied with the overall knowledge and skills of recently hired college graduates were those who cited a lack of general education skills and a lack of workplace skills as the reasons why they needed to train entry level workers.
- Echoing the finding of other recent studies, employers indicated that human relations skills are an increasingly rare commodity among both new hires and employees in general.
- Employers complained universally that new college graduates, and new workers in general, are particularly deficient in their knowledge of and ability to adapt to the basic business or corporate culture, a finding that echoes that noted in the previously discussed studies.
- In terms of high priority education and training needs over the next five years, the most prevalently mentioned areas of priority included: leadership, teamwork, business communication, computer technology, and training to assist workers adapt to technological changes in their jobs.
- As a result of the ill preparation of new workers, firms in several industries noted that they had been forced to institute extensive and lengthy on-the-job orientation/training programs that have the effect of delaying a new hire's entrance into a productive staff role.

Thus, echoing sentiments that have been documented for many years in our needs assessments, employers continue to bemoan hiring workers who have little sense of how to act and operate within a business environment. Special concern was expressed in the Lake County study regarding the communication skills of employees. Some further discussion of this concern is warranted.

Today's employers can no longer assume that workers can survive in an environment that requires interaction with other people. In today's cubicle, computer-based work environment, basic human relations skills are often deficient. Furthermore, supervisors have underdeveloped communication skills which means that their ability to give the kind of

necessary negative and positive feedback to workers and to management is gravely impaired. The need for formal training in business or technical areas seems less important than it was twenty years ago. Employers have consistently emphasized that they are looking increasingly to well-trained liberal arts and general education based applicants to fill entry-level positions. Employers tell us that, if entry level workers have the basic constitution to survive in a business environment, as well as the basic skills in math, reading, writing, and speaking that allow them to perform a wide variety of tasks, then the employee can be taught by the employer the other tools that are necessary to succeed in the employer's line of business. That is, *Give us a worker with some general business sense, and we will make them an effective contributor to our business.*¹²

Trott, Bergeron, Nelson, and Peddle (1999) reports the results of a survey of Springfield, Illinois employers regarding their satisfaction with recently hired college graduates, as well as the factors that are most important in their hiring decisions involving college graduates. For the most part, the results of the survey mirrored those in Trott, Bergeron, Lewis, and Peddle, and confirmed the trends in employer evaluation of employee skills that have been identified and extensively discussed in relation to the earlier survey and needs assessment projects. As mentioned in note 12 above, the major contribution of the 1999 Springfield survey was insights into employer definitions of the amorphous but exceedingly important hiring attribute of "attitude."

What have we learned?

Old adages often ring true. Such is the case with employer attitudes toward workforce quality and toward education and training. In particular, our experience suggests that the more things change, the more they stay the same. Little has changed over the past ten years in terms of what employer respondents have had to say about workforce quality and about education and training. Unfortunately, something else that does not seem to have changed is the unwillingness of any economic institution to be accountable for workforce quality and for skills deficiencies. While there are notable and highly successful exceptions, like Motorola, Baxter, Abbott, and other firms who have taken direct responsibility for the education and training of the area's workforce - from the level of basic skills to doctoral level continuing education - most firms we have talked to over the years tend to point their fingers at education in-

¹²Trott, Bergeron, Lewis, and Peddle (1998) found that "attitude" was the most significant factor in employer hiring decisions, though no insight into the meaning of this term was discernable from the survey results. Trott, Bergeron, Nelson, and Peddle (1999) also found that "attitude" was the most important factor in employer hiring decisions, with attitude defined by the overwhelming majority of employers as personal and interpersonal attributes that included: enthusiasm, motivation, a positive outlook, and being people-oriented.

stitutions for failing to provide them with the employees that they need. Furthermore, American workers have often been resentful of the increasingly diverse population that inhabits the workforce, many of whom need basic English language training.¹³

From our research, the following general conclusions should be highlighted:

- Substantial progress still needs to be made in the area of basic skills training and workplace readiness. Partnerships among educational institutions at all levels, businesses, organized labor, and economic development organizations should be facilitated in order to better assure a reliable and high quality basic skills mix in each labor market.
- At the local level, a high quality community college is an excellent amenity for residents, employees, and employers. The employers we spoke with said that the presence of a high quality and responsive community college was essential to their continued success in hiring locally. It should be noted that most employers told us that their market for four-year college graduates and for continuing professional education is more geographically dispersed. Therefore, the presence of a college or university, as an education and training institution, is a much lower priority than it was prior to the advent of customized distance learning programs. Indeed, firms expressed the need to work with a wide variety of education institutions and trainers to provide the necessary breadth and depth to their education and training programs.
- Cost remains a major barrier to investment in education and training. This is especially true for transferable training like that in basic skills programs. Nevertheless, many firms are bringing basic skills programs in-house so as to produce their own qualified applicants in a tight labor market.

Workforce quality and preparation remain important factors in business location. However, these amenities remain somewhat nebulous and idiosyncratic, and therefore remain relatively difficult to affect except in terms of promotional efforts. On the other hand, given the expressed need for a quality community college (i.e., a locally based institution that offers vocational and applied sciences programs as well as basic skills and general education at the post-high school level), the aggressive support of the development and sustenance of such an institu-

¹³While ESL programs are an important component of our basic skills needs, our research indicates that the basic skills deficiencies cited by employers are not primarily grounded in ESL problems and that these basic skills deficiencies extend to college graduates that these employers have hired.

tion can be an important factor in developing and maintaining workforce quality so as to have a labor force that will continue to be attractive to residents and businesses.

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