

A Demand-Side Strategy
to Meet Indiana's Workforce
Basic Skills Challenge



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TABLE OF CONTENTS

	Page
Executive Summary	4
I. Introduction	7
II. Background	10
III. Literature Review and National Scan	16
IV. Major Findings: The Indiana Challenge	19
<i>Finding 1: There is significant need for incumbent workforce literacy education in Indiana; however, awareness is limited and demand is muted</i>	
<i>Finding 2: Current public resources for adult education and workforce development to address the Indiana incumbent workforce literacy challenge are inadequate to meet the need</i>	
<i>Finding 3: Other public, private and nonprofit resources may be positioned to help address this challenge; however, their current capacity is limited</i>	
<i>Finding 4: Employers are critical to addressing the workforce literacy challenge and are prepared to play a central role</i>	
V. Recommendations: A Five-point Strategy	38
<i>Point 1: Build awareness and organize demand for workforce basic skill development</i>	
<i>Point 2: Establish a demand-driven delivery system with programs and providers that work for working adults and their employers</i>	
<i>Point 3: Promote continuous innovation in program design and delivery</i>	
<i>Point 4: Establish new financial incentives for increased investment by employers and workers</i>	
<i>Point 5: Create a public-private partnership to provide consistent leadership, strong management and rigorous accountability</i>	
Appendix A: Workforce Literacy Advisory Committee Members	54
Appendix B: Chamber Workforce Literacy Process	57
Appendix C: Annotated Bibliography	59
Appendix D: Promising Program Models for Workforce Literacy Programs	70
Appendix E: Business Survey Results	79
Appendix F: Business Survey Results (Follow-up Survey)	86

EXECUTIVE SUMMARY

Background: In January 2004, the Indiana Chamber of Commerce Foundation initiated the *Employer-Driven Workforce Literacy Project*. The goal of the project was to upgrade the literacy levels of Indiana's incumbent workforce through the development of employer-driven programs. The project was organized as a two-phase initiative. Phase I was designed to explore the scope and depth of workforce literacy programs in Indiana, review the expert research on the topic, learn what other states are doing and bring all the major Indiana funding systems and program providers together to exchange information about capabilities and gaps. In Phase II (to begin in 2005), the Chamber plans to implement initiatives designed through the first phase.

The Chamber first assembled a broad-based Workforce Literacy Advisory Committee to help sort through the problems and opportunities around employer-led workforce basic skills programs. The Chamber then contracted with FutureWorks, a private research and consulting firm in Arlington, Massachusetts, to undertake a series of research tasks and assist with planning and design efforts, offer an independent perspective of the issues of workforce basic skills and provide an objective external assessment of problems and prospects.

FutureWorks completed four major research tasks:

1. **Literature/expert review:** reviewed national and Indiana-specific literature and data on workforce literacy needs, program themes and major issues, and assessed their implications for this project
2. **National scan of innovative practices:** identified promising program models and developed a framework of "best practices" to guide this project. The research team also organized a series of informational forums to share promising practices with stakeholders in Indiana
3. **Document and analyze Indiana's current workforce literacy programs and resources:** inventoried and assessed current programs and funding sources across all providers in Indiana
4. **Business survey:** designed and analyzed an in-depth survey of Chamber employer members and customers to help document their needs and perceptions of workforce literacy education

This is FutureWorks' Phase I report. It describes research activities, summarizes findings and offers recommendations for a major workforce basic skills development program.

Defining Workforce Literacy: Because jobs in the knowledge economy require more than simply the ability to read, write and do math, the Workforce Literacy Advisory Committee adopted a broad definition of workforce literacy, which includes:

- ☐ A skill-based proficiency continuum (a relative rather than an absolute measure);
- ☐ Reading, using information, and math skills as defined by the International Adult Literacy Survey and the National Adult Literacy Survey;
- ☐ Communicating effectively in English;
- ☐ Learning, understanding and applying information and analysis;
- ☐ Thinking critically and acting logically to solve problems;
- ☐ Using technology, tools and information systems; and
- ☐ Working in teams, developing a positive attitude toward change, and a willingness and ability to learn for life.

This project focused sharply on Indiana's incumbent *adult workforce*. It was concerned primarily with workers age 25 and older who are out of high school, whether or not they actually completed a high school degree or its equivalency.

Major Findings: FutureWorks' research underscores that incumbent workforce literacy deficits constitute a major problem in Indiana – as in the rest of the nation – that seems to be getting worse, not better. Workers with low basic skills make very low wages, and employers suffer significant losses in productivity and in the ability to enter profitable but demanding markets.

The research led to four major findings:

1. **There is significant need for incumbent workforce literacy education in Indiana; however, awareness is limited and demand is muted.** The research team estimates that in 2002, between 960,000 and 1,230,000 employed Hoosiers – about one in three – had literacy skills below the minimum standard (as developed by national experts) for successful employment in a knowledge-based economy. Indiana, like most other states, lacks a system for measuring basic adult or workforce literacy deficits on an ongoing basis; therefore, this estimate derives from extrapolation of a 1992 sample study. While many employers recognize the competitive challenges for them and their workers that result from widespread literacy deficits, there has been limited awareness of this problem on the part of the general public or the media, and little attention from public policymakers in Indiana. That has dampened demand for literacy services and probably allowed the need to grow relatively unchecked.
2. **Current public resources for adult education and workforce development to address the Indiana incumbent workforce literacy challenge are inadequate to meet the need.** As best as FutureWorks could measure, current resources are serving only about 20,000 to 23,000 *workers* annually. This includes approximately 15,000 to 16,000 through the Department of Education's (DOE) adult education programs; 3,000 to 4,000 through the Department of Workforce Development's (DWD) Advance Indiana incumbent worker training programs and Work One Centers; and 2,000 to 3,000 through the Department of Commerce's incumbent worker training programs. This barely scratches the surface of the apparent need.
3. **Other public, private and nonprofit resources may be positioned to help address this challenge; however, their current capacity is limited.** Additional resources to meet this challenge exist in the public, private and nonprofit sectors; however, they are limited and not targeted specifically to addressing workforce literacy education. The Ivy Tech system, volunteer literacy providers, libraries and community initiatives do provide some adult education services that may include workforce literacy education, but none of these are significant enough to meet the potential need, nor are they targeted enough to meet specific employer and worker literacy needs.
4. **Employers are critical to addressing the workforce literacy challenge and are prepared to play a central role.** Surveys and interviews conducted for this research demonstrate that Indiana employers are prepared to invest substantially in a basic skill development strategy if it is carefully constructed and thoughtfully administered. However, they will need the financial assistance and incentives that Indiana state government can help create. They also will need good information about the returns on investment in basic skills and help in building a basic skills educational delivery system with programs and providers that work for working adults and their employers. Finally, they will require consistent private sector leadership that relies on clear accountability systems.

Recommendations: FutureWorks recommends a major, new demand-side initiative to upgrade the basic skills of adult workers. This would be a five-point program launched early in 2005 and built out over the subsequent three to five years to a scale where it would support the basic skill remediation of an additional 50,000 adult workers annually, growing to at least 75,000 workers per year by the end of this decade. This program ultimately would serve nearly four times more workers annually than research

estimates indicate the current system serves; it would assist approximately 300,000 total workers in upgrading their basic skills to the level required for successful employment by the end of the decade.

This program would:

1. **Build awareness and organize demand for workforce basic skill development:** The first part of this five-point plan is a series of awareness-building activities aimed at employers and their workers that makes the business case for investment and provides concrete information about how to build skills in the workplace and where to get help.
2. **Establish a demand-driven delivery system with programs and providers that work for working adults and their employers:** Point two involves a number of carefully targeted investments to build out an employer-responsive delivery system. This would include development of a workforce readiness credential; creation of an employer resource center; establishment of “workplace basic skill” certification requirements for instructors with a professional and paraprofessional staff development system; establishment of accreditation standards for providers; a stronger role for postsecondary institutions in service delivery; and the inventory, assessment and design of effective instructional curricula and delivery models.
3. **Promote continuous innovation in program design and delivery:** This strategy envisions the establishment of an “innovation fund” that could encourage and test new program approaches and delivery strategies by making incentive grants and challenge grants to providers and employers.
4. **Establish new financial incentives for increased investment by employers and workers:** State support (with federal aid) for adult education is limited and not focused on the incumbent labor force. Current funding to underwrite grants to employers to defray some of the cost of basic skill remediation is sharply constrained. New adult workforce literacy funding is necessary, but to spur successful workforce and economic outcomes, it must be directed in a “demand-side approach” through employers and workers rather than through provider agencies. Specifically, this recommendation is for the development of a legislative program offering substantial tax credits for employers and workers investing in basic skill programs.
5. **Create a public-private partnership to provide consistent leadership, strong management and rigorous accountability:** Point five of this plan is the establishment of a new private-public partnership institution that would lead implementation of this demand-side program. Such an institution does not necessarily need to be established by state legislation; it could be organized as a nonprofit corporation under existing law. It would require minimal new staff and initially could be led by the Indiana Chamber of Commerce.

In discussions with the Workforce Literacy Advisory Committee, surveys and interviews with employers and discussions with other stakeholders, FutureWorks found strong support for this approach. This new strategy does not have to begin from scratch; there is much to build on in the current programs of the Indiana Department of Education, Department of Workforce Development, the Department of Commerce and postsecondary educational institutions. The nonprofit sector, relying strongly on literacy volunteers, has the capacity to make important contributions. Most importantly, many private firms are already making big investments in the basic skills of their workers and, given a delivery system that supports them well, they are prepared to do much more.

A demand-side program is an opportunity for Indiana to make a major advance on the problem of adult literacy, both within and outside of the workplace. A new demand-side initiative offers the real prospect of engaging the powerful economic clout of Indiana's private sector and triggering new financing

methods. Building on a stronger awareness of the problems and solutions and organizing need into effective demand, this program can create a real market for adult education, one that is capable of making major in-roads into the complex and persistent problems of inadequate adult literacy in Indiana.

I. INTRODUCTION

Responding to increasing calls from its employer members and customers to address the mounting workforce basic skills challenges in many Indiana workplaces, the Indiana Chamber of Commerce initiated its *Employer-Driven Workforce Literacy Project* in January 2004. The long-term goal of this project was to upgrade the literacy levels of Indiana's incumbent workforce and job candidates through employer-driven programs. The more immediate objective has been to assess how well the current adult education programs work for working adults and to investigate what new strategies might better serve the needs of these working adults and their employers.

This project focused sharply on Indiana's incumbent adult workforce. It was concerned primarily with workers age 25 and older who are out of high school, whether or not they actually completed a high school degree or its equivalency. These adults are typically working full time and most are married with families. Almost all see themselves as "finished" with secondary school (even if they did not complete a diploma), and the responsibilities of full-time work and family present a major barrier to their participation in postsecondary education.

This project also focused on the issues surrounding workforce basic skills explicitly from the perspective of Indiana employers. This was the focus not only because they are the Chamber's constituents, but also because they must be integrally involved in any strategies to increase the workforce literacy levels of workers. The research strongly showed that education and training programs directly connected to employers focus most effectively on the education and skills necessary for workers to do their jobs and advance in their careers. Employer-driven programs also are more effective than provider-driven because they better meet the program design and scheduling needs of employers and workers.

The *Employer-Driven Workforce Literacy Project* has been structured as a two-phase initiative. Phase I was designed to explore the scope and depth of workforce literacy programs in Indiana, review the expert research on the topic, learn what other states are doing and bring all the major Indiana funding systems and program providers together to exchange information about capabilities and gaps.

Toward these objectives, the Chamber assembled a broad-based Workforce Literacy Advisory Committee to help sort through the problems and opportunities. The Chamber then contracted with FutureWorks, a private research and consulting firm in Arlington, Massachusetts, to undertake a series of research tasks and assist with planning and design efforts, to offer an independent perspective of the issues of workforce basic skills and to provide an objective external assessment of problems and prospects. In Phase II, the Chamber plans to implement initiatives designed through the first phase.

This is the FutureWorks' Phase I report. It describes the research activities, summarizes main findings and offers recommendations for a major workforce basic skills development program.

Advisory Committee Member Agencies

- Indiana Literacy Foundation
- Indiana Library Federation
- Indiana State Teachers Association
- Indiana Department of Education
- Indiana Department of Workforce Development
- Indiana Department of Commerce
- Ivy Tech
- Indiana Chamber of Commerce
- Workforce Development Concept
- Edwards & Associates
- Verizon Foundation
- Indiana State Building Trades

In brief summary, FutureWorks has concluded that current adult education and worker training programs are not closing the significant basic skills deficits that sharply limit economic opportunity for working adults and economic success for firms in Indiana. These skills deficits have consigned hundreds of thousands of working adults to the bottom rungs of the labor market, shutting them off from better jobs and better careers that might build economic prosperity for their families. Moreover, these same basic skill deficiencies among adult workers critically impair the productivity and competitiveness of Indiana's private sector economy.

As the global economy further accelerates the existing bias toward education and skill as the chief determinants of economic success, Indiana's problems will worsen. Employers will find ways to work around this problem. The larger and more accomplished firms in the highest value markets will employ predominately individuals with four-year and advanced postsecondary degrees, and will recruit them from a national and international labor market. But employers who rely on workers with sub-baccalaureate degrees must depend on local labor markets. Faced with substantial learning deficiencies in the Indiana workforce, they will be forced to choose between competing only in low wealth-creating and low-wage segments of their markets or possibly considering relocation to regions where they can find more highly skilled workers.

That is a choice Indiana employers should not have to make. The smarter strategy for Indiana is to remediate the basic skill deficits of adult workers so that they are positioned to gain the technical/occupational skills and the postsecondary credentials associated with good jobs and high value-adding economic activity.

Indiana employers and their workers appear to be prepared to invest substantially in this skill development strategy if it is carefully constructed and thoughtfully administered. They will need the financial assistance and incentives that Indiana state government can help create and good information about the returns on investment in basic skills. They also will need help in building a basic skills educational delivery system with programs and providers that work for working adults and their employers. Finally, they will require consistent private sector leadership that relies on clear accountability systems.

In this report, the FutureWorks' research team summarizes findings from the research that led to these conclusions. This report proposes a series of recommendations to build a demand-side strategy for workforce basic skill development. These recommendations emphasize building demand for workforce and workplace basic skill programs, and positioning employers and their workers to *pull* the services that meet their needs on their terms.

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terms.***

In discussions with the advisory committee, surveys with employers and other research, the research team found strong support for this approach. This new strategy does not have to begin from scratch; there is much to build on in the current programs of the Indiana Department of Education, Department of Workforce Development and Department of Commerce. The Ivy Tech State College system and the emerging Community College of Indiana already play a major role in basic skill remediation (especially as they connect people to postsecondary education) and they are positioned to do more. The nonprofit sector, relying strongly on literacy volunteers, has the capacity to make important contributions. Most importantly, research indicated that many private firms are already making big investments in the basic skills of their workers and, given a delivery system that supports them well, they are prepared do much more.

Phase I Research Tasks

The focus of Phase I of this project was on research to better understand workforce literacy skills and needs in Indiana, potential resources available in the state to address this need, and promising models from around the nation to consider in designing demonstration and pilot programs for Phase II. The Workforce Literacy Advisory Committee organized by the Indiana Chamber to support these objectives consisted of key officials from several state government agencies with an interest in workforce literacy; leaders of private, nonprofit organizations with adult literacy missions; representatives of educational institutions; and private sector individuals with special expertise in workforce literacy. The advisory committee proved to be an invaluable resource for FutureWorks. It provided access to important sources of information, suggested specific topics for research and offered constructive feedback on preliminary findings. The research and planning work of the research team was, therefore, shaped and strengthened by guidance from the advisory committee.

FutureWorks conducted four major research tasks:

1. ***Literature/expert review:*** reviewed national and Indiana-specific literature and data on workforce literacy needs, program themes and major issues, and assessed their implications for this project
2. ***National scan of innovative practices:*** identified promising program models and developed a framework of “best practices” to guide this project. The research team also organized a series of informational forums to share promising practices with stakeholders in Indiana
3. ***Document and analyze Indiana's current workforce literacy programs and resources:*** inventoried and assessed current programs and funding sources across all providers in Indiana
4. ***Business survey:*** designed and analyzed an in-depth survey of Chamber employer members and customers to help document their needs and perceptions of workforce literacy education

The findings from the literature and expert review, national scan and inventory of Indiana's current programs and resources are presented in the next sections of this report. FutureWorks' research findings on the need and current resources for workforce literacy education in Indiana were drawn principally from interviews of public officials, program providers, employers and presentations at six advisory committee meetings hosted by the Indiana Chamber between January and July 2004. Findings were significantly refined and sharpened from ongoing review and feedback from the advisory committee.

As anticipated, the literature and expert review revealed several promising models and initiatives from other parts of the country that would be instructive for the Chamber and other stakeholders in Indiana. FutureWorks worked with the Chamber to share these models with interested parties throughout the state in a series of three forums. The additional information presented in these forums was important to the research team in drawing conclusions and recommendations for this project. A schedule of these events and speaker details are presented in Appendix B.

Defining “Workforce Literacy”

One of the major tasks of the project in its early stages was to develop a working definition of workforce literacy. This task turned out to be a major challenge and required several conversations over many meetings to develop a common understanding of precisely what it is that this project would seek to improve. The conversation mostly centered on how comprehensive the term should be and whether it is an absolute concept (either workers have it or they don't) or a relative one (some workers have and need more basic skills than others, and all workers can gain more skills with education). The discussion around comprehensiveness included basic academic skills (reading, writing and math), employability

skills (thinking critically, using technology and tools) and interpersonal skills (communication, teamwork). Another set of skills that seemed to be important to most advisory committee members was workers' ability to continually learn for their jobs and careers.

In the end, the advisory committee agreed to adopt a more comprehensive and relative definition because, unlike jobs in the old economic era, jobs in the knowledge economy do require more than simply the ability to read, write and do math.

Workforce literacy is a continuum of skills important to effective performance in the workplace

The definition of workforce literacy includes:

- ☐ A skill-based proficiency continuum (a relative rather than an absolute measure);
- ☐ Reading, using information, and math skills;¹
- ☐ Communicating effectively in English;
- ☐ Learning, understanding and applying information and analysis;
- ☐ Thinking critically and acting logically to solve problems;
- ☐ Using technology, tools and information systems; and
- ☐ Working in teams, developing a positive attitude toward change, and a willingness and ability to learn for life.²

Although this more comprehensive definition of workforce literacy seems wholly appropriate for driving the Chamber's work in Phase II and beyond, it does pose a challenge in researching the need for workforce basic education. There is little quantitative data on the literacy skills of working adults, and what is available focuses narrowly on only the first set of skills – reading, writing and math. There is no up-to-date quantitative basis even for estimating the number of adult workers with deficits in these dimensions of “basic skills.” If Indiana is to gain an accurate understanding of the wider workforce skills of the labor force – academic, employability, interpersonal and lifelong learning/career development – new and more comprehensive assessment tools must be designed and implemented.

For this report, the research team used the available data on adult literacy skills as a proxy for workforce literacy skills. There is no doubt that hundreds of thousands of workers have significant literacy deficits, and from that point of view it is hardly necessary to count them all before concluding there is a big problem. On the other hand, a major effort to remediate this problem demands real accountability and performance assessment. That will not be possible without new estimation tools.

II. BACKGROUND

The literature review and interviews within Indiana revealed the importance of this issue. Not only are inadequate workforce literacy skills a problem for workers, employers and the state, but this problem also is national and growing. Employers are critical to meeting this challenge; therefore it is important for the Chamber and other stakeholders throughout the state to understand any barriers to their investment in basic education and to understand how to significantly and effectively engage them in the solutions.

¹ This definition is the standard set by the International Adult Literacy Survey and the National Adult Literacy Survey.

² This definition was first presented by The Conference Board of the United States in its 1999 report, “Turning Skills into Profit: Economic Benefits of Workplace Education Programs.”

Inadequate workforce literacy skills are a problem for everyone

Workers, employers and the state of Indiana suffer when inadequate workforce literacy skills are not addressed. Individual workers with low skill levels are not prepared for the new and continuously evolving workplace skill requirements or to advance in their careers. This project specifically targets workers with low basic skills who increasingly are in danger of being left behind with the rapidly evolving skills demands in the workplace. This includes those workers who may or may not have graduated from high school 10 to 15 years ago and, forgoing postsecondary education, immediately went to work. It was possible for them to make a decent living because they had the education and skills required by the workplace at that time: strong backs, good work ethics and the ability to operate simple machinery or perform simple tasks on an assembly line.

However, with advances in technology and the way businesses organize their operations, these same workers need higher-level academic, employability, interpersonal and career-planning skills. For example, they need better math skills to read blueprints, and computer skills to operate computer-operated machines. Some need help with time management skills and other basic work skills. Many need help with developing teamwork skills and knowing how to work with co-workers in self-directed work pods. Finally, one of the most important “new economy” skills is managing one’s own continuous education, training and career development. Data from an employer survey conducted for this project indicated that this was one of the most inadequately developed skills sets among their workers.

The importance of adequate skill levels is significant. Carnevale and Gainer have written that, “the association between skills and opportunity for individual Americans is powerful and growing. ... Individuals with poor skills do not have much to bargain with; they are condemned to low earnings and limited choices.”³ The literature often refers to literacy as a “currency” in this society, because those with low literacy have difficulty meeting their basic needs and those with high literacy have more choices, better ability to capitalize on opportunity and a better overall quality of life.⁴

Additionally, employers increasingly face difficulties finding the skilled workers they need to work in jobs with growing skill requirements. Many employers in both national and state-specific surveys substantiate this finding. Poorly skilled workers are less productive in a technical and knowledge-based workplace and, therefore, threaten the profitability of the company. Finally, the Indiana state economy suffers because it loses good jobs to other states or countries and because its ability to attract these types of companies is compromised by an undereducated labor force.

On the other hand, providing workforce literacy training can help to counter these negative consequences. As clearly outlined in a 2001 report from the Indiana Adult Literacy Coalition, adult literacy training can:

- Give individuals the tools to help themselves
- Strengthen a family’s ability to support each other
- Help a community develop an informed, capable workforce to maintain and attract industry
- Help employers compete in an economic environment that is increasingly global⁵

³ Carnevale, A.J. and L.J. Gainer, “The Learning Enterprise,” Washington, D.C.: U.S. Department of Labor, Employment and Training Administration.

⁴ Kirsch, I. S., A. Jungeblut, L. Jenkins, and A. Kolstad, “Adult Literacy in America: A First Look at the Results of the National Adult Literacy Survey” (executive summary), National Center for Education Statistics, U. S. Department of Education, 2002.

⁵ From the Indiana Adult Literacy Coalition’s report, “Statewide Literacy Plan: Bringing Stakeholders Together.”

As FutureWorks reviewed the status of Indiana's adult literacy programs in general and workforce literacy efforts in particular, we concluded that the economic case for literacy and workforce basic skills has not yet been well articulated. If Indiana is to prosper in a global economy biased toward skills, it must make big and quick changes in its ability to produce more highly skilled workers. Right now, the biggest bottleneck in the skill development pipeline is right at the bottom: Significant numbers of working adults do not possess the basic skills they need to acquire the technical and occupation knowledge and abilities demanded by this economy.

For most workers, acquiring the technical and occupational skills they need for their success and their employers' success will demand a combination of training on the job and specialized education in postsecondary institutions. For these workers, the basic skills needed to prosper in workplace training are not really any different than the basic skills needed to prosper in educational institutions. In this respect, the real payoff for adult literacy or workplace basic skills (for both workers and their employers) should be seen as entry to postsecondary education.

Postsecondary education attainment in Indiana is low in comparison to the nation as a whole and in comparison to competitor states. While Indiana compares modestly well against the nation and the states adjacent to it in terms of its rate of high school graduation or its equivalency, it lags the U.S. and every adjacent state except Kentucky on the percentage of its population gaining college credentials. In 2000, only 45 percent of Indiana's age 25 and older population had at least some college, while the corresponding number for the U.S. as a whole was 51.8 percent, for Illinois 53.7 percent, for Michigan 52.1 percent, for Ohio 47 percent and for Kentucky 40.6 percent.

Of special concern is Indiana's lagging position in the percentage of its population with associate degrees. According to the U.S. Census, for the nation as a whole in 2000, 6.3 percent of the age 25 and older population had an associate degree. In Indiana only 5.8 percent of the population had a two-year degree. In Michigan, a state with which Indiana competes directly for investment and jobs, about 7 percent of the population had an associate degree. While these may seem like small differences, this means that a business needing a technically prepared, highly skilled worker with an associate degree has a nearly 30 percent better chance of finding that skilled worker in Michigan than in Indiana.

Indiana is not catching up. In 2002, the number of associate degrees awarded in Indiana as a percentage of high school graduates was only 18.1 percent, trailing the national rate of 21.1 percent.⁶ Other regions, already ahead of Indiana in the existing stock of workers with postsecondary credentials, are adding to that stock at a faster pace than Indiana.

Right now, the biggest bottleneck in the skill development pipeline is right at the bottom: Significant numbers of working adults do not possess the basic skills they need to acquire the technical and occupation knowledge and abilities demanded by this economy.

⁶ From the National Higher Education Information Center for Higher Education Policy and Analysis.

Table 1: Highest Level of Education for Adults Age 25+ in U.S. and Selected States

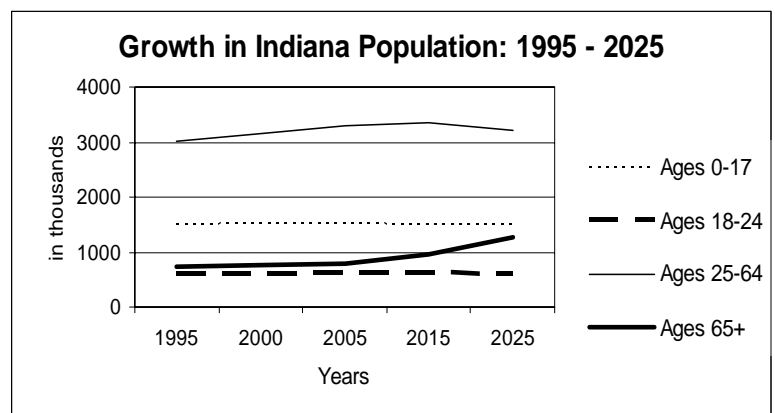
Highest Education Attained	U.S.	Indiana	Illinois	Kentucky	Michigan	Ohio
Less than 5th grade	2.2	0.9	1.9	2	1.1	0.9
5th to 8th grade	5.3	4.4	5.6	9.7	3.5	3.6
9th to 12th grade, no diploma	12.1	12.6	11.1	14.2	11.9	12.6
High school graduate (incl. equivalency)	28.6	37.2	27.7	33.6	31.3	36.1
Some college credit, less than 1 year	7.1	7.1	7.7	6.5	8.3	7.2
1 or more years of college, no degree	14	12.7	13.9	12	15	12.7
Associate degree	6.3	5.8	6.1	4.9	7	5.9
Bachelor's degree	15.5	12.2	16.5	10.3	13.7	13.7
Master's degree	5.9	5.1	6.5	4.8	5.7	5
Professional degree	2	1.4	2.1	1.5	1.6	1.7
Doctorate degree	1	0.7	0.9	0.6	0.8	0.8
TOTAL	100	100.1	100	100.1	99.9	100.2

Source: U.S. Census, 2000

Indiana's economic ambitions in such sectors as advanced manufacturing, logistics and transportation, biomanufacturing and others underscore the need for a technically proficient workforce. The state's employers may have some success in attracting managers and professionals with four-year and advanced degrees to Indiana; after all, they recruit for such positions in a national or even international labor market. However, they must recruit most sub-baccalaureate workers from within the region, and they depend on postsecondary institutions to supply technically proficient workers with a solid educational foundation.

Indiana's special challenge is to attract its current working-age adults (full-time workers age 25 and over) into postsecondary programs that work for them and their employers. Basic demographics indicate that the state simply will not have enough young people moving through school and into employment to meet the employment needs of the future. Indiana is a slow growth state, and the rate of growth will slow even more in the years ahead. The U.S. Census estimates that Indiana's population will grow by only 12.8 percent in the 30 years between 1995 and 2025. That projected rate of growth is one of the slowest in the nation — 44th among the 50 states.

Moreover, as the state's overall population ages, most of that growth will be in the number of older Hoosiers retired from the workforce and not in the number of young adults. According to U.S. Census projections, the number of 18 to 24-year-olds – new entrants to postsecondary education and the labor market – will remain relatively static, the number of retirees will grow, and the number of working age adults will shrink. Indiana's population of 18 to 24-year-olds has and is projected to grow slightly between 1995 and 2015 as the echo effect of the



baby boom passes through the age groups. However, by 2025 this increase will recede, and Indiana will actually have fewer 18 to 24-year-olds than it did in 1995.⁷

If Indiana is to produce a skilled workforce that its employers will require in the new economy, *i.e.*, with at least some postsecondary education, it must accomplish that by *pulling adult incumbent workers into postsecondary programs*. The career success and job advancement of those older workers now demands higher skills and frequent increments of credentialed postsecondary education demonstrating advanced occupational skills and knowledge.

Skills shortages are not limited to the state of Indiana

Nationwide, virtually all employers are struggling to attract and keep an educated and skilled workforce. One of the biggest culprits in this struggle is low basic skills. In 2001, a study by the National Association of Manufacturing revealed that, even in a manufacturing recession, four out of five manufacturers were experiencing moderate to serious shortages of qualified workers (both job applicants and current employees). The top problem identified by respondents was a lack of “basic employability skills” such as attendance, timeliness and work ethic.⁸

A 1999 study by The Conference Board of 550 U.S. CEOs reported that 25 percent identified shortages of key skills as a top challenge for their organizations. This same report noted that more than 40 percent of the U.S. workforce and more than 50 percent of high school graduates do not have the *basic skills* to do their jobs (based on the International Adult Literacy Survey, a seven-country study of adult literacy based on three types of literacy: prose, document and quantitative).⁹

The movement from an industrial economy to a knowledge economy is the driving force behind this challenge. Workers' education and skill levels have not necessarily fallen behind; instead, the skills required in the workforce have rapidly advanced. Workers of the past could rely on physical skills to operate machines; workers of the present and future must be mentally skilled to operate computers and other information technologies, and dexterous to continuously upgrade their knowledge and skills.

Economic and labor force trends indicate that this problem will get worse in the future, not better

Simple demographics reveal that both Indiana and the nation as a whole will increasingly rely on older workers in the future. The Bureau of Labor Statistics has estimated that the percentage of workers in the labor force aged 55 to 64 will grow by 56 percent from 2000 to 2010, and the percentage of workers aged 45 to 54 will grow by 30 percent. Conversely, the percentage of 35 to 44-year-old workers will shrink by 7 percent, and the percentage of 25 to 34-year-old workers will shrink by 1 percent.¹⁰ Because the labor force will continue to consist of the same (aging) population of workers, with few younger and perhaps better educated workers entering, employers must work with their current workforce. Therefore, any education and skills deficits workers and employers are facing now will grow worse with the increasing

⁷ U.S. Census Bureau, “Projections of the Population, By Age and Sex, of the States: 1995 to 2025.”

⁸ “Turning Skills into Profit: Economic Benefits of Workplace Education Programs,” The Conference Board, 1999, Research report 1247-99-RR.

⁹ “Turning Skills into Profit: Economic Benefits of Workplace Education Programs,” The Conference Board, 1999, Research report 1247-99-RR.

¹⁰ U.S. Department of Labor, Bureau of Labor Statistics, “Occupational Outlook Quarterly Online,” Winter 1999-2000, Charts: Labor Force, <http://www.bls.gov/opub/ooqindex.htm> cited July 2004.

demands of a knowledge economy. Quite simply, this is not a challenge that employers will be able to cycle out of once younger, more educated workers enter the labor force.

Some may argue that immigration of higher skilled and better educated workers – either domestic or foreign – can address this problem. However, this does not appear to be a solution in Indiana. In fact, most immigrants entering the state appear to be in more need of basic skills education – not less – further compounding this challenge.

In solving this problem, the role of employers is critical; therefore, a clear understanding of their perspective and needs is essential

Employers know the importance of investing in workers' education and skills; however, they often make a clear distinction between investing in workplace *literacy or basic skills* and investing in *job-specific occupational skills*. The common perception is that many employers are willing to invest in the latter, but are hesitant to spend scarce company training dollars on the former. Their reasons include: (1) through taxes, they have already paid for basic skills education in the public secondary system; (2) they see more and quicker returns on investment when they spend limited company training funds on job-specific training; and (3) even if they wanted to provide basic skills training for workers, they do not know where to go to connect to the resources, training providers, etc. to do this.

However, research for this project indicated that Indiana employers are more sophisticated in their understanding of the problem of low workplace basic skills. They agree that they pay taxes to educate the current generation of students and it is reasonable to assume that this group of students will have the prerequisite basic skills to perform well on the job (and in postsecondary education, as high school is presumably a foundation for both). However, they recognize that the older current workers who lack basic skills were educated during a different economic era – one that more closely resembled the industrial economy and not the knowledge economy. The secondary school system cannot be blamed for not having the foresight to predict such rapidly changing skill requirements of the 21st century workplace. The simple fact is that these workers' skills were adequate for their time, but are now outdated; investments in current systems – both public and private – to upgrade these workers' skills are necessary.

Second, research has shown and some employers have realized positive returns on investment to workplace education programs that develop workers' basic skills. These programs may target basic skills exclusively (*i.e.*, reading and writing) or may incorporate basic skills education with job-specific training. Either way, the programs are employer driven, customized to the specific workplace and intense enough to produce real results. According to The Conference Board, improved skill levels resulting from these programs lead to “a host of direct economic benefits...including increased output of products and services, reduced time per task, reduced error rate, a better health and safety record, reduced waste in production of goods and services, increased customer retention and increased employee retention.”

Workplace basic skills programs lead to “a host of direct economic benefits...including increased output of products and services, reduced time per task, reduced error rate, a better health and safety record, reduced waste in production of goods and services, increased customer retention and increased employee retention.”

These investments also result in “indirect benefits, such as improved quality of work, better team performance, improved capacity to cope with change in the workplace and improved capacity to use new technology.”¹¹ For example, over 80 percent of employers interviewed by The Conference Board reported

¹¹ “Turning Skills into Profit: Economic Benefits of Workplace Education Programs,” The Conference Board, 1999, Research report 1247-99-RR.

that worker education programs increased the quality of their work. At Baker Enterprises in Michigan (a sheet metal fabrication company), worker education programs helped reduce overheads, reduce the need for supervisors and increase sales by 5 percent. At Chicago-based Juno Lighting, profits increased 15 percent due to an investment in new technology and in training workers through worker education programs to use the technology effectively.¹²

Employers across the nation gain tangible returns on investment by investing in workplace literacy skills. Just as importantly, this investment provides longer-term returns for workers. It provides a foundation for them to enter postsecondary education and advance in their careers. As one employer interviewed for this project stated, if he could get all of his employees to prepare for, enroll in and succeed in postsecondary education, he would be happy because it would help his bottom line to have smarter and more skilled workers, and it would help his workers advance in their careers.¹³

Finally, the lack of information about and connection to resources, providers and programs for workplace literacy education is a true barrier for employers in the state of Indiana. As detailed later in this report, this was a significant finding from the research. Point two in the five-point strategy recommended in this report directly addresses this weakness in the current system.

III. LITERATURE REVIEW AND NATIONAL SCAN

One of FutureWorks' major tasks was to identify emerging themes in the national workforce literacy field and promising models that the Chamber could consider in designing demonstration programs and activities for Phase II of the project. The literature review and national scan revealed several emerging themes in the field that were often echoed in our Indiana-specific research. These themes are important to consider as the Indiana Chamber enters the demonstration program design phase of this project. For an annotated bibliography of the documents reviewed, please see Appendix C.

Themes from the Literature Review

- Most states – including Indiana – lack up to date and accurate data on the adult or workforce literacy skills of their populations as a whole and of their working adults
- Research shows that workers with low basic skills are also workers with low wages
- The role of technology is becoming increasingly important as the need for education grows and the resources do not increase proportionately
- The role of intermediaries is significant, especially for small and medium-sized companies that lack even basic human resource capabilities, including education and training functions
- Research shows that sectoral initiatives – those that focus on education and training efforts for employers and workers within one industry sector – can be successful approaches to addressing education and training challenges in the workplace
- English as a Second Language programs have become more important in the United States, and in Indiana, especially for Hispanics

¹² *ibid*

¹³ Personal communication with the quality manager at MA Metal in Edinburg, Indiana, on April 12, 2004.

Most states – including Indiana – lack up to date and accurate data on the adult or workforce literacy skills of their populations as a whole and of their working adults. Although anecdotal evidence from employer interviews and employer survey data indicate lack of workplace basic skills is a significant problem, there is no precise understanding of the nature or extent of this problem. There is only one national data source that captures this information: the National Adult Literacy Survey (NALS), conducted in 1992. Indiana was one of a handful of states to participate in a state-specific study that corresponded to the national survey; therefore, there is some valuable statewide information available from that 1992 study.¹⁴ However, this data is more than a decade old and does not capture the comprehensive definition of “workplace literacy” or “workplace basic skills” adopted by the advisory committee for this project. When the NALS survey was updated nationally in 2003, Indiana did not participate in the corresponding state-specific study due to the high cost.¹⁵ While the results of the 2003 state-specific studies will not be available under any circumstance until 2005 and would not have been available for this research even if Indiana had participated, there is no future prospect of up to date, Indiana-specific data on adult literacy levels.

Research shows that workers with low basic skills are also workers with low wages. There is a well-documented link between education and income. Therefore, investing in the basic skills of workers – especially as a first step in a path to higher education – helps to increase their wages and incomes. This, in turn, improves the state’s economic outlook. Important program design considerations that stem from this theme include the need to understand and make some provision for support services that low-skill and low-wage workers may need to enroll in and complete education and training. For example, if a program is designed to be offered after the worker’s regular shift, there may be child care constraints that prevent the worker from attending the training. In this situation, it may be best to offer the education during a regular shift or help the worker to make child care arrangements.

The role of technology is becoming increasingly important as the need for education grows and the resources do not increase proportionately. Given the enormous need to provide workforce literacy education and the limited public and private funding available, many programs have turned to technology to serve more students with fewer resources. From delivery through the Public Broadcasting System to Kentucky’s “Skill Mobiles” to 24-7 workplace learning labs in which students advance through computer-based programs at their own pace and on their own schedule, technology can be a powerful resource to meet the growing challenge of inadequate basic skills in the workplace.

The role of intermediaries is significant, especially for small and medium-sized companies that lack even basic human resource capabilities, including education and training functions. Intermediaries are organizations or agents that work with employers and employees to build workplaces that provide resources and support for education, training and career development to improve outcomes for companies and workers. Often times, larger corporations have infrastructures in place to provide human resources assistance, education and training for workers. However, small and mid-sized companies – the vast majority of companies in the United States and Indiana – do not have these infrastructures, resources or support systems. Intermediaries, such as chambers of commerce and some community-based organizations, can assist these companies with their HR, education and training needs.

Research shows that sectoral initiatives – those that focus on education and training efforts for employers and workers within one industry sector – can be successful approaches to addressing education and training challenges in the workplace. These models can be particularly effective in areas

¹⁴ The results of the “State Adult Literacy Survey” for Indiana are presented and analyzed in a report, “Adult Literacy in Indiana: Results of the State Adult Literacy Survey,” authored by Lynn B. Jenkins and Irwin S. Kirsch of Educational Testing Service in May 1994. These results are presented for the state as a whole; no sub-state data is available.

¹⁵ The 1992 survey participation cost for a state was \$350,000, and the 2003 survey participation cost was \$750,000.

with concentrated clustering of employers in the same or related industries. By pooling their common training needs and resources, employers can gain a level of scale that is useful for streamlining local training offerings, increasing efficient use of training dollars and reducing the cost of training. Several models have been described in the literature.

English as a Second Language programs have become more important in the United States, and in Indiana, especially for Hispanics. For many states, the growth in their labor market stems primarily from growth in foreign-born populations with limited English skills and often limited education. For example, the 2000 Census data indicates a 117 percent increase from 1990 to 2000 in the number of Hispanics in Indiana. In addition to a focus on reading, math, employability and other important workforce literacy skills, English language skills must be part of any workforce literacy strategy for workplaces with significant numbers of limited English workers. Specifically, in Indiana, it will be important to know where these workers work, what languages they speak, what cultures they originate from (important for program and curriculum design) and their current English skill levels.

As the Indiana Chamber of Commerce considers demonstration programs to pilot and activities to undertake in Phase II of this project, it is important to draw on models from other states and organizations that can provide guidance in program design and implementation.

One of FutureWorks' major research tasks was to conduct a national scan of promising program models for use during the design of Phase II projects. This scan helped shape the themes presented above. Additionally, it helped to guide our suggestions for the series of three forums that were part of this project.

Appendix D presents the results of this scan. The research team identified more than 40 promising program models nationally, including programs that are:

- ☐ Company based
- ☐ Employer-association led partnerships
- ☐ CBO and public sector led partnerships
- ☐ Union-business led partnerships
- ☐ Community college initiatives

Model programs in each of these categories are presented in separate tables in the appendix along with important details about each program. This listing is just a start. As the Chamber identifies the specific types of programs it would like to pilot or demonstrate, the staff can review this listing and focus more sharply on the important and successful program design features as well as lessons learned from specific models.

This national scan also helped to develop a global listing of important characteristics of successful programs. In designing pilot or demonstration programs, the Chamber can use the following listing as a framework of parameters for initial design.

Framework of Successful Program Characteristics

1. Program is *employer driven*
2. Workers are involved in design, implementation and evaluation of training
3. Assessment and training is customized to specific workplace
4. Training is customized to adult learner and consistent with adult learning methodologies
5. Paid release time, voluntary participation and incentives are key
6. Program includes career planning and learner support components
7. Training providers selected based on clear criteria and are skilled and well trained
8. Program includes an evaluation

IV. MAJOR FINDINGS: THE INDIANA CHALLENGE

This section presents the four most significant findings from the research into the need, and current resources available, to address the Indiana workforce literacy challenge.

Major Findings from Research

- Finding 1: There is significant need for incumbent workforce literacy education in Indiana; however, awareness is limited and demand is muted
- Finding 2: Current public resources for adult education and workforce development to address the Indiana incumbent workforce literacy challenge are inadequate to meet the need
- Finding 3: Other public, private and nonprofit resources may be positioned to help address this challenge; however, their current capacity is limited
- Finding 4: Employers are critical to addressing the workforce literacy challenge and are prepared to play a central role

Finding 1: There is significant need for incumbent workforce literacy education in Indiana; however, awareness is limited and demand is muted

FutureWorks estimates that between 960,000 and 1,230,000 employed Hoosiers had literacy skills below NALS Level 3 in 2002, the minimum standard for successful employment in a knowledge-based economy. Although two-thirds to three-quarters of the working adults in Indiana would score at a Level 3 or above, the number of working adults scoring below Level 3 is significant, especially in an economy that cannot afford to leave even one worker behind.

The literature review revealed no sources of data to understand *workforce literacy* levels as defined in this project. However, we did find one source of data on *adult literacy* in general: the National Adult Literacy Survey of 1992 (NALS). In 1992, the U.S. Department of Education funded this large-scale study to characterize adults' literacy skills in English based on their performance on diverse tasks similar to what they would encounter in their everyday lives. Educational Testing Service (ETS) administered the survey, and trained staff interviewed a national sample of 13,600 randomly selected individuals age 16

and older during the first eight months of 1992. Survey participants spent about one hour responding to a series of varied literacy tasks and answering questions about his or her demographic characteristics (*i.e.*, age, race) and other important background information relevant to education. Survey participants' responses were scored in three areas – prose literacy (reading), document literacy (using information), and quantitative literacy (math skills)¹⁶ – on a scale of 1 through 5 (1 being the lowest skill level).

In conjunction with the national survey, 12 states participated in state-level surveys. Fortunately, Indiana was one of these states and has some information on the adult literacy levels in 1992.¹⁷ In 1992, trained staff interviewed and surveyed more than 1,400 randomly selected Hoosiers age 16 and older using the NALS protocols, representing 4.2 million adults statewide. All of the percentages at each level reported below for Indiana are similar to the Midwest and the national scores.

Unfortunately, Indiana did not participate in the state-level survey of the 2003 update to this survey – the National Assessment of Adult Literacy or NAAL – due to the high cost.¹⁸ Therefore, the state does not have any statewide updated information on adult literacy levels in Indiana. However, we can with some confidence extrapolate from the 1992 literacy levels using 2002 Census data to estimate the level of need for workforce literacy education in Indiana.

The rest of this section presents the results of the 1992 NALS survey by skill level and uses this data to project the skill levels of workers in 2002.

NALS Level 1

The 1992 NALS revealed that 15 to 17 percent of the adults in Indiana, or between 600,000 and 700,000 adults, demonstrated skills in the lowest level of prose, document and quantitative proficiencies (Level 1). Nationally, 21 to 23 percent of adults demonstrated skills in this level; therefore, in 1992, Indiana had a slightly lower percentage of the lowest-level adults than the nation. However, in comparison to the Midwest region, Indiana had about the same percentages: in the Midwest, 16 to 19 percent of adults scored in Level 1.

These adults could perform simple, routine tasks involving brief and uncomplicated documents, *i.e.*, totaling entries on a deposit slip and locating the time and place of a meeting on a schedule. These adults were more likely to be foreign-born than higher-scoring adults, less likely to have completed high school, earned a GED or attended postsecondary education, more likely to be age 65 or older and more likely to have physical or mental limitations.

Although about 16 percent of the overall adult population in Indiana scored at this level, only 7 to 10

¹⁶ The NALS study defined prose literacy as the knowledge and skills needed to understand and use information from texts that include editorials, news stories, poems and fiction; for example, finding a piece of information in a newspaper article, interpreting instructions from a warranty, inferring a theme from a poem or contrasting views expressed in editorials. It defined document literacy as the knowledge and skills required to locate and use information contained in materials that include job applications, payroll forms, transportation schedules, maps, tables and graphs; for example, locating a particular intersection on a street map, using a schedule to choose the appropriate bus or entering information on an application form. It defined quantitative literacy as the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed materials; for example, balancing a checkbook, figuring out a tip, completing an order form or determining the amount of interest from a loan advertisement.

¹⁷ The states that participated in the 1992 NALS included: California, Florida, Illinois, Indiana, Iowa, Louisiana, New Jersey, New York, Ohio, Pennsylvania, Texas and Washington. Participation cost was \$350,000.

¹⁸ The states that participated in the 2003 NAAL included: Kentucky, Maryland, Massachusetts, Missouri, New York and Oklahoma. Participation cost was \$750,000.

percent of *employed* Hoosiers scored at this level. This is an important distinction when the Chamber considers the types and intensities of literacy education for the demonstration programs and other activities in Phase II of this project.

NALS Level 2

The NALS survey found that 27 to 29 percent of Indiana respondents, or 1.1 to 1.2 million, scored at the next highest level – Level 2. In the Midwest, 26 to 30 percent of adults demonstrated skills at this level, and in the U.S. as a whole, 25 to 28 percent were at this level. These adults could locate information in text, make low-level inferences using printed materials, integrate easily identifiable pieces of information and perform one-step arithmetic operations. According to ETS' analysis, unlike adults in Level 1, Indiana residents who performed in Level 2 resembled the overall state population in most respects, including age, race and citizenship.¹⁹

Additionally, *employed* Hoosiers were just as likely to score at this level as adults in the state overall. While 27 to 29 percent of the overall adult population scored at Level 2, a similar range of 25 to 31 percent of employed Hoosiers scored at this level. Adults with skills at Level 2 are just as likely as adults in the population as a whole to be employed (similar proportions for both full-time and part-time work). This indicates that, as the Chamber contemplates Phase II demonstration programs, it should be sure to include programming that serves workers with skills at NALS Level 2.

NALS Level 3

Across the three scales, 34 to 37 percent of Hoosiers, or between 1.4 and 1.5 million, scored at Level 3. This is the middle level and often referred to as the minimum level for successful employment because there is a clear demarcation between levels 2 and 3 in the percentages of adults who are employed, not living in poverty, not on welfare or using food stamps, and other economic indicators.²⁰ The NALS researchers found that, in general, individuals who demonstrated higher levels of literacy were more likely to be employed, work more weeks in a year and earn higher wages than those in lower levels. Specifically, adults in Level 1 reported working an average of 18 to 19 weeks in the previous year, compared to adults in the highest three levels (Levels 3, 4, and 5), who worked about twice as many weeks. Also, those who tested in the lowest level had median earning of between \$230 and \$245 per week, compared to \$350 for Level 3 adults, and \$620 to \$680 for Level 5 adults.

***...a slightly
higher proportion
of employed
Indiana adults
scored at Level 3
than in the overall
adult population -
38 to 41 percent.***

In the Midwest, 33 to 35 percent of adults demonstrated skills at Level 3, and in the U.S. as a whole, 31 to 32 percent. These adults could match pieces of information by making low-level inferences, integrate information from relatively long or dense text, integrate multiple pieces of information found in documents, and use two or more numbers found in printed material and in interpreting arithmetic terms.

Adults at Level 3 differed from the population as a whole in only a few respects. They were less likely to have limited education and they were less likely to report having a limiting physical or mental condition. This likely explains why a slightly higher proportion of employed Indiana adults scored at Level 3 than in

¹⁹ Jenkins Lynn B. and Irwin S. Kirsch, 1994. "Adult Literacy in Indiana: Results of the State Adult Literacy Survey." Educational Testing Service. May

²⁰ However, the U.S. Department of Education's national panel of experts who were assembled to define literacy defined it as "using printed and written information to function in society, to achieve one's goals and to develop one's knowledge and potential." This definition includes a broader range of skills and competencies than simply those used in the workforce; therefore, a score within the Level 3 range on the NALS is only a general approximation of the skill level that may be required for successful employment.

the overall adult population – 38 to 41 percent. This data fits with the trend that full-time employees had higher average scores (about the middle of level 3) than unemployed adults (slightly above the middle of Level 2) and adults not in the labor force (middle of Level 2) reported by ETS.

NALS Level 4

The 1992 survey found that 17 to 19 percent of adult Hoosiers, or between 700,000 and 800,000, scored at the fourth literacy level. In the Midwest region, 16 to 19 percent of adults tested at this level, and nationally, 17 percent tested at Level 4. These adults could complete more difficult tasks, including synthesizing information from lengthy or complicated passages, making inferences based on text and documents, and performing sequential arithmetic operations using numbers found in different types of printed materials. Compared to the adult population as a whole in Indiana, most of the Level 4 adults had graduated from high school, attained a GED or attended postsecondary education (93 to 96 percent compared to about three-quarters overall). They also were younger and were less likely to have physical or mental conditions.

Between 18 and 24 percent of *employed* adults in Indiana scored at Level 4, which is a slightly higher proportion than for the adult population overall. Again, this supports the trends that employed adults are likely to score higher than unemployed adults and those out of the labor market, and that higher scoring adults are more likely to be employed.

Between 18 and 24 percent of employed adults in Indiana scored at Level 4, which is a slightly higher proportion than for the adult population overall.

NALS Level 5

In 1992, just 2 to 4 percent of adults in Indiana, or about 84,000 to 167,000, scored at Level 5, the highest level on the NALS scale. This was the same percentage for the Midwest region and nationally. These adults could make high-level inferences from text, contrast complex information found in written materials, find specific information in complex displays and perform multiple-step arithmetic operations. The background characteristics of these adults differed significantly from the population as a whole. For example, they were less likely to belong to a racial or ethnic minority, less likely to be older and to have a limited mental or physical condition and more likely to be well educated. Two to six percent of the employed population in Indiana scored at this level.

Table 2: NALS Levels, Skills Sets and Percentage of Adults at Each Level

NALS Level	Skill Set	% of Indiana adults in 1992	% of U.S adults in 1992
1	Simple, routine tasks involving brief and uncomplicated documents, i.e., totaling entries on a deposit slip	15-17%	21-23%
2	Locate information, make low-level inferences using printed materials, integrate identifiable pieces of information and perform one-step arithmetic operations, i.e., locate a particular intersection on a street map and enter background information on a simple form	27-29%	25-28%
3	Integrate information from long or dense text, integrate multiple pieces of information found in documents and determine the appropriate arithmetic operation based on printed information, i.e., solve math word problems	34-37%	31-32%
4	Synthesize information from lengthy or complicated passages, make inferences from text and perform sequential arithmetic operations, i.e., read and interpret essays	17-19%	17%
5	Make high-level inferences from text, contrast complex written information, find specific information in complex displays, perform multi-step arithmetic operations	2-4%	2-4%

Projection of employed Hoosiers with low basic skills in 2002

Overall, NALS data indicates that in 1992, 32 to 41 percent of employed Hoosiers ages 16 and over scored below Level 3, a threshold of sorts for successful employment. This represents between 873,000 and 1.1 million workers in the state in that year. The table below provides a summary of the skills sets at various levels of literacy and shows the percentage of Indiana adults at each level as compared to the U.S. as a whole in 1992.

Assuming that the percentages of the population at 1992 NALS Levels 1 through 5 have remained constant in Indiana, we can use labor force data for 2002 from the U.S. Census Bureau (the latest year with enough information to do the calculation) to extrapolate the number of workers at various literacy levels for that year. This is a conservative estimate, however, because the state has gained more residents with characteristics similar to the lower-scoring individuals than residents with characteristics of higher-scoring individuals. For example, from 1990 to 2000, the state's Hispanic population grew by 117.2 percent compared to a 9.7 percent increase in overall population. This suggests that the increase in foreign-born residents – those more likely to score a 1 or a 2 on the NALS scales – will present an even more significant literary challenge to the state.

According to the U.S. Census Bureau, Indiana had 3 million employed adults in 2002 (individuals over age 16, which also is the lowest age used in the NALS data). If 7 to 10 percent of these *employed* adults scored at Level 1 in 2002 as they did in 1992, then between 210,000 and 300,000 employed Hoosiers would have the lowest level of literacy skills in 2002. If 25 to 31 percent scored at Level 2, between 750,000 and 930,000 would be functioning at the second lowest literacy level. In total, based on this extrapolation, between 960,000 and 1,230,000 workers in Indiana would have literacy skills below NALS Level 3. This represents one in three workers in the state.²¹

Methodology for Calculating the Projection

- 3 million employed workers in Indiana in 2002
- Estimated 7-10% at Level 1 or 210,000-300,000
- Estimated 25-31% at Level 2 or 750,000-930,000
- *TOTAL workers below Level 3 = 32-41% or 960,000-1,230,000*

It is important to note that the NALS survey measures only a portion of the workforce literacy skills deemed important to develop in this project. These numbers represent only the reading, document and math skill levels of adults in Indiana. There has been no wide-scale assessment of the other skill sets important to employers and workers in the workplace of the knowledge economy – employability, interpersonal and lifelong learning skills. For this reason, these numbers are simply a proxy for the need for workforce literacy education in Indiana. Although this is a reasonable estimate, FutureWorks strongly urges more specific research in the state to understand more precisely the nature and extent of the wider workforce literacy challenge. This should not be done only once – as with the National Adult Literacy Survey. Such data is most useful when it is captured at several points in time and can be compared over time to measure progress toward meeting the challenge.

High need, but limited awareness and low effective demand

Despite the high need for workforce literacy education in Indiana, the apparent effective demand for services and programs from workers and employers is muted. The research team found little evidence of significant demand for basic skill education from working adults with low basic skills. Although there are some adults on waiting lists for adult education programs in some regions, there is no widespread demand by large numbers of working adults – certainly nothing close to the estimated 1 million who are in the lowest two levels of literacy skills.

²¹ Because the NALS data includes adults ages 16 and over, this estimate overstates the workplace basic skills deficits of working adults ages 25 and over, which is the parameter used for this project.

This “high-need, low-demand” dilemma occurs for a variety of reasons. The biggest problem seems to be that there is limited awareness among the general public of literacy deficits in Indiana. We found little media attention to the problems of adult literacy and little regard from public policymakers.

In the absence of an immediate and compelling personal, educational or employment-related motive, individuals who could benefit from workforce literacy resources may not pursue them. Of the large number of individuals nationwide and in Indiana who fall into the lowest levels of functional literacy, many have found ways to cope with or compensate for this situation and therefore are disinclined to invest time, money or energy into upgrading their skill levels. Data from the 1992 NALS survey substantiate this finding. Nationally, most of the adults who tested in the two lowest literacy levels described themselves as being able to read or write English “well” or “very well,” and very few indicated that they get a lot of help from family members or friends with everyday prose, document or quantitative literacy tasks. Only 20 percent of the adults who tested in levels 1 and 2 stated that they saw an immediate need for help in remediation of their low skills.

Although these adults believe that their skills are sharp enough to do the daily tasks they need to perform, low-skilled adults are far less likely to be employed full time and have significantly lower earnings than their higher-skilled peers. The challenge is threefold: 1) help low-skilled adults understand that their skills are low; 2) help them learn about services and programs that can assist them; and 3) encourage them to enroll in these programs. This challenge is exacerbated by the social stigma that often prevents adults from recognizing and admitting their skill deficits and seeking basic education.

Additionally, employers may be reluctant to urge or require employees to improve their workplace literacy skills for fear of losing them to another employer or for financial reasons. Although findings from research for this project show many employers encourage and pay for their employees to take basic education courses, few require it.

Only 20 percent of the adults who tested in levels 1 and 2 stated that they saw an immediate need for help in remediation of their low skills.

Employers, workers and education providers need better access to information and resources on workforce literacy education and services. In interviews with providers and employers and in the employer survey, there were loud and clear calls for more information on where to access workforce basic skills education information and resources. Employers sought information on funding opportunities for basic skills education, qualified training providers and programs. Training providers sought information on curricula, ways to improve workplace-based training and innovative program design.

Additionally, in the employer survey conducted for this project, employers, when asked to rank the importance of various policies to impact increased workforce basic skills education, ranked highest the policy to provide information to them about where to get help from education specialist and training providers.

Finding 2: Current public resources for adult education and workforce development to address the Indiana incumbent workforce literacy challenge are inadequate to meet the need

Although an estimated 1 million employed Hoosiers are in need of workforce literacy education, current public resources are serving only an estimated 20,000 to 23,000 adult workers annually. This includes approximately 15,000 to 16,000 through the Department of Education's adult education programs; 3,000 to 4,000 through the Department of Workforce Development's Advance Indiana

incumbent worker training programs and Work One Centers; and 2,000 to 3,000 through the Department of Commerce's incumbent worker training programs. This barely scratches the surface of the apparent need. With recent sharp increases in the immigration of non English-speaking adults, it almost certainly means that the problem is getting worse, not better.

Adult Education

Most adult education services in Indiana are delivered through the Adult Education programs of the Indiana Department of Education. This program receives approximately \$14 million annually in state funding (General Fund appropriations) and about \$9-10 million from the federal government under the Adult Education and Family Literacy Act (now Title II of the Workforce Investment Act). State funds are granted by the Indiana Department of Education to approximately 85 local school districts that run adult education programs. There are now 43 provider agencies certified by Indiana as running "comprehensive" programs. Five nonprofit agencies and an Ivy Tech regional campus operate smaller programs. In 2003 there were approximately 350 adult education sites offering hundreds of programs throughout the state. The majority of sites were at community-based organizations and, although instruction most often is delivered through two to three hour classroom-based evening programs, many classes are now offered during the daytime as well.

Under regulations of the Department of Education, only licensed K-12 teachers may actually provide instruction in programs financed by these federal and state resources. Most of the 1,400 teachers in adult education work less than 20 hours per week in adult education programs — less than 150 are "full-time" adult education instructors. There is no formal requirement of certification or training in adult education. However, a professional development system provides training opportunities for adult educators and personnel from voluntary organizations. Beginning in the 2005-06 program year, a pre-service training component will be required of all new instructors.

In 2002-03, these Department of Education programs served 41,397 individuals. Of these, 20,953 were enrolled in adult basic education programs aimed at developing fundamental literacy skills (up to 8th grade). Another 11,809 were enrolled in adult secondary level programs that serve primarily 16 to 21-year-old young people who have dropped out of high school, but who are trying to get a diploma or are preparing for the GED test. Finally, 8,635 were enrolled in English and Second Language courses. Of these 41,397 participants, 15,687 were employed (data does not indicate how many were full-time adult workers) and another 15,732 were in the labor force, "available and looking for work," but unemployed. The remaining 9,978 were not in the labor force.

It is not clear how much unmet demand (as opposed to need) there is for these programs. Enrollment has been relatively stable over the past several years. A survey of adult education providers under the Department of Education carried out for this project (described below) indicated that 1,552 people were on waiting lists for these services. Many survey respondents indicated that over the next two years they anticipated a growing need for literacy services, especially for English language training.

Very limited state funding resources are targeted directly for workforce basic education. Almost all of the Indiana Department of Education's state and federal funds go to local education areas or high school programs, community-based organizations, libraries and other community-centered providers for general adult education programs and services. As summarized above, these providers do not serve a significant number of working adults who are the focus of this project. Their populations tend to include unemployed people and those not in the labor force.

In fact the majority of participants in the adult education program is under the age of 25 and not considered "working adults." The biggest segment of the adult education population is recent high school

dropouts pursuing a GED through the adult basic education system. With high-stakes testing taking hold in Indiana, this phenomenon may increase, which will further erode public resources for programs designed as second chance systems for adults. Currently, about 57 percent of participants in the adult education programs are age 25 or younger, and fully 30 percent are ages 16 to 19.

To understand the current state resources available for workforce literacy training in Indiana, the research team interviewed officials from several relevant major agencies and organizations in the state and reviewed both primary and secondary documentation on their programs. Most of the programs reviewed were not specifically focused on workforce literacy education. For example, the 17,000 adult students age 25 and over served by the Department of Education's adult education programs may or may not have been *working* adults. Also, we do not know how many of the 15,687 employed students were *adults employed full time* – the primary target audience of this project. Finally, these students were enrolled primarily in basic education courses that may or may not include education for workforce literacy more broadly.

This focus on general basic education is shaped largely by the state and federal legislation and funding that supports these programs. While these programs address employment and further education and training performance measures, in addition to obtainment of employment for the unemployed, they are not aimed directly at working adults. As the focus of our project is on working adults, these are important distinctions.

Finally, most of the employers interviewed for this project have a very limited awareness of the Department of Education's adult education programs. Few employers have ever been contacted by the local district and, if their workers were enrolled in these programs, most would not be aware of it.

To get a clearer understanding of how much workforce literacy education may be provided by this state agency, the research team worked with the Indiana Department of Education to conduct a special survey of its adult education providers in April 2004 on specific workplace-based literacy training programs. Fifty-nine of 61 providers responded for a 97 percent response rate. These providers indicated that a total of 11,041 workers received Adult Basic Education (ABE) resources in the 24-month period between June 2001 and June 2003, or an estimated 5,420 per year. The survey results indicated that 35 percent of these workers participated in these programs at their worksite, 23 percent participated in programs located off-site but tailored to their employer, and 41 percent participated through classes attended by other learners from the general population.

Of the employers with whom the DOE-supported adult education providers worked, approximately 63 percent encouraged their employees to participate in ABE voluntarily, 25 percent encouraged their employees to participate by offering promotions, raises or other incentives. Just 6 percent of employers required their employees to participate as a condition of continued employment. Of all employers with whom the providers worked, only 14 percent paid employees for a portion of their time spent in ABE classes.

The vast majority of services for the 11,041 workers in workplace-connected programs over the two years indicated in the survey were paid for by the Department of Education or other sources of revenue generated by the DOE-supported adult education providers. Over this two-year period, only 1,502 of the 11,041 adult learners received services that were paid for by their employers. These services generated a total of \$1,537,870 in fee-for-service contracts.²²

²² Over 75 percent of this amount was actually through *one* large contract between one DOE supported adult education provider and a single company.

As the Department of Education's focus for its adult education programs is not specifically on workers or the workplace — its mission traditionally has focused more broadly on the adult population with low basic skills below the high school level at large — it has not targeted many program resources on workforce literacy specifically. However, its *English Works* program was a pilot effort to provide professional development to adult education providers to work more closely with employers and tailor basic education to their workplace needs. The DOE is expanding this effort through its *Adult Education Works in Indiana* initiative, which is a statewide workforce education system to link adult basic education instruction to the workforce. This is a promising development, but with the present level of resources, it will develop slowly (less than \$1 million is devoted to it over the next three years).

Workforce Development

As with the Indiana Department of Education programs, the workforce programs in the Indiana departments of Workforce Development and Commerce do not focus on workforce literacy training. Rather, these programs support occupational or job-specific training. As workforce literacy is not a focus of these programs, most do not collect data on any workforce basic skills training that may be funded by these sources. Interviews with program officials indicate that some funding may be supporting basic skills education that is woven into occupational or job-specific training. However, because all training under Advance Indiana programs²³ must result in a credential, this education must be able to be integrated into a curriculum that leads to a credential. Often this is done through Indiana's Certificate of Technical Achievement (CTA) system, and workers receive a CTA in an occupational skill set that includes some specific basic skills training.

Interviews with employers and training and education providers indicate that the providers indeed may work with employers and employees to weave in some specific basic skills education with job-specific training in order to help workers gain the specific basic skills they need to effectively participate in the training. For example, one training provider offered a Shop Math/Prints/Gauging course for 49 employees at General Devices Company, Inc. In this course, the instructor combined education in basic math skills with job-specific training in reading company prints and using calipers. However, this anecdotal information does not provide a quantifiable and comprehensive understanding of how much workforce basic skills education occurs as a result of workforce development programs.

Additional resources within the Department of Workforce Development are Work One Centers, the state's one-stop career centers. Several of these centers provide access to or direct provision of adult education. However, the Department of Workforce Development was unable to provide data on how many working adults received workforce literacy education at the workplace through these centers.

The research team was able to get a slightly better understanding of how the Department of Commerce's Skills Enhancement Fund (SEF) might be contributing to workforce literacy education. The SEF application asks employers who apply for the funding to estimate how much of their two-year training budgets they will allocate for basic skills education, transferable skills, company-specific training or quality assurance training. In 2003, only 2 percent of the projected training budgets was allocated to basic skills education (budgets included both SEF dollars and employer dollars). About 48 percent was allocated for transferable skills training (which a few employers may have confused with basic skills education when completing the form); 29 percent was allocated for company-specific training; and 16 percent was allocated to quality assurance training. Although the data does not reveal the precise number

²³ Advance Indiana is the Indiana Department of Workforce Development's incumbent worker training initiative that includes five main programs at the time of this report: Skilled Trades Apprenticeship (STA); Workforce Investment Now (WIN); Gain Education and Training (GET); Regional Skill Alliance (RSA) and the Incumbent Worker Training Fund (IWTF).

of workers who received basic education through the SEF, clearly such a small percentage of the training budget devoted to this type of education would not result in large numbers of workers receiving workforce basic skills training. We estimate that this type of investment might result in 100 to 200 at the most.

Overall, FutureWorks estimates that perhaps one-third of the workers trained in the departments of Workforce Development and Commerce incumbent worker training programs, or about 5,000 to 7,000, receive some sort of workforce basic skills education. Most of this education would have been woven into job-specific training curriculums.

Table 3: State Agencies That Fund Adult Education or Workforce Training

Department/ Organization	Program	Notes
Indiana Department of Education (DOE)	ABE/ASE/GED/ESL (adult basic education, adult secondary education, general education development, English as a second language education)	<ul style="list-style-type: none"> □ 41,397 students served in 2002-03 in all adult basic education programs; there is not a specific focus on workforce literacy-focused training <ul style="list-style-type: none"> ○ 43% or 17,700 were age 25 or older ○ 38% or 15,687 were employed; 38% or 15,732 were unemployed ○ 24% or 9,978 were not in the labor force □ A 2004 special survey of DOE adult education providers found that an estimated 11,041 workers received ABE services that were explicitly connected to the workplace in a 2-year period from June 2001-June 2003. Most of these workers served in 2002-03 would have been included in the 41,397 total students served by the DOE programs in 2002-03 (above). 1,502 were in programs funded by their employers in fee-for-service contracts. An additional 1,552 were on waiting lists. 86% of providers responding reported seeing a growing need for ABE, workforce basic skills, GED and ESL education combined with increasingly inadequate resources.
	<i>English Works</i>	<ul style="list-style-type: none"> □ About 650 workers were served each year in the <i>English Works</i> program between 2000 and 2004.
Indiana Department of Workforce Development (DWD)	Advance Indiana (AI) programs, including: <ul style="list-style-type: none"> □ Skilled Trades Apprenticeship (STA) □ Workforce Investment Now (WIN) □ Gain Education and Training (GET) □ Regional Skill Alliances (RSA) □ The Incumbent Worker Training Fund (IWTF) 	<ul style="list-style-type: none"> □ Programs do not collect data on specific types of training provided, <i>i.e.</i>, workforce basic skills training. Interviews with program officials indicate few workers receive basic skills education in these occupational skills training programs. However, interviews with employers and program providers indicate that some basic skills education may be woven into job-specific training. □ 10,204 total workers received occupational workplace training funded through AI programs. □ An evaluation of AI by Council for Adult and Experiential Learning (CAEL) in 2003 found that only 30% of AI employers surveyed expected the program to improve employees' "basic skills" (math, reading, writing). 90% expected it to increase technical skills; 72.5% expected it to help prepare workers for changes in technology; and 62.5% expected it to improve "teamwork" skills.
	Work One Centers	<ul style="list-style-type: none"> □ Several of these centers provide access to adult education; however, data does not indicate how many working adults are served or how many programs are delivered at the workplace.

Indiana Department of Commerce (DOC)	Skills Enhancement Fund (SEF)	<ul style="list-style-type: none"> ☐ Employers can use these training funds to train workers in four areas: basic education, transferable skills, company-specific skills and quality assurance; however, program databases do not reveal the numbers of workers trained in each category. ☐ A total of 8,542 total workers received <i>occupational</i> workplace training in the SEF program. ☐ Out of the \$37,400,770 total in two-year training budgets proposed by employers receiving SEF funds, 2% was budgeted for <i>basic skills</i> training. It is unlikely that many workers received basic skills training under this program.
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The Gap

Given the imprecise nature of the data on workforce literacy education, FutureWorks estimates that 1 million Hoosiers are in need of workforce literacy training; however, current resources probably are serving only 20,000 to 23,000 per year through multiple programs.²⁴ This level of investment leaves a significant gap between need and supply.

Table 4: The Apparent Gap Between the Need and the Number of Workers Served

Need	Number Served	Apparent Gap
Approximately 1 million Hoosiers with basic skill levels below those associated with successful employment or 1 out of every 3 workers²⁵	An estimated 20,000 – 23,000 Hoosiers may be receiving some sort of workforce literacy education each year (2% of the need)	More than 975,000 Hoosiers in need of basic skills training

Even if the 1 million working Hoosiers with skills at the lowest levels of the scale were to demand basic skills education, Indiana lacks the capacity and resources to deliver these services at any significant scale. Even the largest state-funded program providing adult education with the most capacity – the Department of Education's adult programs – lacks the ability to absorb more students under the current level of resources.

Unfortunately, public funding resources for adult education have stagnated or been reduced. The Indiana Department of Education has received level funding of \$14 million from the state each year for the past six years. In 2002-2003, it received \$9.9 million from the federal government, which actually was a seven percent reduction from the previous year. Without the capacity and resources to deliver workforce literacy education to more significant numbers of working adults, Indiana will not be able to meet this challenge.

In all the interviews and presentations for this project, stakeholders noted the vastly inadequate resources

²⁴ These estimates do not include "working adult students" enrolled in skill remediation programs in postsecondary institutions in Indiana. Ivy Tech State College places many incoming students into skill remediation programs, sometimes for relatively quick "brush up" of their academic skills, but sometimes for more intensive basic education. Detailed information on how many working adult students participate in such remediation or at what level of intensity is not available.

²⁵ Again, because this number includes over age 16 employed adults, not just those ages 25 and above, it probably slightly overstates the need.

available for adult education in general and workforce literacy education specifically. This implies the need for a more creative use of public dollars supporting adult education, expanded use of private dollars, leveraging of private dollars for basic skills education and strategic use of information technology and partnerships to gain the most efficient use of limited resources possible. It will be important to expand both program availability and capacity to meet the significant literacy need.

The Indiana departments of Education, Workforce Development, and Commerce are beginning to make in-roads to using public education and training dollars more creatively and in a more targeted fashion for working adults. The DOE has recently announced a three-year, \$315,000/year initiative called *Adult Education Works in Indiana*, in which the department plans to build from its successful *English Works* program and develop a statewide system of workforce education delivery for Indiana. While this investment is a substantial one for the DOE – it represents one-quarter of the federal funding that the department can use for state professional development, coordination and collaboration activities – it is not enough to reach large numbers of working adults.

Also, the departments of Workforce Development and Commerce's new [Indiana@Work](#) initiative uses a national assessment tool called WorkKeys™ to assess workers' basic skill levels.²⁶ As of the spring of 2004, 59 employers have used the system to assess their workers' skills, and DWD hopes to assess another 12,000 workers over the next five years. In conjunction with these assessments, the Department of Commerce's Skills Enhancement Fund (SEF) training dollars can be used by employers to address basic skills deficits. Again, this is an innovative partnership and initiative directly targeted to improving workforce literacy skills. However, it is still new and is only one piece of the larger strategy that will be required to make a big enough dent in the workforce literacy skills deficit in the state.

Finding 3: Other public, private and nonprofit resources may be positioned to help address this challenge; however, their current capacity is limited

Additional resources to meet this challenge exist in the public, private and nonprofit sectors; however, they are limited and not targeted specifically to addressing workforce literacy education. The Ivy Tech system, the emerging Community College system, volunteer literacy providers, libraries and community initiatives do provide some adult education services that may include workforce literacy education, but none of these are significant enough to meet the potential need nor are they targeted enough to meet specific employer and worker literacy needs.

In addition to the major state programs described above, research revealed other public, private and nonprofit organizations, agencies and companies that could be potential resources in meeting Indiana's workforce literacy challenge.

Ivy Tech State College and Indiana Community College Systems

One of the most promising public resources is the Ivy Tech State College system, Vincennes and the emerging Community College of Indiana. Ivy Tech campuses provide significant amounts of remedial education to students every year. In fact, Ivy Tech has found that the vast majority of the students who seek enrollment to its degree and certificate programs have low literacy proficiencies and need remediation. This is true for those coming directly from high school, but even more so for older working adults who have been away from school for several years. Ivy Tech Central Indiana alone enrolled 6,700 students in its remedial educational programs in the spring 2004 semester. Although not specifically focused on workforce literacy skills, the remedial education programs do include adult basic education

²⁶ The state has made a major commitment to using *WorkKeys* to assess the skills of students, workers and the unemployed through multiple public, private and nonprofit agencies and organizations.

components. Most of the campuses have strong connections to the workplace through their employer services units and have staff well versed in customizing educational offerings to fit the workplace.

Volunteer Literacy Providers and Libraries

Other potential resources to draw upon in closing the tremendous gap between the need for workforce literacy education and the current resources include volunteer literacy providers and state libraries. In 2001-2002, the Indiana Literacy Foundation surveyed 49 volunteer adult literacy programs in the state, representing approximately 300 providers statewide. Although the survey revealed the programs had few partnerships with employers and limited budgets to develop this capacity, the fact that these providers are spread throughout the state indicates that they may be a very valuable resource in geographic areas of Indiana with few other education programs. Additionally, volunteer literacy providers are particularly effective for adult education students who do not learn well in larger classes and require one-on-one instruction. They may be a good complement to programs that can offer only larger classes in order to gain efficiencies of scale.

Additionally, Indiana libraries offer a wealth of resources to help address this challenge. In 2003, 73 libraries throughout the state provided adult education programming. Again, these programs may or may not have focused on workforce literacy, served primarily workers or been connected to the workplace. However, given the infrastructure of the library system in the state and the resources that the public has already invested in these entities – from books to computers to space – libraries are an important resource that could be tapped further to meet this challenge.

CAPE Grantees

Finally, research revealed several small-scale but promising efforts among the Lilly Endowment-funded Community Alliances to Promote Education (CAPE) grantees. The CAPE initiative is designed to encourage the state's more than 90 community foundations to lead discussions and forums in their areas, engage in research, prioritize their area's most pressing educational needs and help devise plans to address them successfully. As of the end of 2001, the Endowment invested \$186 million in 44 counties across the state. Under the CAPE initiative, the grantee establishes a nonprofit organization (often with multiple community based partners and/or an advisory group). This organization usually organizes and brokers program services. Funding could be used for building or renovating buildings that often served as community learning centers or education centers; investing in technology to improve the scope and efficiency of program delivery; and providing education and literacy services.

The CAPE initiative focused on education in its broadest sense, from preschool through lifelong learning, and most grantees targeted efforts to improve education for young people. However, through a review of documentation and interviews with grantees, the research team identified eight CAPE grantees that had a focus on workers, adult basic education and/or workforce literacy.

The specific contributions that these CAPE grantees could make to the Chamber's Phase II design work are highlighted below. Although all of the grantees focused on the education and literacy needs of other populations in addition to workers, *i.e.*, preschool, youth, family literacy, etc., we only present highlights from their work as it affects workforce literacy education.

CAPE Grantees Connected to Adult Workforce Literacy

- ☐ Hancock County Alliance for Community Education (ACE)
- ☐ Lake/LaPorte/Porter Counties Discovery Alliance
- ☐ Pulaski Alliance for Community Education (PACE)
- ☐ Scott County Partnership
- ☐ South Central CAPE in Washington/Orange/Martin/Lawrence counties (Phi Delta Kappa)
- ☐ Southwestern Indiana Network for Education (S.I.N.E.)
- ☐ Tipton County (Education Center of Tipton)
- ☐ Wabash County

Hancock County “ACE” (Alliance for Community Education): *John Carreon, Director.* Technology is the common theme in this CAPE’s three program areas. Their target audiences are youth (a high-tech academy/career development center has been established for county high school students with a 100% job placement rate for graduates); the community (outreach through the library system); and adults (through literacy/workforce development). The ACE program is currently located in office space at the Greenfield Chamber of Commerce. The local chamber and ACE sponsor monthly “industrial roundtable” luncheons, in which local employers are invited to discuss economic development issues and workforce development needs. ACE has developed customized workforce programs with 10 to 15 local employers, and they have partnered with the Greenfield Literacy Coalition to develop an ESL/technology training program that is ongoing.

Lake/LaPorte/Porter Counties Discovery Alliance: *Linda Wolashansky, Director.*²⁷ This CAPE director also heads the Center for Workforce Innovation and is involved with area economic and workforce development planning. The CAPE brokers training services with local employers, funds scholarships for workers pursuing certification and has developed some customized on-site workplace programs. The literacy component of the CAPE appears to be well-integrated with the workforce education component. Additionally, this CAPE grantee has worked with the *English Works* program.

Pulaski County “PACE” (Pulaski Alliance for Community Education): *Theresa Mollencupp, Director.* This group has funded ABE and GED classes at community sites and developed customized workplace programs, including ESL and business/computer training, with some success. The director believes there is a need for workplace literacy programs locally, and that PACE has the equipment (*i.e.* technology), staff and program partnerships in place to provide the programs, but they are lacking a strategy for working with local employers.

Scott County (Scott County Partnership): *Carolyn King, Director.* CAPE funds were used to help equip a newly built lifelong learning center. This center has been used for GED, ABE, pre-employment skills training, pre-manufacturing skills training, ESL classes and industrial maintenance training in partnership with local employers.

Washington/Orange/Martin/Lawrence Counties (South Central CAPE/Phi Delta Kappa): *Steve Ray, Director of Community Learning Centers (CLC); George Kersey and Carol Langdon, Phi Delta Kappa Director and Program Evaluator.* This CAPE has established four new centers that now serve six counties in total. In these centers, the CAPE brokers education and training programs between local employers and training providers. Some employers in the region have expressed interest in workplace literacy programs; however, they lack space and equipment for training. Therefore, these employers appreciate having access to the newly equipped classrooms at the community learning centers. The CLC

²⁷ Interview with Cecelia Wagner, March 2004.

has developed training modules with Ivy Tech that utilize two-way video/audio technology; basic skills training modules became available to employers/employees in September 2004.

Southwestern Indiana Network for Education “SINE” (nine southwestern counties): *Mary K. Smith, Director.* The original CAPE grant included ABE and GED preparation programs and established Adult Learning Committees in each of the nine counties. They are starting to develop workplace literacy programs, working currently with a few local employers and a displaced worker/retraining labor organizer. This CAPE grantee also is interested in expanding business/education partnerships started in five counties, and developing and promoting the basic skills/manufacturing certification model piloted by the Perry County Learning Partnership.

Tipton County (Education Center of Tipton): *Jim Woolf, Director.*²⁸ The Tipton County CAPE has offered ABE and adult continuing education and distance learning programs through its community center (partnering with the local literacy coalition and economic development agency). It also has started to develop on-site workplace programs, mostly technology related. Specifically, they have responded to requests from smaller local employers for training (often related to “soft skills”) at the community site.

Wabash County: *Mike Stone, Director.* This CAPE has provided ABE and some skill enhancement training through its “Learn More” centers and has started to develop workplace literacy programs, particularly ESL training. A survey conducted in 2002 found that Wabash County employers believe that workforce training is “key” to economic competitiveness and that “filling the basic skills gap, though important, will not be enough to remain competitive in the advanced manufacturing economy.” The director has found interest and support on the part of employers, but less willingness to pay for workplace literacy training.

Clearly, pockets of innovation exist across the state. Some of the interesting and useful activities by the CAPE grantees have been discussed in advisory committee meetings and have helped shape our thinking on what is and can be done to address Indiana’s workforce literacy challenges. FutureWorks encourages the Chamber to work with local CAPE programs in regions where demonstration programs or other project Phase II activities may be carried out in the following years.

Finding 4: Employers are critical to addressing the workforce literacy challenge and are prepared to play a central role

FutureWorks conducted two electronic surveys of Indiana employers to gain basic information about their views and practices of workplace literacy. The original survey was e-mailed on June 20, 2004, to over 4,000 members of the Indiana Chamber of Commerce. A total of 475 firms responded and their responses are tabulated here.²⁹ Of the respondents, 83 percent were private firms, and 64 percent were independently owned private firms. The respondents included nonprofit organizations (14 percent) and a few government agencies (3 percent). Every size of establishment was well represented, especially the smaller ones. Ten percent employed 500 or more workers, 11 percent employed 250 to 499, 33 percent had 50 to 249 workers and 47 percent were small firms of less than 50 employees. The biggest share of respondents was manufacturing firms (36 percent), but all sectors of the economy, except agriculture and mining, were well represented. Overall they described a workforce well represented in urban, suburban and rural locations.

Asked how important basic workforce skills were for their frontline employees, 84 percent responded with ratings of “4” or “5” on a five-point scale (with “5” being absolutely vital), and only 3 percent rated

²⁸ Also interviewed was Bill Konyha from the Tipton Economic Development Center.

²⁹ The response rate of slightly more than 10 percent reflects the Chamber’s typical rate.

them “1” or “2” (with “1” being unimportant). About two-thirds of the respondents indicated that they do assess the basic skills of employees. Given the wide range of firms responding to the survey, this is a very strong confirmation of the importance of good basic skills in the workplace.

On a positive note, the vast majority (92 percent) indicated that their workforce met their current basic skill needs either very well or fairly well. That general level of satisfaction slipped to 82 percent when they were asked about anticipated needs in just two years. When asked in a more detailed way about the adequacy of 10 separate basic skills, the responses to most were uniform and generally more positive than negative. In only one area – career management and lifelong learning – were the negative scores (the sum of “1” and “2” on a five-point scale) greater than the sum of positive scores (“3” and “4”) on the five-point scale.

However, when asked to assess the basic skills of workers hired over just the past few years, 30 percent of the employers said they were worse than they used to be and only 19 percent said they were better. Forty-four percent suggested they were about the same (four percent had no new hiring experience).

Surprisingly, almost three-fourths of the firms indicated that they had provided basic skill training for some of their workforce within the past two years. Only 12 percent of that training was totally off site and 37 percent was totally onsite with 51 percent being mixed. In one of the most interesting responses in the survey, 87 percent said that they paid the wages of their employees for the hours they were in training, and another 10 percent said they paid a part of the wages for training time. When researchers asked the Department of Education basic education providers whether the firms they worked with paid the wages of workers in their program, almost all reported no.

Most of the basic skill training was actually done by the employers’ own training staff (41 percent) or a private training firm or consultant (42 percent). Only five percent reported using a postsecondary institution, and only one respondent reported using trainers from the local K-12 system.

Of the firms that indicated they had not done any basic skill training, just under half (49 percent) suggested that was because the basic skills of their employees were satisfactory. Other explanations for not training were that employees were not interested in or resisted it (12 percent), basic skill deficits did not affect their competitive position (11 percent), they did not think it could make a difference (11 percent) or they did not know where to get such training (8 percent).

A revealing set of responses came from two questions about the severity of basic skill deficits among workers. When asked about such deficits *in just their own firm*, the respondents were quite optimistic. In a five-point scale where “1” was “not a problem” and “5” was a “very severe problem”, only 15 percent rated their situation as “4” or “5” while 43 percent rated their situation as “1” or “2.” However, when asked that same question *about other employers*, as well as themselves, the “4” or “5” scores rose to 41 percent while the “1” or “2” ratings fell to 15 percent. The results on this question were almost precisely the opposite depending on whether the respondent was considering his or her own workforce or the workforce of all employers generally. In addition, far more firms thought the problem was getting worse (42 percent) than thought the problem was getting better (9 percent).

While one is tempted to attribute these conflicting judgments about the severity of basic skill deficits to a combination of company pride and potentially hazardous myopia, there may be something more important at work here. FutureWorks has found that, over time, employers (just like under-skilled adults) figure out how to “work around” almost any problem they face. It could be the case that employers expressing little concern with their own situation, while they acknowledge a general problem, are not just being myopic; they may have in fact worked around the problem. Too often however, that work-around is a decision to compete in less demanding markets producing goods or services that do not require strong

workplace literacy. As noted elsewhere in this report, there are unhappy consequences in the form of stagnating wealth creation and incomes for states or regions where employers are pushed toward these low-road strategies.

The survey also asked employers to assess the potential impact of several ideas that have been advanced or at least discussed for improving basic workplace skills. Thirteen proposals and the responses they generated are summarized below, ranked by most popular (highest combined “4” and “5”) to least popular (lowest combined “4” and “5”):

Table 5: Employer Rankings of Strategies to Improve Workforce Literacy Skills in Indiana

Proposed Ideas	Percent Rating 5 (Extremely Significant Impact)	Percent Rating 4	Percent Rating 3	Percent Rating 2	Percent Rating 1 (No impact)
Direct funding to private employers for employee training	24	34	26	10	6
Better information to employers about where to get help from education specialists and training providers	23	35	27	10	5
Clear standards (reflecting strong employer input) and some sort of basic certificate or credential for employees and job seekers meeting those standards	19	37	31	8	5
Substantial tax credits for companies that invest in upgrading the basic skills of their employees	17	39	25	12	7
More information to employers about how to develop programs and measure their ROI impact	16	37	27	13	7
Private sector leadership in the design and delivery of training programs	18	34	34	10	4
Help groups of smaller firms get together to find economies of scale by developing joint training solutions to their basic skill deficits	15	36	30	13	6
Direct funding to employees (vouchers) for basic skill education	16	32	23	17	11
Increase funding directly to basic skill education and training providers	14	30	29	17	1
Increase training and workplace-experienced staffing for education and training providers to deepen their understanding of workplace skill needs and development opportunities	10	34	37	14	5
A major distance learning or technology-based initiative providing Internet-accessible, computer-based learning tools and self-assessment techniques for employees to access from their workplaces and homes	13	25	33	21	7
Increased funding for disadvantaged worker training	6	26	35	22	10
A major statewide marketing campaign aimed at encouraging employees and their employers to invest in basic skill education and training	10	19	32	23	15

Perhaps the most notable finding from the survey was that most employers are generally positive about the impact from almost all of these ideas. The only proposal where more employers rate the impact as low (by indicating a “1” or “2”) rather than as high (by indicating a “4” or “5”) was the last item in the list that suggested a major statewide marketing campaign. Here, 38 percent predicted it would have a low impact, while only 29 percent predicted a high impact. In all other cases, the percentage of respondents who judged that any of these ideas would have limited impact was remarkably low. Coming from employers who can sometimes be quite skeptical, if not cynical, about traditional public investments, this

constitutes a very important affirmation of enthusiasm for a major initiative to remediate workforce basic skills.

Another important finding from this part of the survey is that while, as might be expected, there is strong interest in financial assistance going directly to employers, there is very strong interest in getting better information about where to get help and about how to design programs and measure their impact. The research team also was impressed by the support respondents showed for the idea of developing basic skill standards reflecting strong employer input and establishing some sort of basic certificate or credential for employees and job seekers meeting those standards. This idea ranked a close third in terms of its predicted impact. It also received the fewest scores of “1” and “2,” suggesting very little opposition to the idea.

In July of 2004, the Chamber sent out a follow-up survey to about 150 employers who had responded to the first survey, expressed a willingness to provide additional information and had been investing in basic skill training over the past two years. This survey probed more deeply into the training practices and experiences of these firms.

Some of the highlights from that survey were as follows:

- Almost two-thirds of the firms indicated that less than 10 percent of their workforces required basic skill remediation (although 10 percent of the firms did respond that over 40 percent of their workforces required remediation)³⁰
- For over two-thirds of the firms, this meant that fewer than five workers received training in the past 12 months
- Most of the firms paid less than \$250 per worker for that training, although 10 percent of the firms reported spending over \$500 per worker
- 47 of the 69 firms responding indicated that they paid for 100 percent of the cost of this training, and 11 of the 69 responded that they had paid for none of the cost
- Most firms (45 of 69) reported that it required less than 50 hours of training for their employees to gain the basic skills desired, and only 9 of the firms reported that it took more than 100 hours of training
- When asked if they thought that most employers would be willing to pay the wages of workers while they were in training, 36 responded “yes,” and only 13 responded “no,” with the balance uncertain

The survey asked firms to select (from 10 specific skills) those that seemed the most important to their firm and those that seemed to require the most remediation. There were not any major discrepancies between these two scales, although there was some variation between the scores of these firms (the firms actually investing in training, and the firms responding to the general survey summarized above). The responses of the firms are summarized in the table below. The first ranking column indicates how serious the deficiency is seen by the firm; *i.e.*, the lack of employability skills is seen as the most potentially damaging. The second column indicates how much remediation seems to be necessary to actually “fix” the deficit; *i.e.*, helping workers learn to think critically is seen as requiring the most remediation effort.

Table 6: Employers’ Responses on Most Important Skills and Those Most in Need of Remediation

³⁰ We caution that this should not be interpreted as employers saying that this was a “minor problem” confined only to few workers. Other responses to other questions do not permit this interpretation. Rather, we interpret this response as revealing a problem for service delivery. With skill deficits observable in only a small percentage of the workforce, there will be problems of scale in devising service delivery solutions.

Specific Basic Skill	Ranking: Most Important to Firm	Ranking: Required Most Remediation
Math skills	7	8
Reading and writing skills	3	7
Finding and using information	5	2
English language skills	9	9
Thinking critically and acting logically	2	1
Employability skills	1	5
Verbal communication	6	6
Teamwork skills	4	3
Technology skills	8	4
Career management and lifelong learning skills	10	10
Other	11	11
Customer service		
Mechanical		
Wellness skills (good nutrition)		
Project management skills		

We also asked these firms for their opinion on the most effective location for workers to receive basic skill training. There was a strong preference for worksite-based approaches. Their responses are summarized in the table below.

Table 7: Employers' Responses to Most Effective Locations for Workforce Basic Skills Training

Location	Percent
All or mostly all at the worksite	46%
All or mostly all off the worksite in some community location	18%
Mostly at worksite with after-work support at home or at a community location	36%

The survey also asked these firms about their experience with different methods of delivering skill training to their workers. Their responses are summarized in the table below.

Table 8: Employers' Responses to Experience with Methods of Basic Skills Training Delivery

Method of Delivery	Experience (by percent of response) "5" very positive to "1" very poor				
	5	4	3	2	1
Workplace-based classroom with instructor	17	43	27	10	5
After-work, community-based classroom with instructor	9	18	34	26	13
Open access/exit media lab with instructor available	12	10	36	28	14

Taken as a whole, the surveys revealed considerable sophistication among employers in how they view workplace basic skills and what they are prepared to do to improve these skills. The surveys show that, while employers need help in planning, organizing and financing training, they are willing to make investments of their own resources to help upgrade the basic skills of their employees.

V. RECOMMENDATIONS: A FIVE-POINT STRATEGY

Overview

As noted in the previous sections of this report, FutureWorks' findings from research and planning activities have led us to the fundamental conclusion that workforce basic skill deficits in Indiana constitute a severe economic problem. Data indicates and Indiana employers believe that the situation is getting worse, not better. Because of resource constraints and because they are not directed at workforce basic skills of working adults, current public sector adult literacy and worker training programs are not making enough of a difference.

Like most traditional public sector programs, the current adult basic education effort is a provider-focused model. It is characterized by grants to provider agencies to support their existing programs and to help them further develop their capabilities. Unfortunately, these programs are significantly underfunded, especially given the major challenge of strengthening workforce basic skills. Without sufficient resources, adult education providers are usually unable to invest in building or organizing demand among important target groups. The existing provider system is based in the elementary and secondary public education that is not well connected to employers or to adult workers. The result of this reliance on a supply-side strategy is that there is no real *market* for workforce basic skill development – there is no employer or worker demand pulling training and education services into workplaces. It is here on the demand side where we urge that Indiana focus its new efforts.

FutureWorks recommends a major, new demand-side initiative to upgrade the basic skills of adult workers. This initiative would be a five-point program that would be launched early in 2005 and built out over the subsequent three to five years to a scale where it supports the basic skill remediation of 50,000 adult workers annually, growing to at least 75,000 workers per year by the end of this decade. This program ultimately would serve nearly four times more workers annually than research estimates indicate the current system serves; it would assist approximately 300,000 total workers in upgrading their basic skills to the level required for successful employment by the end of the decade.

This program would:

1. Build awareness and organize demand for workforce basic skill development
2. Establish a demand-driven delivery system with program and providers that work for working adults and their employers
3. Promote continuous innovation in program design and delivery
4. Establish new financial incentives for increased investment by employers and workers
5. Create a public-private partnership to provide consistent leadership, strong management and rigorous accountability

A demand-side program is an opportunity for Indiana to make a major advance on the problem of adult literacy. With good intentions and generally sound administration, existing programs of adult basic education are having a limited impact at best. A new demand-side initiative, as outlined here, offers the real prospect of engaging the powerful economic clout of Indiana's private sector and triggering new financing methods. Building on a stronger awareness of problems and solutions and organizing need into effective demand, this program can create a real market for adult education capable of making major inroads into the complex and stubborn problem of adult literacy.

Vision

The vision or goal that would guide this demand-driven program is as follows:

Incumbent workers in Indiana will possess the workplace basic skills necessary to progress into higher skilled, higher value-adding jobs and to gain, throughout their careers, the training and credentialed postsecondary education those jobs require.

This connection to ongoing skill development and postsecondary education is an important point. The real financial returns to investment in education – for workers and for employers – will not come primarily from the basic skill training itself; it will come from the further technical training and education it enables. This suggests that the long-term measure of effectiveness of basic skill training is the ability of workers to develop higher technical skills, in school and on the job.

This is not to diminish the importance of basic reading and fundamental math skills for individual workers. Workers who literally cannot read or compute at some minimal level of competence are stuck in jobs that do not demand those skills. These jobs offer virtually no upward mobility and pay very poorly, typically at minimum wage levels. Getting up to some threshold level of literacy certainly will enable under-skilled workers to get better jobs with wages that at least offer a better prospect of family support, and which have some career growth opportunities. But the big jump in wages for the individual worker is associated with developing technical/occupational skills. The training necessary for those skills is rarely attainable from on-the-job activities alone. Almost always, gaining the technical occupational skills necessary for real career growth will require postsecondary study.

Most employers also find that helping their workers develop the advanced skills associated with globally competitive standards of production and service requires that they be able to participate in postsecondary education. This does not mean that all employers will want all workers to gain associate or baccalaureate degrees, although many will. But few employers are going to be able to offer – with their own resources – the education required to support high-level technical skills, and even those that can will find that the basic learning competencies associated with worksite skill development are not that different than the learning competencies required for postsecondary study.

Design Principles

In developing these recommendations, FutureWorks has been guided by a set of design principles that emerged from the research into best practices elsewhere and from many discussions with stakeholders in Indiana. These principles are outlined below.

Program should be demand driven

This program aims to leverage the workplace and the economic interests of employers (and their workers) to mobilize the development and delivery of workplace basic skills education. For that to happen, it must work explicitly from the demand side of the skills development marketplace. Current adult basic education programs and many of the worker training programs are supply-side driven where the providers of service establish the objectives of the programs and their basic delivery mechanisms.

Design Principles:

- ☐ Program should be demand driven
- ☐ Initiative should require and establish mechanisms for close collaboration among key partners and build on existing capacity
- ☐ Initiative should focus on economic outcomes
- ☐ Workforce literacy programs must be linked to postsecondary education and training
- ☐ Quality controls and research-based programming are essential

This observation is not meant to be a criticism of these programs. Often where public funds are involved, objectives and delivery approaches are set in statute and public agencies have little flexibility to adapt to the individual needs of users. However, in this domain, *pushing* basic skill development services out to employers and workers on terms set by providers is not likely to be very effective. If employers and their workers are to invest time, money and energy into basic skill development, they will have to take more responsibility for *pulling* services from provider systems that meet their needs in terms of such factors as time, place, intensity, curricula structure, program delivery technique and metrics of success.

Employers should not be the only stakeholders involved in this new initiative; however, employers and employer associations should play a leading role in governance mechanisms. Indeed, few employers have the experience or inclination to manage a workforce development initiative of this magnitude. The program needs to be run by a partnership of all primary stakeholders, but it must have a demand-side orientation and use strategies and incentives that build demand and create effective markets for services. A commitment to the demand side means that if new money can be made available for workforce literacy, it should be allocated through “demanders” – employers and incumbent workers – rather than through “suppliers.” A commitment to the demand side also means that the instructors, instructional materials, modes of delivery and metrics of success be developed from the perspective of the employers, not from the perspective of the providers.

Initiative should require and establish mechanisms for close collaboration among key partners and build on existing capacity

If this program is to be successful, it will require the unconditional support of all the key stakeholders. The public sector agencies that now deliver adult basic education and worker training have to see themselves as full partners and shape their resources where possible to fit a demand-driven system. Private voluntary agencies have a critical role to play in effectively linking literacy volunteers to workplace training approaches and in offering support to workers seeking to gain basic competencies. The research strongly suggests that most workers will not be able to get all they need from worksite-delivered resources. They will need off-the-job community support and services that community-based organizations are best able to provide.

Postsecondary education institutions, especially Ivy Tech State College and the emerging Community College of Indiana with its statewide developmental mission, will find new roles in worksite instruction. Employers, especially the medium and smaller firms, will find it essential to work together to aggregate demand for effective programming. Unions should see themselves as key stakeholders and commit their own resources and training funds to support this initiative. As noted earlier, this initiative does not have to start from scratch. In what is at best a poorly coordinated existing system, there are important resources that can be better directed. There is not enough investment in basic skills now, but there is some – from state government, unions and employers themselves – that can be leveraged for greater consequence.

Initiative should focus on economic outcomes

This is not a “learner-centered” program, at least as that term is often applied to adult basic education. Of course, workers who participate will have their own individual reasons for participating and will inevitably set objectives in the context of their personal and family needs. However, the program should not be held accountable for how it helps individuals meet individually determined objectives. Rather, it should be held accountable for achieving economic outcomes and the metrics of program success should track back to productivity/competitiveness gains for employers, wage gains for workers and wealth creation for Indiana.

Workforce literacy programs must be linked to postsecondary education and training

The development of higher basic skill proficiencies in this initiative should be clearly linked to further postsecondary education and training. That means that the process and programs of instruction and certification should be designed to facilitate seamless entry into postsecondary education. As evidenced in the review of literature and discussions with national experts, the real economic payoff for improving basic skills – for employers as well as workers – lies in what this makes possible, which is the acquisition of technical, occupational and managerial skills.

This is certainly not to suggest that helping incumbent workers reach a fundamental threshold of basic skills means little. For employers there are very real productivity losses stemming from reliance on under-skilled workers. And most adults with very low basic skills are stuck in the lowest-end jobs with very low wages offering no real hope of getting ahead. Helping workers reach a basic level of proficiency will produce real benefit. However, it is the postsecondary training that will produce the big economic impact for Indiana. As was observed by one of the forum guests from Kentucky, investing “all that effort” in helping workers remediate their basic skills and then failing to connect them to postsecondary education just was not a very smart strategy.

Quality controls and research-based programming are essential

Quality controls should be built into this program at the outset, and educational activities supported under this initiative should be research based on successful adult learning principles. Employers and workers will respond best to curricula and teaching methods that are based in the context of work processes and draw on research-validated best practices in adult education. To the extent feasible, Indiana employers should be involved in the design of this curricula and teaching methods. Instructors should be trained in work-based instruction. It also will be necessary to develop rigorous procedures for the certification of providers and instructors.

The recommendations that follow do not provide detailed implementation guidelines. Purposely, they are only broad sketches that will require more finely grained detail before they can be implemented. This more careful planning process will provide opportunity for the involvement and ownership by a wide range of stakeholder organizations whose commitment to this initiative will be essential and who therefore must help design it. However, each recommendation includes ideas for “getting started” – first steps both to exemplify the recommendations and to build momentum toward their implementation.

Five-point Plan

Point 1: Build awareness and organize demand for workforce basic skill development

Emphasized throughout this report is the finding that there is a high need for stronger workforce basic skills in Indiana, but there is not high effective demand. The state cannot afford, however, to sit back and wait for demand to grow. It is too easy for workers to deny or ignore their basic skill deficits and to see the problem as the changing economy rather than as their inability to adjust to those changes. Employers have alternatives to investing in basic skill development. They can “dumb down” the workplace and concentrate on less demanding markets, products and services where high skill is not as important. Or, they can leave Indiana.

Point 1: Build awareness and organize demand for workforce basic skill development

- Build state leadership awareness
- Raise general citizenry awareness
- Implement an employer-targeted campaign to organize demand
- Create an employer compact

Unfortunately, there are unhappy consequences for Indiana of failing to convert real need to effective demand by building awareness of the problem and its solutions. Therefore, it is very important to organize a major awareness campaign and to organize demand in ways that *pull* more support for basic skill development. This awareness campaign should be targeted to multiple parties and be carefully targeted at different groups in the state.

Build state leadership awareness: The Indiana Chamber should take the lead in building awareness of state leadership in the private and public sector about the high levels of adult illiteracy in Indiana and the impact of workforce basic skill deficits on the economy. In many policy-making and leadership institutions in the public and private sector, there is high awareness of lagging educational attainment as a serious economic issue that affects the state's long-term prosperity. On the other hand, there does not appear to be great concern, at least as measured by public investment strategies, about how low literacy rates limit the potential for attainment gains. The Chamber should develop a leadership awareness campaign that provides state leaders with clear information about the extent of the workforce literacy problem; its relationship to postsecondary participation; and its economic impact on workers, their employers and the state as a whole.

Raise general citizenry awareness: Of greater concern is the apparently low sense of urgency among workers and the general citizenry about the importance of workforce literacy. Providers of adult literacy indicated that a general awareness of the economic importance of skills has not created a strong sense of urgency among the population as a whole about improving basic skills. For example, in the employer survey, employers were asked to assess the basic skills of their own workers and the Indiana workforce in general. Of the 10 skills in the list, the one they indicated needed the most remediation was "career management and lifelong learning skills (setting goals, pursuing training, etc.)."³¹ This response reflects a judgment on the part of employers that their workers either do not understand – at least with urgency – that they need higher skills, or they do not know how to go about gaining these skills.

In one of the forums hosted by the Indiana Chamber for this project, Kentucky presented high-quality results from their aggressive and well-funded marketing program aimed at the general citizenry in that state.³² A 1997 Kentucky Adult Literacy Survey revealed that only 5 percent of the nearly 1 million adult Kentuckians functioning at the lowest levels of literacy were participating in adult education programs in that state. This low performance prompted the Kentucky state legislature to pass Senate Bill 1 in 2000, which was an aggressive set of policies designed to increase the number of adults with minimum basic skills. This set of policies was multi-dimensional, and included an additional \$11 million for adult basic education programs; a \$4 million, two and a half year "Go GED" and "Go Higher" marketing campaign (\$2 million from the state and \$2 million from federal and other sources); a performance measurement system with high goals; and increased distance education and workforce training initiatives.

In 2000, Kentucky had 11,000 working adults enrolled in workforce education programs focusing specifically on workforce basic skills, but by 2003 this number increased nearly four-fold to 43,000. In 2000, the state served no students in distance learning basic skills programs, but by 2003, it had 4,000 students in these programs. These results were achieved because the state "looked at it from a strategic state perspective, not from a perspective of just implementing programs." The key was the strategic plan, with a small addition of resources also being critical, according to Cheryl King, vice president for Adult

³¹ See table 6 in this report.

³² Presentation by Cheryl King, vice president for Adult Education at the Kentucky Council on Postsecondary Education, at the forum, "State-to-State: What Indiana Can Learn From Other State Workforce Literacy Strategies" hosted by the Indiana Chamber of Commerce on April 28, 2004.

Education at the Kentucky Council on Postsecondary Education.³³ A vital component was the marketing campaign that reached out to adults and spurred them to invest their time and energy into upgrading their basic skills.

While the success of Kentucky's program underscores the importance of building general awareness about the direct connections between basic skill proficiencies and economic success, an awareness program in Indiana should be more sharply targeted to the adult workforce (rather than younger adults and those out of the workforce) and should use employers as "marketing partners." Such a major campaign of general citizenry awareness building in Indiana would rely more on the widespread distribution of print material. For example, the Chamber might develop extensive literature and informational/inspirational material that employers would distribute to their workers that would make the link between basic skills proficiency and economic success.

Another component of this recommendation is the development of a clear "brand" for this awareness campaign. Some paid advertising may be important in establishing that brand. While the general awareness campaign need not rely heavily on paid TV and radio advertising, paid advertising in some media (e.g., billboards) might be cost effective. The Chamber might also investigate the feasibility of using donated, public service advertising or asking individuals and groups with a high visibility in the state (sports teams) to become active in the campaign. Finally, a media relations campaign that targets specific print and electronic media in Indiana and helps direct their attention to the issues of adult literacy generally, and workforce literacy specifically, would be a vital component.

Implement an employer-targeted campaign to organize demand: The employer surveys suggest a moderate to high level of awareness about workforce basic skill deficits among most individual firms and deep concern among many. The first survey asked how many of the respondent firms had provided any basic skill training to their employees within the past 24 months. It was impressive to learn that about three-fourths of the responding firms (74 percent) had in fact undertaken such training within the prior two years. Even allowing for a good deal of selection bias (firms that have invested in basic skill training would be far more likely to respond to a survey on that subject than would firms that have not), this is a surprisingly high number that belies a common perception that employers are not investing very much in the basic skills of their workers. In addition, when firms were asked to indicate their assessment of the basic skill challenge in Indiana, 42 percent responded with a rating of "4" or "5" (with "5" being a "very severe problem," and only 15 percent responded with a rating of "1" or "2" (with "1" being "not at all a problem"). Still, a high percentage of firms responding to the survey also indicated that better information about where to get help would have a very significant impact.

The marketing issues with employers are more than simply raising awareness of literacy and basic skill issues and their impact on productivity. Most firms are generally aware of the problem. The more important objective of a marketing campaign aimed at employers is organizing demand and promoting the "solution" – that is, making clear to employers that there are effective and proven strategies to upgrade the skills of their workers.

The campaign aimed at employers and their workers would develop and distribute material that makes the business case for employer investment in basic skills and provides "return on investment" documentation for employers. Most importantly, this material would help employers and their workers learn what they can do and where they can get help. The campaign would create and distribute "how to" toolkits for

³³ Presentation by Cheryl King, vice president for Adult Education at the Kentucky Council on Postsecondary Education, at the forum, "State-to-State: What Indiana Can Learn From Other State Workforce Literacy Strategies" hosted by the Indiana Chamber of Commerce on April 28, 2004.

employers (assessment instruments, program designs, provider inventories, etc.). It would recruit several private-sector firms to serve as champions and support them in helping other firms establish programs.

Create an employer compact: Employers will be key to any initiative to increase the literacy skills for workers. Their buy-in and support must be secured. One way to do this might be to initiate an “employer compact” for incumbent worker literacy education. For example, employers across the state could sign a compact in which they would pledge to support workforce literacy training. Their support could include simple efforts such as assisting in the effort to increase awareness of the problem by speaking about it with fellow business owners, to more in-depth and resource-intensive efforts such as agreeing to increase the percentage of their workers with adequate basic skills through on-site education and training programs.

Getting started: As a first step in this campaign to build awareness and organize demand, the initiative might consider development of an Indiana version of the U.S. Chamber of Commerce Center for Workforce Preparation’s “A Chamber Guide to Workplace Literacy: Higher Skills – Bottom Line Results,” released in April 2002.³⁴ The information contained in this toolkit makes a strong case for businesses and other community stakeholders to become advocates for workplace education programs, and for community initiatives to assist adult learners in gaining the basic skills they need to become productive workers. It also identifies the community resources available and heightens awareness of the negative impact of illiteracy in the workplace. The toolkit provides fact sheets, a PowerPoint presentation, examples of successful programs and potential resources to support employers. Local chambers may be able to use this and similar resources with their business members to mobilize community literacy efforts. With the cooperation of the U.S. Chamber, it might be feasible to develop an updated and customized version of this report for direct distribution to companies in Indiana.

Point 2: Establish a demand-driven delivery system with programs and providers that work for working adults and their employers

Simultaneous with the awareness campaign should be an immediate and substantial investment in strengthening service delivery. The existing delivery system does not have the resources to meet the mandated needs of its system, nor is it directed explicitly at the workforce basic skills challenges facing working adults and employers. Additional resources and new delivery strategies and capabilities are necessary.

Develop a workforce readiness credential: A significant part of this strategy is the development of a standards-based, outcome-tested workforce “readiness” credential with an assessment process and clear links to postsecondary admission and success. Currently there is no widely understood consensus “threshold” for worker basic skills and no effective way to benchmark those skills. The GED has become an alternative pathway to high school completion for young people and lost relevance as a measure of skills for adult workers. It addresses only a limited portion of the skill spectrum of concern to employers and it suggests that only those without a high school diploma are in need of basic skill development.

Point 2: Establish a demand-driven delivery system with programs and providers that work for working adults and their employers

- Develop a workforce readiness credential
- Establish a resource center and information clearinghouse
- Inventory and assess current workplace-focused instructional materials
- Establish a professional and paraprofessional certification and development system
- Develop performance assessment standards for workplace basic skills providers
- Promote stronger postsecondary participation in workplace-focused basic skills training programs

³⁴ Copies of this guide were distributed at the May 2004 forum, “The Employer Voice: Workforce Literacy Challenges and Approaches Taken by Employers and Employer Associations,” hosted by the Indiana Chamber of Commerce. It may be found online at <http://www.uschamber.com/cwp/tools/literacytool.htm>.

A state-recognized credential that employers have helped develop would elevate the importance of basic skills and set a clear standard, creating a common understanding of what fundamental workers should have to be successful in the 21st century economy. Indiana does not have to start from scratch in designing this credential. The years of investment in CTAs by the Department of Workforce Development have built a general awareness of the importance of standards and credentials, and have developed most of the standards to be incorporated into the workforce skills credential. Other states already have such credentials and have been using them effectively for several years. It also will be important to calibrate the workforce skills credential with the learning capability generally required for successful postsecondary study.

Over the course of this project, FutureWorks reviewed several credentialing models from across the country. In the April 2004 forum on other states' workforce education systems and programs, Virginia provided information on its Career Readiness Certificate, which is in the pilot stage with the Virginia Community College system. This WorkKeys™-based certificate is a portable credential confirming basic workforce literacy skills. It is based on WorkKeys™ three main basic skill areas: reading for information, applied math and locating information; and includes three skill levels: bronze, silver and gold. Virginia has worked with employers to assure their support and recognition of this certificate. Other states have implemented or experimented with this WorkKeys™ model (see appendix C), including Indiana. The Indiana Department of Workforce Development has investigated the Louisiana Career Readiness model.

Another model that was presented in the forum was the Equipped for the Future (EFF) Work Readiness Credential, initially conceptualized by the National Institute for Literacy, and being further developed and piloted in four states: New York, New Jersey, Florida and Washington. This is a national assessment tool and portable credential that certifies work readiness based on 10 skill standards in the EFF model. There is some overlap with the skills certified in the WorkKeys™ model; however, the EFF model includes more attention to "soft skills," problem solving and career development skills.

These models are merely examples of existing efforts on work readiness credentials. Each has advantages and disadvantages. Experience elsewhere suggests that a basic skills credential can help validate to employers the skills workers have, and it also can provide an intermediate step to postsecondary education for working adults. This idea has support among employers in Indiana. It was ranked in the top three of suggested ideas that would have a significant impact on improving workforce basic skills in Indiana (see description of employer survey above).

Establish a resource center and information clearinghouse: Another vital component of this strategy is the establishment of an electronic resource center and information clearinghouse with portals for workers, employers and educators. While the awareness campaign discussed above should include general information to employers and their workers about the resources that are available to them, employers need more detailed follow-up information and support. There also is utility in having a single system of information access that serves employers, workers and educational institutions. It can serve as a vehicle to build partnership among employers (and also among workers) and to link them to providers.

Inventory and assess current workplace-focused instructional materials: Indiana should conduct an intensive effort to inventory and assess existing instructional curricula, and design new and more effective models specifically for delivery in the workplace. Leveraging the power of employment and the workplace to develop basic skills will require the emergence of new curricula, teaching methods and supportive educational materials.

Establish a professional and paraprofessional certification and development system: To meet the increased capacity needs that will result from increasing demand, Indiana should establish a system for paraprofessional and professional development and certification of workplace basic skill educators. While it is true that the K-12 licensed teachers bring critical skills to basic skill development, a workforce-oriented program will need instructors with specific training in the education of adults and in using work and the workplace as the context of their instruction. Moreover, workforce basic skills incorporate a wider range of skills than those usually associated with K-12 education, even at its best. The Indiana Department of Education already has invested substantially in a teacher development program for adult education and workplace education that should be expanded.

As part of this professional development system, we suggest the development of a program to develop a cadre of paraprofessionals with specific skills in workplace basic skill development. Perhaps credentialed with associate degrees or even one-year certificates, paraprofessionals can play an important role in this initiative. It might be possible to attract paraprofessionals who have substantial private-sector work experience to assist in those aspects of training that emphasize the strengthening of skills associated with critical thinking, teamwork and employability skills. Paraprofessionals cannot *replace* well-trained adult education teachers, and we are not recommending such a strategy for Indiana. However, there are important opportunities to *expand and extend* the delivery system through the thoughtful deployment of certified and well-trained paraprofessionals who work with licensed teachers, just as is the case in K-12 education. We suggest that, in this process, Indiana might strengthen career ladders for sub-baccalaureate prepared teachers.

Two models to consider for such an effort were presented at one of the Chamber-hosted forums for this project. Both the Pennsylvania and Virginia Workforce Improvement Networks (WIN) provide statewide networks for workplace educators to engage in professional development, strategic planning and collaboration, as well as learn about resources to provide quality customized foundational basic skills education for their state's workforce. An important part of the PA WIN network is the Workplace Education Resource Center established in 2003 at Penn State University. This center is designed to promote and enhance communication and understanding of work-related foundation skills and their role within the continuum of workforce development activities. The center includes information on state literacy projects, training and technical assistance on Adult Basic Education coalitions, a website with resources and links, technical assistants in six regions across the state and conference opportunities. Indiana's new *Adult Education Works* will have this support available on a limited basis.

The VA WIN is a partnership of James Madison University and the Virginia Literacy Foundation, and is funded by the Virginia Office of Adult Education. In addition to a network similar to Pennsylvania's, VA WIN is connected to James Madison University's Workforce Development Campus. This online campus offers courses and certificates in workforce education specialties, including Program Development, Curriculum Design, Workplace Instruction and ESOL Program Development. These courses are all online, taught in seven-week blocks, result in a certificate and can be accessed by students from across the country.³⁵

Develop performance assessment standards for workplace basic skills providers: FutureWorks urges the development of "accreditation" and performance assessment standards for workplace basic skills providers. A successful demand-side strategy for basic skill development should encourage a process for assuring users (employers and their workers) that prospective providers have met some fundamental standards of preparation, *i.e.*, training their instructors, using work-based curricula and teaching methods,

³⁵ Representatives from the Pennsylvania and Virginia Workforce Improvement Networks (WIN) presented on these models at the April 28, 2004 forum hosted by the Indiana Chamber of Commerce.

collecting and reporting outcome data, partnering with community-based organizations for learner support, etc. In addition there should be a system for measuring results and rating satisfaction.

Promote stronger postsecondary participation in workplace-focused basic skills training programs:

It is important to encourage public and private postsecondary institutions to develop workplace-focused basic skills training programs. In interviews, employers expressed a stronger willingness to buy workforce basic skill training from postsecondary institutions than from secondary schools. This is compounded by the fact that most employers surveyed are not knowledgeable about the adult literacy and education efforts of the K-12 system. While many are supporting school improvement efforts in their cities and towns, employers generally have had little experience in actually working with local public schools. On the other hand, many have worked with postsecondary institutions in technical and occupational training.

In addition, we have been advised that some postsecondary institutions, most notably Ivy Tech State College and the emerging Community college of Indiana, have developed basic skill remediation programs that may offer a solid foundation for workplace-focused programming. However, detailed information was not available from the Ivy Tech system about these programs, and we suggest this as one of the next steps for the Chamber in this initiative.

One of the most direct ways to ensure that basic skills education is connected to postsecondary education is to assign community colleges to provide it. Some states have opted for this solution, shifting the responsibility for adult literacy from the K-12 system to the community/technical college system. However, simply giving community colleges administrative responsibility for basic skills education does not guarantee that students will make a seamless transition from basic skills to postsecondary education. Students can get trapped in remedial basic skills courses, having to take several semesters of basic English, math, etc. before they ever step foot into a college level course. This is especially true for students with the lowest basic skills and with poor English skills.

Very few community college programs integrate basic skills education within college courses, which would help working adults move up their education pathway more quickly and efficiently. We strongly urge consideration of this approach to increase responsibility for workforce literacy at the community college level; however, we also encourage careful attention to ensuring that the community college not simply replicate the basic skill experience workers might receive at other providers.

Getting started: The Chamber should undertake a more detailed inventory of existing providers of adult education in Indiana than was feasible within the short timeframe of this project. That inventory would develop the information necessary to profile each provider in terms of their experience in workplace-focused basic skill development and the services and terms of service (price, timing of delivery, warranties, etc.) they might offer to employers.

Point 3: Promote continuous innovation in program design and delivery

We recommend two strategies for promoting continuous innovation. First, establish an Innovation Fund that can offer incentive grants and challenge grants to providers and employers to encourage new program approaches and delivery strategies. Second, continue the forums on national and in-state promising models for improving workforce literacy.

Point 3: Promote continuous innovation in program design and delivery

- Establish an innovation fund to implement pilot programs
- Continue hosting forums that feature promising practices

Establish an innovation fund to implement pilot programs: The innovation fund would provide support for pilot projects to learn and showcase what works in workforce literacy education for working

adults. The fiscal agent for the fund could be the Indiana Chamber Foundation. The oversight body, making decisions about appropriate investments and monitoring their implementation, should be the new public-private partnership organization recommended in point five below.

- **Technology.** One high-priority area for piloting innovation would be helping to apply new technology and better use of already available technology to workforce basic skill development. Technology will be an important tool for increasing the capacity of Indiana's adult education system to meet the large and growing workforce literacy needs. Nationwide, growing need and limited resources are demanding that programs turn to technology to deliver the most education to the most students possible. Experimenting with a technology initiative that increases learner access to resources and expands the system's delivery capacity through distance and on-line learning could be valuable for the entire state. Models have been presented throughout Phase I of this project, and the Chamber could take a closer look at those presented during the June 16, 2004 forum on technology's role in meeting the workforce literacy challenges in Indiana.
- **Employer Consortia.** The Innovation Fund also might solicit and support consortia of employers, especially small and medium-sized firms, to work together on workplace basic skill development programs. It will be difficult for smaller firms to organize efficiently for the delivery of basic skill education to only a few employees at each worksite. Consortia of small and mid-size firms could provide a necessary economy of scale, generating a program for a larger group of workers than any single firm would be able to provide and therefore lowering the unit cost of service. It might be feasible, for example, to develop joint training programs for several employers located in proximity to an industrial park. It might be possible to establish "common space" training centers in urban office parks.

Our research established that "sectoral" approaches to training and basic skill development also can be very effective. In such approaches, industries across a particular sector get together, usually through an intermediary institution (commonly, their trade association) to seek joint solutions to common problems. Sector-based training strategies can be more effective than firm-by-firm approaches because they offer economies of both scale and scope, and can be based on a detailed understanding of the overall needs of similar firms facing similar skill requirements.

- **Workforce Development and Postsecondary Partnerships.** In addition, there might be significant payoffs from providing a small amount of incentive funding to partnerships of workforce literacy programs and Ivy Tech State College and the emerging Community College of Indiana. Such partnerships might improve articulation between the programs for students to make a seamless transition to postsecondary education. Our experience with partnerships suggests that, without some amount of funding to support staff, meetings and information sharing between partners who have never worked together, the partnership will not be created or sustained.
- **Promote Cooperation and Collaboration.** Modest investment from a fund also could speed the dissemination of new ideas and approaches simply by promoting better cooperation and collaboration of current basic education providers. Existing adult education and workforce education programs in Indiana represented on the advisory committee had a working knowledge of each other and acknowledged that they learned more through this project. However, they do not optimally collaborate or coordinate their programs and services. The public programs, volunteer literacy providers, K-12 and postsecondary education providers and others could benefit from strengthened collaboration and coordination. Additionally, such collaboration would make it easier for employers to access the programs and services they need for their low-skilled workers. The Pennsylvania and Virginia Workforce Improvement Network models described

above provide useful examples of how such cooperation and collaboration could be facilitated.

Continue hosting forums that feature promising practices: The members of the advisory committee strongly agreed that the forums featuring promising program and system models from around the nation and in Indiana hosted by the Chamber in Phase I of this project were extremely useful. We recommend that these forums continue to be offered as a way to share innovative ideas in workforce basic skills education with stakeholders from across the state.

Getting started: The best way to launch this recommendation is to initiate a few “high-visibility,” workplace-based instruction pilot programs with specific employers or groups of employers. We recommend that the Chamber issue three Requests for Proposals (RFPs) to employers and sector-focused employer associations in Indiana. One of the RFPs might ask for proposals to establish a major firm-specific project that would impact relatively large numbers of workers and might serve as a laboratory for the design and demonstration of new instructional strategies. A second RFP might ask for proposals that would use technology in creative ways with incumbent workers, *i.e.*, computer-based instruction or distance learning approaches. A third RFP might ask for proposals from consortia of smaller firms, each with perhaps only a few workers in need of basic skill remediation, seeking to build a consortium that would have the scale and scope to make training cost effective. The fundamental idea behind these three RFPs is to get real programs started quickly, but on a sound footing, in order to build momentum and to demonstrate the strategies of a demand-side initiative.

Point 4: Establish new financial incentives for increased investment by employers and workers

Point 4: Establish new financial incentives for increased investment by employers and workers

Even if the 1 million working Hoosiers with skills at the lowest levels of the scale were to demand basic skills education, Indiana lacks the capacity and resources to deliver these services at any significant scale. Even the largest state-funded program providing adult education with the most capacity – the Department of Education’s adult programs – lacks the ability to absorb more students under the current level of resources.

Unfortunately, public funding resources for adult education have stagnated or been reduced. The Indiana Department of Education has received level funding of \$14 million from the state each year for the past six years. In 2002-2003, it received \$9.9 million from the federal government, which actually was a 7 percent reduction from the previous year. Without the capacity and resources to deliver workforce literacy education to more significant numbers of working adults, Indiana will not be able to meet this challenge. The implications of this capacity deficit are widespread.

In all the interviews and presentations for this project, stakeholders noted the vastly inadequate resources available for adult education in general and workforce literacy education specifically. This implies the need for a more creative use of public dollars supporting adult education, expanded use of private dollars, leveraging of private dollars for basic skills education and strategic use of information technology and partnerships to gain the most efficient use of limited resources possible.

The Indiana departments of Education, Workforce Development and Commerce are beginning to make inroads to using public education and training dollars more creatively and in a more targeted fashion for working adults. The DOE has recently announced a three-year \$315,000/year initiative called *Adult Education Works in Indiana*, in which the department plans to build from its successful *English Works* program and develop a statewide system of workforce education delivery for Indiana. While this investment is a substantial one for the DOE – it represents one-quarter of the federal funding that the department can use in 2004-2005 for state professional development, coordination and collaboration activities – it is not enough to reach large numbers of working adults.

Another important effort targeted to addressing the workforce basic skill deficit of working adults is the departments of Workforce Development and of Commerce's new [Indiana@Work](#) initiative. As described above, this initiative uses WorkKeys™ to assess workers' basic skill levels and the Skills Enhancement Fund training dollars to address basic skills deficits. This is an innovative partnership and initiative targeted to improving workforce literacy skills. However, it is still new and is only one piece of the larger strategy that will be required to make a big enough dent in the workforce literacy skills deficit in the state.

Current limited efforts at workforce basic skill development in Indiana do not offer appropriate incentives to employers or their adult workers to make the necessary investments. While some grant funds for training are available from both the Departments of Workforce Development and Commerce, they are focused more on technical and occupational skills than on basic skills. It appears that new policy measures are necessary to stimulate investment and create a more effective marketplace of providers. Generally these policy measures need to be developed as legislative initiatives to be put into effect over time.

We strongly encourage the allocation of more funding for adult education in Indiana. However, we urge the development of *new financing mechanisms* for adult education. In particular, we suggest careful consideration of significant tax credits for employers. Indiana might offer credits against state tax liability in the amount of as much as 75% of the employer costs for basic skill development programs for their workers. While tax credits are obviously less targeted than grant programs, they can be far more efficient. Additionally, if the credits are substantial, they can be more influential in changing the economics of employer investment in very positive ways. Several other states (New Jersey, Rhode Island, Ohio and Georgia among them) have developed such tax credit approaches and report success.

To prevent windfall benefits that do not lead to new investments, the credit might be applied only to eligible expenditures above the average of the last three years. Eligible costs probably should not include the wages of workers being trained (or might be limited to 50% of their wages up to some dollar maximum per worker), but might include all contracted provider costs or internal training costs including administration. In some states with these tax credit programs (Georgia, for example), plans for basic skill training have to be approved in advance by an oversight entity that also has resources to support technical assistance to employers in designing such programs.

One of the important benefits of a tax credit approach is that it puts the employer in the position of purchasing services from providers instead of having the providers offer "free service" to the employers. We see this as very important to emergence of a demand-side program that seeks to create a market for basic skill development.

There also needs to be incentive for individuals to invest in their basic skills. Some workers might be "stuck with" employers unwilling to invest; they need alternatives to dependence on employers. Moreover all workers should be encouraged to make their own investments in concert with those of employers. The evidence suggests that workplace or worksite programs will not be sufficient for many workers. They will need to go further on their own through community programs, distance learning and other arrangements. The incentive for workers, as for employers, could be tax credits (perhaps linked to and leveraging the federal Lifetime Learning Tax Credit) or it could be direct grants or vouchers available through the state's one-stop employment centers.

Getting started: We suggest the Chamber organize a small working group composed of key state organizations (public and private) with a strong interest in leveraging employer investments in basic skill training. This task force might pull together information from other states with tax credit or employer grant programs and develop some options for legislative consideration in Indiana.

Point 5: Create a public-private partnership to provide consistent leadership, strong management and rigorous accountability

A key component of this strategy will be the establishment of a new public-private partnership organization to lead this effort. Indiana lacks an organization appropriate to the challenge of this new initiative. Ideally, the new public-private partnership would have a legislative mandate, but more important is that it be organized with urgency and led by individuals with commitment and passion for this vision. We believe the organization would require minimal additional staff supported by and located at the Indiana Chamber of Commerce.

Point 5: Create a public-private partnership to provide consistent leadership, strong management, and rigorous accountability

There are major advantages to the Indiana Chamber assuming visible leadership on this initiative. A lead role by the Chamber would underscore the importance of this issue and help assure that Indiana's leading private-sector firms get behind the effort. It would also serve to demonstrate an employer-driven, demand-side approach to workforce basic skill development. If the Chamber does not want a long-term role in an "operational" program of this nature, it might choose later to spin off the staff and lead responsibility to another organization or entity.

Among the more important activities of the new partnership organization:

- Provide management and planning resources to guide implementation of the recommendations offered in this report
- Provide external technical assistance and consulting support to employers and employer consortia, and also to providers or potential providers
- Develop accountability systems and performance metrics (measuring the percent of workforce with basic skills deficits, regularly evaluating progress, and issuing an annual report card)
- Participate in formulation of new DOE adult education plan, perhaps seeking reauthorization of ABE legislation to promote support for workforce basic skill development (clarifying goals, promoting performance-based funding, creating markets, etc.)
- Simplify funding streams for basic workforce skills training
- Guide the development and assure the portability of Workforce Readiness Credential (especially as entry to postsecondary institutions)

Getting started: In the August 2004 meeting of the advisory committee, members discussed forming task-specific work groups organized around major strategies emerging from Phase I of this project. We think this is an excellent idea. The work groups could begin to develop the recommendations discussed in this report into actionable items and establish a foundation for a comprehensive demand-side approach to addressing Indiana's workforce basic skills challenge. Of course, these work groups would require additional support in order to create the tools for building awareness, do the research to establish a demand-driven delivery system, finance the Innovation Fund for piloting programs, investigate new financial incentives for private-sector investment and organize the public-private partnership. The Chamber should continue its efforts to secure funding from multiple sources to support this broad-based program.

We have proposed an ambitious plan of action for the Chamber and invested stakeholders. Some may suggest that it is too ambitious. However, it is important to remember the tremendous basic skill deficits in Indiana and the incredible negative economic impacts that result from these deficits. The Indiana Chamber of Commerce and its advisory committee members have built terrific momentum over the last eight months that can be harnessed to implement a plan of action, even one as ambitious as proposed in this report. It is our sincerest hope that this momentum not be lost, but instead be built upon to tackle Indiana's workforce basic skills challenge through a visionary demand-side strategy.

Summary of Recommendations

Vision:

Incumbent workers in Indiana will possess the workplace basic skills necessary to progress into higher skilled, higher value-adding jobs and to gain, throughout their careers, the training and credentialed postsecondary education those jobs require.

Design Principles:

- ☐ Program should be demand driven
- ☐ Initiative should require and establish mechanisms for close collaboration among key partners and build on existing capacity
- ☐ Initiative should focus on economic outcomes
- ☐ Workforce literacy programs must be linked to postsecondary education and training
- ☐ Quality controls and research-based programming are essential

Five-point Program:

Point 1: Build awareness and organize demand for workforce basic skill development

- A. Build state leadership awareness
- B. Raise general citizenry awareness
- C. Implement an employer-targeted campaign to organize demand
- D. Create an employer compact

Point 2: Establish a demand-driven delivery system with programs and providers that work for working adults and their employers

- A. Develop a workforce readiness credential
- B. Establish a resource center and information clearinghouse
- C. Inventory and assess current workplace-focused instructional materials
- D. Establish a professional and paraprofessional certification and development system
- E. Develop performance assessment standards for workplace basic skills providers
- F. Promote stronger postsecondary participation in workplace-focused basic skills training programs

Point 3: Promote continuous innovation in program design and delivery

- A. Establish an innovation fund to implement pilot programs
- B. Continue hosting forums that feature promising practices

Point 4: Establish new financial incentives for increased investment by employers and workers

Point 5: Create a public-private partnership to provide consistent leadership, strong management and rigorous accountability

APPENDICES

APPENDIX A:
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**APPENDIX B:
Chamber Workforce Literacy Process
January to June 2004**

Advisory Committee Meeting Dates and Speakers

January 15 **Organizational meeting; roundtable discussion of planning phase**

February 12 **Indiana Workplace Literacy Programs**

(Overview of Indiana systems, funding sources and uses, target groups served, definitions of literacy, proficiency measures, evaluation/measures of success, model programs/best practices for employer driven demonstrations. Documented, with handouts).

- ☐ Indiana Department of Workforce Development – Peggy O'Malley
- ☐ Indiana Department of Education – Linda Warner and guests:
 - Timmie Westfall, Adult Education Professional Development Project
 - Dan Wann, Adult Education Professional Development Project
 - Steve Watson, School City of Hammond Adult Education
 - Diane Lentz, Bernard-Kleinman JobLink Center

March 18 **Indiana Workplace Literacy Programs**

- ☐ Indiana Department of Workforce Development – Betsy Bedwell
- ☐ Indiana Literacy Foundation – Patti Siemantel/Jean Bepko
- ☐ Indiana Library Federation/State Library – Linda Kolb and guests:
 - Marcia Smith-Woodard, Special Services/Institutional Librarian, Indiana State Library
 - Dr. Jack Humphrey, Director, Middle Grades Reading Network, University of Evansville
 - Marge Cox, Media Services Director, Noblesville Schools

April 29 **Indiana Workplace Literacy Programs**

- ☐ Brief update on Southwest Indiana Network for Education (S.I.N.E.) Conference
- ☐ Ivy Tech Central Indiana – Carol D'Amico and guest(s):
 - Indiana State Teachers Association – Mark Shoup & Joy Seybold, ISTA Teacher Quality Center

May 20 **Indiana Workplace Literacy Programs**

- ☐ Department of Workforce Development – Brett Winegar
- ☐ Department of Commerce –Tim Monger
- ☐ Update on DOE plans for *Adult Education Works in Indiana*
- ☐ Power Point report from the research team
- ☐ Discuss strategies for Phase II
- ☐ Discuss draft business survey

June 17 **Indiana Workplace Literacy Programs**

- ☐ S.I.N.E. – Jim Edwards and Terry Fields
- ☐ Discuss Phase II work plan and business survey

National Speaker Forum Series - Dates and Speakers

April 28 ***State-to-State: What Indiana Can Learn From Other State Workforce Literacy Strategies*** - looked at promising approaches in Pennsylvania, Virginia and Kentucky, as well as reviewed a new work-readiness strategy now being piloted in four other states

Resource experts included:

Dr. Diane Foucar-Szocki, director of the Virginia Workforce Improvement Network

Dr. Cheryl King, vice president for Adult Education with the Kentucky Council on Postsecondary Education

Dr. Sondra Stein, former national director of the Equipped for the Future (EFF) Initiative

Barbara Van Horn, co-director of the Institute for the Study of Adult Literacy and of the Goodling Institute for Research in Family Literacy at Pennsylvania State University

May 19 ***The Employer Voice: Workforce Literacy Challenges and Approaches Taken by Employers and Employer Associations*** - explored what employers in Indiana and other states say about the challenges and do to address them

Resource experts included:

Karen Elzey, program officer, Center for Workforce Preparation, U.S. Chamber of Commerce, Washington, D.C.

Joy McGuirl-Hadley, Learning Center, Quaker Fabric, Fall River, Massachusetts

Jennifer Olson, Employee Education & Development, Clarian Health Partners, Indianapolis, IN

Timmie Westfall, director, *English Works*, Santa Claus, Indiana

June 16 ***What's Technology Got To Do With It? Technology's Role in Meeting Workplace Literacy Challenges in Indiana.*** Some workers face an additional obstacle during technology training: low literacy skills. Ironically, technology can be used as a tool to alleviate workforce literacy challenges. What is the best way to deliver workplace basic skills education in a face-to-face setting? How do we reduce the lack of connectivity among resource providers and increase sharing of resources?

Resource experts included:

Mary McCain, former VP of Policy, American Society for Training and Development (ASTD). She is now a partner in TechVision 21, an education and technology consulting firm.

Jere Johnston, director of Project IDEAL (Improving Distance Education for Adult Learners), University of Michigan. IDEAL works with a network of 14 states in testing and evaluating technology solutions.

David Rosen, head of the Adult Literacy Resource Institute in Massachusetts. He is a nationally recognized consultant on technology and adult learning.

APPENDIX C: Annotated Bibliography

A. General Resources

1. The National Institute for Literacy (NIFL) has fact sheets summarizing government and private sector survey findings:

The 1992 NALS fact sheet (www.nifl.gov/nifl/facts/NALS.html) includes summaries of percentage of adult respondents that demonstrated skills in NALS literacy levels 1-5, with brief descriptions of proficiencies for each level, also literacy levels of foreign-born population.

The NHES fact sheet (www.nifl.gov/nifl/facts/NHES.html) includes findings on participation in ESL programs.

The Workforce Education Fact Sheet (www.nifl.gov/nifl/facts/facts_overview.html) includes a variety of statistics culled from survey research on workforce characteristics, workforce skill requirements, corporate concerns, benefits and industry distribution of workforce education programs. Information about the 2003 National Assessment of Adult Literacy is available at <http://nces.ed.gov/NAAL>.

2. Indiana State Adult Literacy Survey (1992)
http://nces.ed.gov/naal/pdf/state_summaries/Indiana.pdf

Findings from the executive summary: "The average prose, document and quantitative proficiencies of adults in Indiana were similar to those of adults living in the Midwest region and higher than those of adults nationwide." This summary includes the percentage of adults in each NALS level with a brief discussion of proficiencies for each level, characteristics of population in each group, differences by age, race, gender, education, family literacy practices (notes small number of foreign-born residents in 1992 survey).

3. Building a Level Playing Field: The Need to Expand and Improve National and State Adult Education and Literacy Systems

Comings, Reder and Sum/ NCSALL Occasional Paper 2001
www.gsc.harvard.edu/~ncsall/

This report estimates and describes the portion of national adult working age population in need of basic skills and education; it builds on research in an early study of the Massachusetts workforce ("New Skills for a New Economy," see below) that found that workers fall into groups with different educational challenges. 1992 NALS data is used to estimate the number of adults in the "language challenge group," the "educational credential challenge group" and the "new literacy challenge group." Tables show national and state estimates including Indiana (authors note that data is now almost 10 years old). The report includes a discussion on who is being served in current programs and the relationship between literacy levels and earnings. Additionally, authors review the research on communication skills and the demands of the new workplace, the connection between "new basic skills," and NALS competency levels and family literacy and citizenship issues.

4. New Skills for a New Economy

Comings, Sum, Uvin/Mass Inc. 2000

www.massinc.org/handler.cfm?type=2&target=New_Skills/Intro.pdf

Follows earlier Mass Inc.-sponsored research documenting slow growth in the state labor force; occupational shortages; identifies language challenge, education credential challenge and new literacy challenges to building workers' skills; gives estimates for each group based on NALS and Current Population Survey (CPS) data for Massachusetts. Recommends expansion and improvement of state's adult basic education system to deal with language and credential challenges and workplace education, including community college-employer partnerships, to deal most effectively with new literacy challenge; better integration of adult basic education and job training also recommended.

Note: includes **case study** profiles.

5. The Human Capital Challenge

ASTD Public Policy Council, 2003

www.astd.org/astd/research/research_reports

Introduction includes succinct statements about long-term forces leading to the current challenges that organizations face; argues that developing human capital "...is about having enough people with the right skills and knowledge to help the organization create competitive advantage, grow and succeed. It is also about creating a culture that supports leadership development at every level of the organization." Includes **case studies**, all employer-based, public and private sector, large employer/human resources focus; section on best practices includes review of measurement issues re: investments in training, notes benefits of broader, more inclusive measures. Lists five categories for organizational self assessment.

6. A Review of Recent Workplace Literacy Programs and a Projection of Future Challenges

Mikulecky, Lloyd, Horwitz, Masker and Siemantel 1996

www.literacyonline.org/products/ncal/pdf/TR9604.pdf

The report includes a tally of employer-based programs (1990-1993, from Educational Resources Information Center (ERIC) database program reports), findings on workplace education programs in the early 90s and **program profiles**. It includes a discussion of industry and demographic trends, including the nature of job change, manufacturing vs. service sector jobs, temporary and part-time jobs, job loss overseas, ESL needs and implications for workplace training programs. Identifies concept of workforce literacy: workforce education in addition to programs at specific workplaces. Other themes that run through research sections of the report include the importance of partnerships, need for lifelong learning, value of diversifying and also targeting workplace literacy services.

7. Developing and Evaluating Workplace Literacy Programs: a Handbook for Practitioners and Trainers

Mikulecky, Lloyd, Kirkley and Oelker 1996

www.literacyonline.org/products/ncal/pdf/PG9601.pdf

Step-by-step general guide outlines what should occur in the program planning process and how to develop and evaluate a program. Short summary of current research findings with implications for program design. Includes sections on how to conduct literacy task analysis, design curriculum, recruit participants and utilize formative and summative evaluation methods.

8. Investing in Worker's Basic Skills: Lessons from Company-funded Workplace-based Programs

Alec Levenson 2001

www.nifl.gov/nifl/fellowship/fellows.html

This report was written “for those interested in promoting company-funded workplace basic skills programs” and includes **research findings on programs at eight organizations**. Includes discussion of expanded definition of basic skills, link to NALS levels of literacy, and rationales for employer investments in workers' basic skills. Study of companies found strong link between basic skills programs and broader training initiatives; reviews learning center model found at three companies. Lists questions to address in getting companies to invest (“what hook will work”) and role of company decision makers, outside funding, strategies for longer-term program viability. Includes recommendations for training practitioners and companies: notes that on-site basic skills program can be a natural extension of training provided for higher-paid employees, benefits of integrating basic skills training with more advanced offerings.

9. Workplace Literacy Best Practice Guidelines

National Workforce Assistance Collaborative

www.ed.psu.edu/nwac/document/literacy/best.html

Resources developed by this collaboration include a bibliography, briefing paper, and interview guide/product checklist for small and mid-size companies to use in selecting workplace literacy service providers. The characteristics of best practice workplace literacy programs are identified as:

1. Training objectives are tied to company business objectives and reflect company, employee and customer needs
2. Workplace training curricula, structure and delivery methods reflect the workplace and its requirements
3. Workplace literacy training is tailored to trainee needs
4. Assessment is customized to workplace requirements
5. Program delivery is flexible and encourages and facilitates employee participation
6. Staffs involved in the development and delivery of programs are highly skilled and well trained
7. Evaluation is used to assure training quality

10. Embedded Literacy: Strengthening the Connection Between Work and Learning

Deborah D'Amico/Commissioned Paper, U.S. Department of Education, Office of Vocational and Adult Education (OVAE)

Workplace Learning Conference December 2003

www.workplace-learning.net (click on “Team Room” for commissioned papers)

This paper looks at the issue of functional context literacy, and reviews delivery strategies that connect learning to work inside and outside the classroom. The author argues that “adult learning must be embedded in real opportunities to demonstrate knowledge and skill at work.” Summarizes program evaluations and other research; finds that “programs that embed training and education combinations in workforce development strategies that intervene in promising industries on behalf of low-skilled and low-income workers are establishing a good track record.” Lists common features of successful strategies, including integration of job training and basic skills education, value of job security as context for training, need for links to postsecondary education, value of bridge programs, career ladders, peer support and labor management partnerships.

Other papers for reference:

Toward a National Workforce Education and Training Policy
Uhalde/NCEE, Seltzer/Jobs for the Future (JFF), Tate/CAEL, and Klein-Collins/CAEL 2003
http://colosus.ncee.org/pdf/wfd/Training_Policy.pdf
Workforce Training: Employed Worker Programs Focus on Business Needs, but Revised Performance Measures Could Improve Access for Some Workers
GAO 2003
www.gao.gov/cgi-bin/GAO-03-353

Workplace Literacy Programs: Why the Mismatch Between Availability and Need?
Kevin Hollenbeck/Upjohn Institute for Employment Research, 1994
www.upjohninst.org/publications/newsletter

B. Employer and Industry Association Survey Findings

1. Bouncing Back: Jobs, Skills and the Continuing Demand for IT Workers
Information Technology Association of America (ITAA) 2002
www.ita.org/news/pubs/product.cfm?EventID=437

This report is an update of earlier ITAA studies looking at IT workforce issues; includes survey findings based on sample telephone interviews with hiring managers. Summary of findings notes projected increase in aggregate demand for IT workers, but also a continued “gap” (about 50% of total demand) due to lack of qualified workers. Demand for IT workers in the Midwest is down. Outsourcing continues to grow in popularity among non-IT companies. Previous experience on a job is single most important skill credential for obtaining a new job; informal training on par with 4-year college degree is best way to obtain needed skills. Certification has grown in significance for each of the job categories; general job experience has declined in importance as entry-level skill credential.

2. 2003 Workforce Survey
Information Technology Association of America
www.ita.org/workforce/studies/03execsumm.pdf

This report refers to the 2002 survey as a baseline, and notes that while the 2002 report found evidence of tapering of workforce reductions, the 2003 survey finds that the overall demand for IT workers is down dramatically, both for IT and non-IT employers. Also in contrast to earlier surveys, the 2003 report found that more respondents (46%) cited a four-year college degree as the background desired in qualified job applicants, rather than specific job experience as entry-level criteria. Companies are adding tech support workers and appear able to meet their hiring goals.

3. Keeping Competitive: Hiring, Training and Retraining Qualified Workers
2001 and 2002 surveys
Center for Workforce Preparation (U.S. Chamber of Commerce affiliate)
www.USChamber.com/cwp.

These are reports on surveys of employers in communities that participated in a “Workforce Academies Model Project” (six communities in 2001 and five in 2002). They include data on employer responses re: local labor market conditions, portion who said that job applicants have poor or no employment skills or the wrong skills, skills of incumbent workers; looks at use of “one stop” career centers in communities. Employers in 2001 survey rank “having well-trained staff” first as key competitive factor that chambers of commerce can impact. The 2001 report includes more detailed

discussion of turnover and recruitment problems. “What is clear is that employers across the board report a need to become better informed about their local labor market and workforce.” (p.14)

4. Spotlight on Workforce Development

Center for Workforce Preparation 2001

www.uschamber.com/cwp

Survey of chamber CEOs, conducted in connection with U.S. Chamber Executive Leadership Forum. Nearly all employers see workforce development as high priority. Key issues for employers: lack of skills among applicants, need to upgrade skills for incumbent workers, overall worker shortage (small % listed importance of providing opportunities to low-income, low-skilled workers). The report includes a range of views on what workforce development means. Employer activities aimed at improving the workforce development system range from chamber leadership to governance, R and D and brokering or providing services.

5. A Chamber Guide to Improving Workplace Literacy

Center for Workplace Preparation 2002

www.uschamber.com/cwp/publications/reports/default

This paper pulls together research findings that provide context on workplace literacy as a business issue, and lists ways that chambers and employers can take leadership and initiate the development of workplace education programs. Research findings include summaries of NALS literacy levels, U.S. DOL “SCANS” report on workplace competencies and foundation skills, basic skills deficits found in a 1999 AMA survey, the three literacy challenge groups identified in the “Building a Level Playing Field” report and findings from a 1999 Conference Board report that quantify the organizational benefits of workplace education programs. Local chambers are encouraged to convene community stakeholders in a planning process and take other leadership roles; employers are encouraged to begin to identify their organization’s specific task and skill requirements and develop strategies for dealing with employees’ skill and literacy deficiencies, and also to work collaboratively with educators and other employers. “Working with competitors may seem counterintuitive, but it actually strengthens the workforce pool available to all employers” (p.9).

6. The Skills Gap 2001

National Association of Manufacturers (NAM)/Center for Workforce Success

www.nam.org/Docs/CenterforWorkforceSuccess/27473_2001SkillsGap.pdf?DocTypeID=98

The Skills Gap reports on a survey of NAM members; 2001 findings affirm trends documented in 1997 and 1991 surveys. Skill shortages were found to persist even in the midst of a manufacturing recession. The most serious shortages affecting manufacturing employers are among skilled hourly workers (production and direct support fields). The top deficiency identified, for both current workers and job applicants, was lack of basic employability skills. More companies are spending more on training. A “significantly” higher percentage of respondents said that labor shortages make them more willing to hire immigrants, high school students, welfare-to-work applicants and retired workers. Notes lack of awareness that many good manufacturing jobs require only training certificate or two-year degree. NAM recommends that employers increase investment in training, and that adult literacy be made top public policy priority. The report includes several **employer profiles**.

7. Keeping America Competitive: How a Talent Shortage Threatens U.S. Manufacturing

National Association of Manufacturers/Manufacturing Institute 2003

www.nam.org/Docs/ManufacturingInstitute/26411_CWS_White.pdf?DocTypeID=9&TrackID

This report was written following the Skills Gap survey report and looks at the shortage of skilled manufacturing employees in the context of the larger manufacturing competitive crisis. Additional research was done using focus groups and interviews with academic and policy experts. The research found conflicting views on the effectiveness and alignment of the current workforce training system. Notes that lack of skilled employees could be a factor in accelerated shift of production overseas, and that this shift could ultimately put the manufacturing sector at a strategic disadvantage. NAM recommends working to make education and training in both the private and public sectors more relevant to manufacturing's needs.

The Employer's Voice: Frontline Workers and Workforce Development

Taylor and Mitchner/ JFF 2003

www.jff.org/jff/PDFDocuments/EmployersVoice.pdf

This paper is a summary of conference proceedings that included employers from Annie E. Casey Foundation (AECF) Jobs Initiatives sites. Employers from small and mid-sized firms voiced their perceptions with regard to frontline workers, skills and work ethic problems, turnover and retention problems and challenges with higher skills training. The paper includes bullet points on the policy implications of employers' views, and reference to a video produced by AECF on "Advancing Workers Achieving Business Success." Full text of excellent keynote address by former Congressman Steve Gunderson is included.

C. Emerging Themes

1. Technology

Leapfrogging Over the Status Quo: E-Learning and the Challenge of Adult Literacy

Mary McCain TechVision21/JFF

www.jff.org/jff/PDFdocuments/Elearning.pdf

Three documents are available: the research report with detailed reviews of e-learning products and programs for adults, a report overview with a matrix of the programs by type of skills development, and a "snapshots" appendix with an even more concise matrix of the e-learning programs. Common characteristics of the best programs are summarized. In general, good technologies offer potential for a customized approach to teaching and learning. The main report includes an interesting discussion of needs in adult literacy education and the potential for e-learning products ("e-learning is as much about information, communication and the learning environment as it is about technology"). The report notes that research findings are limited on the impact of technology on ABE and ESL learners. Employers are seen as an important potential market for e-learning technologies given the looming skills gap and growing ESL population.

The Potential of Technology in Adult Basic Education: Lessons from the PBS Literacy Link Project

Jerome Johnston 2001

www.projectideal.org/pdf/other.print.resources

This article describes the history of federal investment in technology projects designed to improve education. Two multi-media programs, Workplace Essential Skills (WES) and GED Connection were created as resources for adult learners, and LitTeacher was created as a virtual resource center for educators. Summative evaluation of the WES program showed limited gains by students. "The WES materials have great potential to orient adults to the realities of the workplace. But, for many adult students, the full potential of WES will not be realized without careful guidance and support from a teacher who can analyze a student's specific needs and provide training in areas where they

are most deficient” (p.3). The author finds good pedagogical design in each of the programs but concludes their potential will be limited, in part because of infrastructure weaknesses (the “ubiquitous need for technical support”) and because many adult learners are still not comfortable as quickly with the Web as a medium for learning.

2. The Role of Intermediaries

Employer-led Organizations and Career Ladders: Linking Worker Advancement with the Skill Needs of Employers

Mills and Prince, 2003

www.jff.org/jff/PDFDocuments/WINscarladd.pdf

This report introduces the Workforce Innovation Networks (“WINs,” a collaboration between NAM’s Center for Workforce Success, JFF and the U.S. Chamber’s Center for Workforce Preparation) and outlines the concept of career ladders and the potential labor market benefits of different types of career ladders. Career ladders are described as creating “a network of employers cooperating around training and hiring practices....(worker) advancement occurs through vertical routes within a firm, diagonal routes across firms or industries or horizontal routes into firms or industries that offer better opportunities for promotion” (p.4). Employer associations are seen as having a unique and important role as intermediaries, providing leadership as they convene employers, help employers define and articulate skill areas and broker workforce services.

Making the Connections: The Role of Employer Associations in Workforce Development

NAM Center for Workforce Success 2002

<http://www.nam.org>

The WINs partnership was formed to help local chambers and state and local NAM affiliates help engage with the challenges of workforce development. This guide outlines the needs of what it calls the “emergent American workforce,” including incumbent workers, students and hard-to-employ populations; and provides a one-page outline on the role of employer associations in workforce development. Current WINs and Manufacturing Industries Careers Alliance (MICA) funded programs are profiled in the appendix.

Other resources:

The NAM Center for Workforce Success page on Workforce Innovation Networks has several documents on involving business in workforce development and on labor market intermediaries.

www.nam.org

Don’t Forget the Ones Left Behind: How Career Centers Can Better Serve Job Seekers Lacking in Basic Skills and High School Credentials

Paul Jurmo, 2003 US DOE/OVAE commissioned paper

www.workplace-learning.net (click on “team room”)

Linchpins for Economic Opportunity: Community Colleges and Community-based Organizations

Robert Templin 2003 US DOE/OVAE Commissioned Paper

www.workplace-learning.net (click on “team room”)

3. Sectoral Initiatives

Working with Value: Industry-specific Approaches to Workforce Development
The Aspen Institute/Sectoral Employment Development Learning Project 2002
<http://www.aspenwsi.org/SEDLP.htm>

This report brings together findings from a multi-year “participatory learning project” on workforce development convened by the Aspen Institute. The project studied six programs identified as effective sectoral initiatives, all in large urban areas (SF, NYC, Chicago, Detroit, Bronx, San Antonio). The report includes a substantive overview of the sectoral approach, findings on the earnings and employment progress of participants, case study findings and a section on the strategic partnerships that developed including those with industry associations and employers. Report appendices provide study methodology and program profiles.

High-road Partnerships: Helping Low-wage Workers Succeed Through Innovative Union Partnerships
AFL-CIO Working for America Institute
www.workingforamerica.org

The “high-road partnerships” described in the report are sectoral initiatives that focus on connecting disadvantaged workers to labor markets in which unions have influence. They include partnership and multi-employer training programs aimed at creating career ladders across industries. The partnerships/industries profiled are in Philadelphia (health care), Las Vegas (service/hospitality), Milwaukee (manufacturing) and Seattle (construction.) The report outlines components of a best practice model, and case studies highlight success stories, but note that not all union-led efforts have adopted all features of the broad strategy. Challenges remain with providing adequate non-work supports (transportation, child care) and placing disadvantaged workers during a recession.

Investing, Improving and Measuring Workplace Skills
Whitney Smith, DOL/OVAE Commissioned Paper, 2003
www.workplace-learning.net (click on “team room”)

This paper briefly reviews research findings on sectoral initiatives and also on “bridge” programs, which are designed to provide a connection between basic skill development and either entry-level work or training for high-wage, high-skill jobs.

Other resources:

National Network of Sector Partners
www.nedlc.org/nnsdp/whatis/htm

PolicyLink-Regional Equity Success Stories
www.policylink.org/ress_overview.html

4. Joint Labor Management Models

Success by Design: What Works in Workforce Development
The Conference Board of Canada 2002
www.conferenceboard.ca

Successful Joint Training Programs (JTPs), or workplace education programs jointly developed by employers and unions, are profiled and the key design elements of these programs are identified. The study looks at training cohorts in health care, information technology/telecommunications and hospitality sectors (overlap with initiatives profiled in “High-Road Partnerships” report.) Tables outline current and potential skill gains and program benefits, from employer, union and worker perspectives. The program development process is also outlined. Rubric of twelve key design elements in successful programs includes emphasis on continued, collaborative process, use of learning needs analysis, voluntary participation, multiple learning strategies and access to other resources for students, careful selection of providers and evaluation of program effectiveness.

5. English as a Second Language

Issues with Outcomes in Workplace ESL Programs

Miriam Burt, US DOE/OVAE Commissioned Paper 2004

www.workplace-learning.net (click on “team room”)

This report reviews growth of immigrants in the U.S. workforce, the need for literacy and fluency in English, advantages of ESL classes on the job; the author initially sought to look at reasons why employers do not offer ESL and what outcomes they seek, but found little research on outcomes. The paper thus identifies and describes issues that relate to outcomes, such as the length of time it takes to learn English, expectations about language use in the workplace, and the relationship between training and worker performance. Suggestions for those providing English language instruction at the workplace include fairly specific recommendations (offer short, highly-focused classes with clear, measurable objectives, involve worker leaders, find new ways to encourage use of English on the job) and broader recommendations (view multi-lingual, multi-cultural workers as an asset).

Meeting the Needs of Workers with Limited English Proficiency for Good Jobs and English Language Skills

Laura Chenven, US DOE/OVAE Commissioned Paper 2003

www.workplace-learning.net (click on “team room”)

This paper describes seven programs for adults with limited English proficiency (LEP) that were reviewed by an AFL-CIO advisory panel; these programs were identified for their success in helping LEP workers get and keep good jobs. The author discusses occupational training for LEP workers by industry sector, and includes interesting findings on current labor market conditions in the hospitality, manufacturing, construction and health care sectors. Several program features were found to enhance success: access to good jobs (motivational factor,) close connections between workers, case managers and other project staff, and a connection between language and occupational training. Assessments, program evaluation, curriculum and staff development and funding are still seen as major challenges.

6. Training of Low-wage Workers

Skills Training Works: Examining the Evidence

Smith, Wittner, Spence, Van Kleunen/The Workforce Alliance 2002

www.workforcealliance.org/Skills%20Training%20Works%20Report.pdf

This study presents a review of recent research on training programs serving low-income adults; it was inspired by concern that recent federal policies advocate a “work first” approach based on the assumption that training has not worked. The research review finds evidence that training has increased wages, increased the number of workers in jobs with benefits, and increased the number employed with steady work. The authors argue that major evaluations often overlook other effective

outcomes for training by failing to distinguish between occupational and other types of training, failing to identify the specific practices that qualitatively distinguished effective training programs, and averaging outcomes. The appendix lists studies featured in the paper, including sectoral, state, community college and welfare-to-work initiatives, and useful effective practices studies.

7. Work Readiness Credentials

What does it mean to establish a “credential” for work readiness? Work in this area is still in progress – one major initiative involving public sector and private sector business partners is currently working to establish consensus on what a statewide work readiness credential should include, and how it will be used. Much of the demand for a workforce readiness credential comes from employers, who need assurance that the workers they hire have core skills that will enable them to compete effectively in today’s economy. The drive to develop a basic skills credential also comes in part out of the larger movement toward standards in adult education, and the changing landscape of education and job certification.

A significant development in the field of adult education and workforce development is the movement to extend standards-based reform, which is underway in the K-12 education system, to adult education and literacy programs. The National Institute for Literacy (NIFL) initiated a process ten years ago to develop and implement standards for adult literacy. These standards, called “Equipped for the Future” or “EFF,” describe and define what adults should know and be able to do as citizens, parents and productive members of the 21st century workforce. Standards such as those developed by NIFL provide publicly stated goals for instruction; curriculum and assessment can be aligned to these goals and the accountability of programs improved.

For more information on NIFL and adult literacy standards:

http://www.nifl.gov/lincs/collections/eff/standards_guide.pdf

http://www.nifl.gov/lincs/collections/eff/about_eff.html

The EFF Center for Training and Technical Assistance, located at the Center for Literacy Studies, University of Tennessee-Knoxville, provides support for states in using EFF standards.

<http://aeonline.coe.utk.edu/eff.htm>

Parallel efforts are also underway, led by organizations such as the National Skills Standards Board (NSSB), to develop skills standards for different occupations and to link national and state standards for occupations and industries. WorkKeys™ is an example of a skills assessment protocol used by state systems such as the Skill Standards Network of Oregon to assist employers with hiring and training, and to provide program tools to educators and trainers.

For more information on skills standards:

<http://www.nssb.org/bg/2001AnnualReport.pdf>

<http://www.socc.edu/workkeys/workkeys.htm>

The nature of job-related credentialing and certification is also evolving. Certification has traditionally been the process through which individuals gain access to certain skilled occupations. In some fields, such as nursing, individuals become certified after successfully completing a specific course of postsecondary education along with work experience, as well as an exam based on professional standards. Certification for many information technology jobs, on the other hand, involves an exam but does not require prior formal education or specific job experience.

The report “Help Wanted ...Credentials Required” written by the Educational Testing Service and the American Association of Community Colleges, provides information on the relationship between changing work processes, job credentials and postsecondary education in the U.S. economy.

<http://www.ets.org/research/dload/AACCHelp.pdf>

In general, employers in today's economy need workers with a broader set of skills, including problem solving, communication skills and the ability to learn and innovate on the job. These skills are important even for entry-level jobs. Businesses also must find ways to reduce the cost of high turnover to remain competitive. Thus employers are increasingly interested in a credential that signifies that job seekers in their communities have the knowledge and skills needed to be ready for the workforce.

Initiatives are underway at the local and state level to develop and pilot Work Readiness Credentials. The NIFL and NSSB are working together with a group of four states (New York, New Jersey, Florida and Washington) to develop an industry-validated state workforce readiness credential, to engage business and community stakeholders in adopting the credential, and pilot the training programs needed to prepare workers to qualify for the credential. In addition to helping address the demand from employers for qualified workers and reduced turnover, a state work readiness credential is also seen as an economic development tool for states seeking to recruit and retain businesses.

Information on this initiative is available at:

http://www.nifl.gov/lincs/collections/eff/eff_voice/vol_3_no_1b.pdf

<http://www.workforcenewyork.org/swib/ewsagenda513att.html>

http://www.massinc.org/about/nsne_campaign/job_done_report.html

Additionally, many states are experimenting with a WorkKeys™-based work readiness credential. States that have implemented or considered implementing such a credential include: Indiana, Kentucky, Louisiana, Michigan, Virginia, Kansas, West Virginia and New Mexico. An organization called Thinking Media, working in conjunction with ACT, the developer of WorkKeys™, has drafted a guide for implementing the WorkKeys™ certificate; however, it is not online.

Overview information on these systems is available at:

<http://www.vccs.edu/workforce/kaleidoscope/april04/workkeys.htm>

APPENDIX D:
Promising Program Models for Workforce Literacy Programs

Research Sources for Matrix

ABE	Adult Basic Education
Aspen	The Aspen Institute
ASTD	American Society for Training and Development
CBO	Community-based Organization
EFF	Equipped for the Future content standards for adult literacy
ESL	English as a Second Language
GED	High school credential
IWE	Institute for Work and the Economy
Mass Inc.	Massachusetts Institute for a New Commonwealth
NAIC	North American Industry Classification System
NAM	National Association of Manufacturers
PRIMO	Pre-vocational Resource for Improvement, Motivation and Opportunity
PSE	Postsecondary Education
TANF	Temporary Assistance for Needy Families
TWA	The Workforce Alliance
U.S. Chamber	U.S. Chamber of Commerce/Center for Workforce Preparation
WAI	Working for America Institute, AFL-CIO
WIA	Workforce Investment Act

Table 1: Promising Practices in Workforce Literacy Programs – Company-based Initiatives

<i>Name/location (research source)</i>	<i>Venue</i>	<i>Sponsor or Administrative Agency</i>	<i>Program Focus</i>	<i>Learner Population</i>	<i>Outcomes or Results</i>	<i>Program Features</i>
IEI International Electronics, Canton, MA (Mass Inc.) NAIC 33	Workplace	Employer with public-sector support	ESL including business terms	Incumbent workers (company employees)	Success with manufacturing team reorganization; improved on-time product delivery rate	Classes held during work hours
Fredon Corp. Learning for Life Initiative, Mentor, OH (NAM) NAIC 33	Workplace	Employer; CBO partner (local Boy Scouts)	Vocational	Youth	Volunteer participants; graduates recruited for local jobs	Machining skills training; job recruits offered postsecondary education incentives
Miles Fiberglass & Composites Inc., Portland, OR (NAM) NAIC 32	Workplace	Employer	Vocational (industry specific)	Incumbent workers (company employees)	Reduced turnover and re-work hours	Custom manufacturing; training mandatory but self directed; 12 certifications
Palmer Tool Co., Camden, TN (NAM) NAIC 33	Workplace	Employer	Vocational (job skills upgrades)	New and incumbent workers (company employees)	Long-term benefits for skilled labor (intensive manufacturing firm)	Partnership to bring local teachers for factory experience
Ohio Stamping & Machine Inc., Springfield, OH (NAM) NAIC 33	Vocational school	Employer	Vocational (metalworking curriculum); skills upgrade	Youth, incumbent workers from area manufacturers	One third of participants offered company jobs	Manufacturing industry sector; summer training added for new hires
NYPRO Institute/NYPRO Inc., Clinton, MA (Mass Inc.) NAIC 32	Workplace	Employer with state college, state university	(1)Vocational (plastics tech) (2)Workplace literacy with ABE and ESL	(1) Area incumbent workers (2) Company employees	(1) 200 participants from 75 area firms (2) 99% completion rate	Plastics technology certificate; online program added

Name/location (research source)	Venue	Sponsor or Administrative Agency	Program Focus	Learner Population	Outcomes or Results	Program Features
Excel Corporation, Ft. Morgan, CO (NAM, IWE) NAIC 31	Workplace	Employer and community college partnership	ESL, ABE, GED prep.	Incumbent workers (company employees, majority immigrants)	About 300/year served; improvements reported in quality, productivity, safety	Food processing industry; employees compensated ½ hourly rate for training time
Northrup Grumman, Newport News, VA (ASTD) NAIC 33	Vocational schools and workplace	Employer with vocational school partners	Vocational training and formal apprenticeship	Job seekers; incumbent workers (company employees)	Over 2,000 graduates employed; high promotion rates	Company support to strengthen voc. ed. welding programs & recruit students; apprenticeships include academic/skills
Skills for Life/St. Gobain Company, MA, TX, NY (NAM) NAIC 32	Public schools	Employer (local plants) with CBO and school partners	Basic skills; ESL; workplace competencies	Youth (middle & high school)	Reduced school dropout rates	Individualized computer-based instruction
General Motors, Detroit, MI (ASTD) NAIC 33	GM University (internal training arm)	Employer	Professional development	Incumbent workers (salaried employees)	Productivity savings through use of e-learning	Human resource; engineering training
Toyota USA/Automotive Training Center, CA (NAM) NAIC 81	Training center facility	Toyota and Los Angeles Urban League	Vocational	Area job seekers	80% job placement rate	Multiple area auto service industry employer partnerships

**Table 2: Promising Practices in Workforce Literacy Programs –
Employer Association–led Partnerships**

<i>Name/location (research source)</i>	<i>Venue</i>	<i>Sponsor or Administrative Agency</i>	<i>Program Focus</i>	<i>Learner Population</i>	<i>Outcomes or Results</i>	<i>Program Features</i>
Jobs and Workforce Initiative/Greater Cleveland Growth Association, OH (TWA, U.S. Chamber)	Central community sites	Business-led collaborative	Customized basic skills training; continuing education	Job seekers; incumbent workers	Jobs leveraged through investments	Regional focus; industry clusters identified to support through workforce development
San Francisco Works, CA (TWA)	CBOs (contracted for services)	Employer association/ employer/CBO/ public-sector partners	Pre-employment training; vocational and career advancement	TANF recipients; low-income job seekers	13 employer-led training programs; 2,000+ job placements	Employers involved in program assessment, design; models incubated for public sector development
Philadelphia Jobs Initiative/Regional Workforce Partnership, PA (TWA)	CBO sites	Employer coalition with community college, union, CBO public-sector partners	Vocational	Job seekers; incumbent workers; youth	IT skill standards developed; 88% customer service trainees employed	Sectoral initiatives in information technology; customer service skills training
Para-professional Healthcare Institute, Bronx, NY (TWA, Aspen)	CBO sites	CBO with employer, union, industry partners	Vocational; career upgrade	Incumbent workers (low income)	Training model replicated in PA, NH, MI, AK, NYC	Long-term care/health care industry; job and quality of care goals

Table 3: Promising Practices in Workforce Literacy Programs – Community-based Organization and Public Sector-led Partnerships

<i>Name/location (research source)</i>	<i>Venue</i>	<i>Sponsor or Administrative Agency</i>	<i>Program Focus</i>	<i>Learner Population</i>	<i>Outcomes or Results</i>	<i>Program Features</i>
<i>English Works, IN (IWE)</i>	Workplace sites	Public sector (DOE, DWD) with employers	Workplace ESL; foundation skills	Incumbent workers with limited English proficiency	Served 100+ companies, 1,900 learners, 99 teachers trained; 217 Certificates of Technical Achievement (CTA)s awarded	CTAs document work skill proficiencies
<i>Pennsylvania Workforce Improvement Network, PA (IWE)</i>	Workplace sites	Public Sector (DOE) with CBO and employer partners	Workplace foundation skills; customized short-term projects	Incumbent workers	Learner gains documented	Providers developed measurable training objectives
<i>Maryland Adult Education External Diploma Program, MD (IWE)</i>	Community sites	Employer/union/community college partners	Workplace literacy, personal and occupational skill development	Incumbent workers (union hospital workers)	28 adults earned high school diploma	Credential; competency-based applied performance diploma program
<i>Project Quest, San Antonio, TX (TWA, Aspen)</i>	CBO sites	CBO with community college, employer; public-sector partners	Vocational (long-term skills training, case management)	Job seekers (low income city residents)	Employer partners reduce training costs; increase job retention	Industry sector focus; training driven by employer job needs
<i>Jane Addams Resource Corporation, Chicago, IL (TWA, Aspen)</i>	Workplace and CBO training center	CBO with employer and employer association partners	Vocational; basic skills	Incumbent workers; job seekers	350+ learners served annually; improved job retention	Metalworking industry skills training; entry-level job training; other employment service for employers

Name/location (research source)	Venue	Sponsor or Administrative Agency	Program Focus	Learner Population	Outcomes or Results	Program Features
Focus Hope, Detroit, MI (TWA, Aspen)	CBO training sites	CBO with employer, public- sector partners	Vocational, pre- employment; ABE	Incumbent workers, job seekers (Detroit metro area residents)	Program growth	Social service support; manufacturing and information technology skills training linked to engineering degree programs
Training Inc., Indianapolis, IN and Orange, CA (TWA)	CBO sites	CBO with employer, public- sector partners	Curriculum integrates hard (technical) and soft skills (teamwork, etc.)	Job seekers	80%+ program completion, job placement, job retention	Office support and information technology jobs focus; network of affiliates
Akron Public Schools Community-based Internship Program, OH (IWE)	Classroom	School district and business community	Foundation skills for workplace literacy; ABE	Special needs young adults	71% learners reached basic literacy; 87% reached work readiness goals	Academic; job training support services; ABE added to enhance job retention
HOST/PC program/Miami Valley Career Technology Center, OH (IWE)	Workplace sites	Public sector and employer partners	Vocational; foundation skills; on-the-job mentoring	Job seekers (low income); some incumbent workers	Increased employer participation; 89% learners employed; low turnover rates	Hospitality industry focus; credentials for entry-level and higher jobs
Massachusetts E-Team/PRIMO, MA (IWE)	CBO and vocational institute	CBO (faith based), union and employer partners	Vocational (E- team) and basic skills/ESL (Primo)	Job seekers (low income, but employed)	Primo learners access E-Team; E- Team trainees guaranteed skilled employment	Industry focus: local demand for skilled machinists
IT Works, VT (IWE)	CBO classrooms; workplace internships	CBO and employer partners	Foundation and vocational skills	Job seekers (welfare recipients)	Internships; job placements	Training for admin. support jobs, large health care employer

**Table 4: Promising Practices in Workforce Literacy Programs –
Union - Business Led Partnerships**

<i>Name/location (research source)</i>	<i>Venue</i>	<i>Sponsor or Administrative Agency</i>	<i>Program Focus</i>	<i>Learner Population</i>	<i>Outcomes or Results</i>	<i>Program Features</i>
Wisconsin Regional Training Partnership, WI Milwaukee, WI (TWA, WAI)	CBO	Union/employer association with CBO partners	Pre-employment, vocational; placement services	Job seekers, incumbent workers, youth (community residents)	Average of 500/year job placements; 70%+ retention rate	Industry focus: manufacturing and health care. Included: recruitment, retention, career ladder services to employers, job guarantees to recruits who complete training
Culinary Training Academy, Las Vegas, NV (Canadian Conference Board, WAI)	CBO	Union and multiple employers with CBO partner	Vocational (entry level & upgrade); pre-employment; ESL; placement services	Incumbent workers, job seekers	Average of 3,000 trained/year; 70% job placement rate; reduced turnover; and increased sales	Hospitality industry; class credits count as work experience
Alliance for Employee Growth & Development, NJ (Canadian Conference Board)	Workplace sites	Union and employer partners	Vocational; career support	Incumbent workers; displaced workers	42% participation rate; and improved job promotion	Technology industry sector; includes computer software certification
Hospital League SEIU 1199 Employment Training & Job Security Program, NY (Can. Conf. Bd.)	Workplace, CBO sites	Union and employer partners (similar initiatives in Philadelphia & Boston)	ABE; ESL; vocational	Incumbent health care workers	Career ladders; improved team work reported	Health care industry; funding available for PSE programs

<i>Name/location (research source)</i>	<i>Venue</i>	<i>Sponsor or Administrative Agency</i>	<i>Program Focus</i>	<i>Learner Population</i>	<i>Outcomes or Results</i>	<i>Program Features</i>
Apprenticeship Opportunities Project, Seattle Community Project Labor Agreement, WA (WAI)	CBO and work sites	Union and employers with CBO; voc. school partners	Vocational: apprenticeship, pre-employment training, placement, mentoring	Job seekers; disadvantaged workers	Over 700 placements in six years; two-year job retention rate 53%	Building trades apprenticeships; jobs linked to public and private-sector construction projects

Table 5: Promising Practices in Workforce Literacy Programs - Community College Initiatives

<i>Name/location (research source)</i>	<i>Venue</i>	<i>Sponsor or Administrative Agency</i>	<i>Program Focus</i>	<i>Learner Population</i>	<i>Outcomes or Results</i>	<i>Program Features</i>
Fayetteville Technical Community College, NC (U.S. Chamber)	College and employer facilities	Community college with employer partners	Vocational: customized workforce, pre-employment training	Incumbent workers; job seekers	8,000-10,000 training participants per year	Certificates of completion
Everett Community College LEP Work First Program, OR (IWE)	Community college	College with employer, public-sector partners	ESL; customized short-term job training	Limited English Proficient adults (TANF recipients)	80% learners employed	Welding, auto mechanics, custodial, food service, nursing occupations
Seattle Central Community College, Basic Studies Division, WA (IWE)	Workplace sites	College with employer, union and public-sector partners	Workplace basic skills	Incumbent workers (low-income, recent TANF recipients)	Job and wage gains; improved job safety; teamwork; productivity	Used Equipped for the Future-based curriculum; public and private-sector employers
Shoreline Community College, WA (TWA)	College and workplace sites	College with employer partners	Vocational (including customized); ABE; job readiness	Incumbent workers; job seekers (welfare/low income)	15,000 students in credit programs; 5,000 in non-credit programs	Modularized courses, support services, pilot distance learning program
Mount Hood Community College, OR (TWA)	College sites	Mt. Hood partners with Portland Community College, public sector	Vocational (short-term); welfare to work programs	Incumbent/dislocated workers; public assistance recipients	Long-term employment and income gains	Menu of services, vocational skills training modules
Cuyahoga Community College, OH (TWA)	College sites	College with chamber, public sector, CBO, employer partners	Vocational (including entry-level and customized skill upgrade); ABE; GED prep	Incumbent workers; job seekers (including low-income)	1,500 WIA participants; 2,500 job skill upgrade participants	Certificate programs for professional development; workforce-related services to employers

APPENDIX E: Business Survey Results

Question	Description	President or CEO	General Manager or COO	Other	Head of Human Resources
1	Which of the choices below best describe your position in your establishment?	163	81	90	142
2	Which of the choices below best describe your organization?	Nonprofit organization	Government agency	Branch of multi- establishment private firm	Independently owned private firm
		72	16	91	288
3	How many people are employed at your establishment?	1-49	50-249	250-499	500+
		222	150	54	50

4 Which one of the following is the primary activity of your establishment?

Administrative and Support Services	9
Agriculture and Mining	4
All other services	50
Arts, Entertainment, Recreation	5
Construction	33
Education	22
Finance, Insurance	21
Health Care and Social Services	30
Manufacturing	168
Professional and Technical Services	49
Public Administration	7
Real Estate	7
Retail Trade	31
Transportation, Warehousing	19
Wholesale Trade	18

5	Where do most of your employees live?	Urban 53	Rural 109	Mixed 238	Suburban 75		
6	Considering the competitive environment in your industry, how would you rate the importance to your organization of the basic workplace skills of your "frontline" employees (i.e., those in non-management, non-professional positions), "1" being unimportant	1 Unimportant	2	3	4	5 Absolutely Vital	
7	Considering just your current non-management, non-professional employees, how well do their overall skills meet:	not at all well					
7A	your current needs?	2	34	313		very well 127	
7B	your anticipated needs in 2 years?	7	74	289		105	
8	Again considering just your current non-management, non-professional employees, please rate by indicating the appropriate number the adequacy of each of the following sets of their skills ("1" being very inadequate and "5" being very adequate):		1 very inadequate	2	3	4	5 very adequate
8A	math skills		7	78	189	152	50
8B	reading/writing skills		12	82	181	142	59
8C	finding and using information		11	80	172	141	71
8D	English language		13	56	117	163	126
8E	thinking critically and acting logically		20	91	175	143	45
8F	basic employability skills (attendance, timeliness, work ethic, etc.)		16	54	115	183	105
8G	verbal communication		8	52	179	178	56
8H	teamwork skills		10	54	148	188	72
8I	technology skills (using computers, tools, and information systems)		24	98	166	138	46
8J	career management and lifelong learning skills (setting goals, pursuing training, etc.)		36	143	180	93	20

		not applicable (no experience hiring new employees)	1 very inadequate	2	3	4	5 very adequate	not applicable (no experience hiring new employees)
9	To the extent you have recruited and hired new workers over the past few years, is it your general impression that their basic skills overall are:		18	204	164	87		
10	Considering only those people who have applied and been interviewed/tested for non-management, non-professional jobs at your establishment over the past few years, please rate by indicating the appropriate number the adequacy of each of the following sets:							57
10A	math skills		10	113	203	80	13	
10B	reading/writing skills		15	117	189	82	16	
10C	finding and using information		19	109	186	83	18	
10D	English language		16	71	178	95	58	
10E	thinking critically and acting logically		22	132	177	69	16	
10F	basic employability skills (attendance, timeliness, work ethic, etc.)		17	103	166	99	30	
10G	verbal communication		12	71	221	97	15	
10H	teamwork skills		10	87	197	96	22	
10I	technology skills (using computers, tools, and information systems)		25	104	171	89	24	
10J	career management and lifelong learning skills (setting goals, pursuing training, etc.)		36	147	169	53	11	

Question	Description	Yes	No		
11	Do you assess your new employees as to their basic skills?	307	163		
12	Please estimate the average annual expenditure by your establishment per non-management, non-professional worker for training of any kind (orientation, basic skills, safety, technical, quality systems, etc.)	Less than \$100 per worker per year 81	Between \$100 and \$500 per worker per year 253	Between \$500 and \$1,500 per worker per year 101	More than \$1,500 per worker per year 36
13	In the past 24 months, has your establishment provided any training (whether paid for by your firm or some other party) to upgrade the basic workplace skills of your employees?	Yes 352	No 122		
14	If the answer to question 13 is "yes," was that basic workplace skills training carried out:	A combination of both 176		Off site 43	On site 130
15	Again, if the answer to question 13 is "yes," did you pay the wages of the employees for the hours they were in training?	In part 33	Yes 305	No 13	
16	Again, if the answer to question 13 is "yes," did you allow work time or time immediately before or after work for training?	In part 55	Yes 280	No 14	

		Our own training staff	A private training firm or independent consultant	Trainer(s) from a post-secondary institution	Trainer(s) from Local K-12
17	Again, if the answer to question 13 is "yes," who carried out that training?	142	140	18	1
18	Again, if the answer to question 13 is "yes," please indicate with the appropriate number your level of satisfaction with the overall quality of the basic skill training (with "1" being very unsatisfied and "5" being very satisfied).	1 Very Unsatisfied	2	3	5 Very Satisfied
		2	19	109	47
				185	

19 If in the past 24 months your establishment has not done any training (whether paid for by your firm or some other party) to upgrade the basic workplace skills of your employees, is that because (check no more than two choices below):

You cannot afford it	17
You don't know where to get it	12
You don't have any confidence that it can make a real difference	19
Employees are not interested or resist training	19
The basic skills of your employees are satisfactory	81
While basic skills are low, it doesn't seriously affect the profitability or competitiveness of your establishment	17

		1 not a problem	2	3	4	5 Very Severe Problem
20	Considering just your own establishment, please rate just how seriously basic workplace skill deficits in your firm have affected your business by indicating the appropriate number (with "1" being not at all a problem and "5" being a very severe problem).	55	146	194	62	15
		1 not a problem	2	3	4	5 Very Severe Problem
21	Based on your observation of other employers as well as your own experience, please indicate with the appropriate number below just how seriously you regard basic workplace skill deficits in this state (with "1" being not at all a problem and "5" being a very severe problem).	10	58	205	155	41
		1 getting much worse	2	3	4	5 getting much better
22	Please indicate with the appropriate number below whether you see this problem as getting worse or getting better (with "1" indicating that it is getting much worse and "5" indicating that it is getting much better).	41	164	218	40	5
Question	Description	1 no impact	2	3	4	5 extremely significant impact
23	Please help us prioritize a number of ideas that have been advanced for improving basic workplace skills for current employees. Rate the likely impact of the policies outlined below in terms of how they might help strengthen the basic workplace skills of:					
23A	Substantial tax credits for companies that invest in upgrading the basic skills of their employees	31	59	116	180	83
23B	Increase funding directly to basic skill education and training providers	49	80	135	141	62
23C	Direct funding to private employers for employee training	27	47	120	157	112
23D	Better information to employers about where to get help from education specialists and training providers	22	46	125	167	107
23E	Direct funding to employees (vouchers) for basic skill education	54	81	109	147	75

23F	Increased funding for disadvantaged worker training	45	98	169	122	33
23G	Clear standards (reflecting strong employer input) and some sort of basic certification or credential for workers and job seekers meeting those standards	24	39	147	168	88
23H	Private sector leadership in the design and delivery of training programs	19	49	160	154	81
23I	A major distance learning or technology-based initiative that would provide internet-accessible, computer-based learning tools and self-assessment techniques for employees to access from their workplaces and their homes	34	101	154	117	58
23J	A major statewide marketing campaign aimed at encouraging employees and their employers to invest in basic skill education and training	71	101	156	92	45
23K	More information to employers about how to develop programs and measure their ROI impact	31	60	126	172	73
23L	Increased training and workplace-experienced staffing for education and training providers to deepen their understanding of workplace skill needs and development opportunities	22	63	170	159	47
23M	Helping groups of smaller firms get together to find economies of scale by developing joint training solutions to their basic skill deficits	28	59	140	166	72
<hr/>						
24	Would you be willing to answer additional questions:	electronic survey?	both	neither	phone	
		149	70	232	6	

APPENDIX F: Business Survey Results (Follow-up Survey)

Question	Description	Less than 10%	10 to 20%	20 to 30%	30 to 40%	More than 40%
1	In the last 12 months, what percent of your workers have required some basic skill training or remediation?	48	6	5	3	7
2	Again in the last 12 months, how many of your workers actually have received some basic skill training or remediation?	Less than 50	5 to 156	15 to 252	25 to 505	More than 505
3	For those in your workforce who have received such training in the past 12 months, please estimate the average cost per worker (regardless of who paid).	Less than \$10029	\$100 to 25019	\$250 to 5008	\$500 to 10004	More than \$10002
4	What percentage of this cost above has your establishment paid?	None11	1 to 33%1	34 to 66%2	67 to 99%3	All47

- 5 As you think about the basic skills of your workers, please indicate from the following choices which five you think are the most important to your firm.

Math skills	32
Reading and writing skills	48
Finding and using information	38
English language skills	22
Thinking critically and acting logically	49
Employability skills	50
Verbal communication	37
Teamwork skills	44
Technology skills	28
Career management-lifelong and learning skills	8
Other	3

- 6 Briefly describe "Other"

Customer service	1
Mechanical	1
Wellness Skills: Good nutrition.	1

- 7 Based on your company's experience, please indicate from the following list of ten those five skills that seem to require the most training or remediation in your workforce.

Math skills	15
Reading and writing skills	24
Finding and using information	42
English language skills	13
Thinking critically and acting logically	48
Employability skills	34
Verbal communication	28
Teamwork skills	40
Technology skills	39
Career management-lifelong and learning skills	13
Other	2

- 8 Briefly describe "Other."

Mechanical	1
Project-specific skills	1

- 9 Based on your experience, how many total hours of training or remediation does it seem to take, on average, for workers to gain the basic skills you desire them to have?

	Less than 25	25 to 50	50 to 100	100 to 200	More than 200
	26	19	11	7	2

- 10 Based on your experience, should we assume that most employers would be willing to pay the wages of workers while they were receiving basic skills training?

Don't Know	Yes	No
18	36	13

11 Based on your experience, where is the best (most effective) place for your workers to receive basic skill training or remediation? (Choose only one)

All or almost all at the work site	31
All or almost all off the worksite in some community location	12
Mostly at the work site but with after-work support at home or at community location	24

12 As a method of delivering skill training to your workers, what works well? (Rate the following from "1" works poorly to "5" works very well. If you have no experience with a particular method, skip it and go on to the next method).

	1 Poorly	2	3	4	5 Very Well
12A Workplace-based classroom instruction with an instructor	3	6	17	26	11
12B After-work, community-based classroom instruction with an instructor	6	15	15	8	4
12C Open access/exit computer/media laboratory with instructor available	6	12	15	4	5
12D Open access/exit computer/media laboratory without instructor available	15	12	10	2	2
12E Volunteer tutors (not other employees)	9	6	13	7	1
12F Workplace mentors (other employees)	4	2	19	26	6

13

If you have had good results from other methods of delivering basic skills training to your employees, please describe it here:

After-work, community-based instruction with "qualified" instructors seems to work relatively well.

Bringing in specialists in a particular field, under private temporary contract with time limits for results

On-the-job training grants

Professional seminars

Very short duration, one hour or less instruction and/or demonstration by respected team member

14

If you have other comments regarding this topic, please summarize them here:

Employers must support their most valuable asset, the employee.

Once the basic skills have been learned our employees grow in their abilities using the same technique as described in question 13.

There should be more on-the-job training and more wage subsidies to subsidize the wages of employees in training.

We use OJT method, coaching the employees on an on going basis.

When the economy is not good it is very difficult to get management to back anything that takes production time away.