DOCUMENT RESUME

ED 396 085 CE 070 662

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TITLE Effective Workplace Literacy Programs: A Guide for Policymakers.
INSTITUTION Indiana Univ., Bloomington. School of Education.
SPONS AGENCY National Center on Adult Literacy, Philadelphia, PA.
PUB DATE 95
NOTE 27p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adult Basic Education; *Adult Literacy; Annotated Bibliographies; Dislocated Workers; *Educational Policy; Educational Practices; *Evaluation Methods; Formative Evaluation; Labor Force Development; Limited English Speaking; *Literacy Education; Part Time Employment; Policy Formation; Program Development; *Program Evaluation; Retraining; Service Occupations; Small Businesses; Summative Evaluation; Task Analysis; *Workplace Literacy
IDENTIFIERS High Performance Work Organizations; Temporary Employment

ABSTRACT

This policymakers' guide examines considerations in developing policies regarding the development and evaluation of workplace literacy programs for seven targeted worker groups that have been especially adversely affected by recent demographic and economic changes. Section 1 presents considerations and recommendations for developing workplace literacy programs targeted toward the following groups of workers: individuals requiring specialized skills training for high-performance workplaces; displaced manufacturing workers requiring retraining in service job skills; temporary and part-time workers; employees of small businesses; individuals in need of the training provided in general work force development programs; workers with little English proficiency; and individuals in nonexportable jobs. Each subsection includes a brief list of suggestions for further reading. Presented in section 2 are the following: list of indicators of likely program success, summary of research findings regarding constraints that can limit workplace literacy programs' effectiveness, and list of characteristics of effective workplace literacy programs. Section 3 begins with an overview of the current situation regarding support and funding for workplace literacy programs and summarizes policy suggestions for the following policymaker groups: federal and state governments, community educators, and businesses and unions. Contains 42 references. (MN)

Effective

Workplace Literacy Programs:

A Guide for Policymakers

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A research project funded by the National Center on Adult Literacy

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1995

Contents

Abstract

During the late 1980s and early 1990s, the majority of workplace literacy programs in the United States were located in large businesses and these were most often in the manufacturing area. Economic and demographic changes, which became apparent by the middle 1990s, have brought about the need for an expanded vision on the part of policymakers at the federal and state levels as well as policymakers within corporations and unions. Like many other areas of the economy, basic skills training for employment will become more of a niche market characterized by diversity and flexibility rather than "one size fits all" guidelines. There will be many different providers, funders, and types of program.

The first section of this report discusses the influences on workplace literacy of changes in the national and global economic picture, and suggests several groups of workers adversely affected by these changes, who would benefit from targeted literacy programs. These include workers in small businesses and high-performance workplaces, temporary and part-time workers, and workers with limited proficiency in English.

The second section of the report describes documented indicators of workplace and workforce program quality which can serve as benchmarks for future program funding policies. For example, successful workplace literacy programs are characterized by active involvement by all major stakeholders, custom-designed curriculum, multiple strands of instruction providing for the long-term educational needs of workers, and rigorous evaluation of program success.

The third section of the report summarizes policy suggestions with special attention to policy makers at the federal and state levels as well as in the private sector. The assumption serving as a foundation throughout these suggestions is that it is in the best interest of the individual, the company, the union, the community, the state, and the country to have as many well-trained, competent citizens as possible.

Introduction

During the late 1980s and early 1990s, the majority of workplace literacy programs in the United States were located in large businesses and these were most often in the manufacturing area. Many early programs were funded and guided by the federal government through the National Workplace Literacy Program, which provided competitive "seed money" to get programs started. Federal guidelines for NWLP funding served as a major policy framework well beyond federal programs since individual states tended to incorporate these guidelines into their own workplace literacy programs. To be funded in the last decade, programs needed to demonstrate the following qualities:

- Strong relationship between skills taught and literacy requirements of jobs.
- Use of curriculum materials specifically designed for adults.
- Populations with inadequate skills targeted so as to increase probability of new employment, continued employment, career advancement, or increased productivity.
- Demonstrated support services to reduce barriers to participation of adult workers.
- Demonstrated active commitment of all partners to accomplishment of goals.
- Evaluation in a fashion that includes
  a) objective, quantifiable data;
  b) clearly identified and measured participant outcomes;
  c) effects upon job advancement, performance, and retention;
  d) systematic information for program improvement.

Economic and demographic changes, which became apparent by the middle 1990s, have brought about the need for an expanded vision on the part of policymakers at the federal and state levels as well as policymakers within corporations and unions. Like many other areas of the economy, basic skills training for employment will become more of a niche market characterized by diversity and flexibility rather than "one size fits all" guidelines. There will be many different providers, funders, and types of program. Several forces and trends are operating to bring this about. For example:

1) Federal funding for workplace literacy programs is likely to diminish, while funding at the state level and in the private sector is likely to increase. More decision-makers and new decision-makers will be involved.

2) Block grants to states, rather than direct funding for workplace literacy programs, make collaborative planning of programs a necessity. This planning is likely to involve, at the state level, participation from educators, employment agencies, social support agencies, employers, unions, and possibly from departments of correction.

3) Cooperation among competitors within industries (especially in the case of small businesses) will be called for as the private sector finds itself taking on tasks formerly funded by taxpayers. Already, this is occurring in the banking industry, the steel industry, and the electronics industry.

4) The growth of downsizing, career changing, temporary employment, and welfare-to-work pressures have created a need for *workforce* literacy training which parallels *workplace* literacy training. Many need training and have no workplace.

The first section of this report discusses the influences on workplace literacy of changes in the national and global economic picture, and suggests seven groups of workers adversely affected by these changes, who would benefit from targeted literacy programs. The trends include:

- a restructuring toward more efficient "high-performance" workplaces which require higher skill levels of their workers,
- a shift in employment opportunities from relatively low-skilled jobs in manufacturing to higher-skilled jobs in the service sector,
- an increase in temporary and part-time work,
- an increase in the number of small businesses,
- a general increase in the use of literacy in workplaces,
- a shortfall in the level of skills workers bring to employment, and
- an increase in the number of workers with limited abilities to use English.

The second section of the report describes documented indicators of workplace and workforce program quality which can serve as benchmarks for future program funding policies. For example, successful workplace literacy programs are characterized by:

- active involvement by major stakeholders (e.g., management, employee organizations, instructors, and the learners themselves);
- a custom-designed curriculum which integrates basic skills instruction with workplace applications and materials;
- instruction which addresses individual learners' needs and is long-term;
- the provision of incentives to participation for both employers and employees (e.g., funding assistance, paid tuition, enhanced productivity, promotion opportunities);
- rigorous evaluation that includes assessment of worker gains in job-related abilities.

The third section of the report summarizes policy suggestions with special attention to policymakers at the federal and state levels as well as in the private sector. The assumption serving as a foundation throughout these suggestions is that it is in the best interest of the individual, the company, the union, the community, the state, and the country to have as many well-trained, competent citizens as possible.

Section One: Providing programs for targeted worker groups

A number of economic forces are creating new challenges for workplace and workforce literacy. Several national and international trends in labor markets are interacting to change the need for workplace education and the nature of the programs provided. An increasingly global economy is reducing the availability for many of employment in manufacturing, and forcing many workers to change to service sector jobs. Many of these jobs in the service sector are temporary or part-time, often in small businesses, and can require higher skills to perform. The skill levels required of those jobs remaining in manufacturing are also rising as companies move toward high-performance practices such as quality monitoring, participation in quality assurance groups, and continued education. However, some jobs for which adults have prepared in previous workplace literacy programs leave the country before learners have graduated from the programs.

Because of these recent trends, there are certain groups of workers who have particular needs for workplace literacy programs. These are described below under the headings:

- Providing specialized skills training for high performance workplaces.
- Providing retraining in service job skills for displaced manufacturing workers.
- Providing training in flexible skills for temporary and part-time workers.
- Providing workplace programs for workers in small businesses.
- Providing generic workforce development programs for new, returning and displaced workers.
- Providing job-related and workplace readiness programs for workers with little English.
- Providing programs that target non-exportable jobs.

From this list, it is clear that the pattern is changing, not from one type of program to another, but towards a greater diversity of program types and services. Specific job training for workers at specific job locations will not address the needs of an increasing number of United States' workers. Training delivered from non-employer based systems will be different from that given in response to specific job needs at specific companies. Workforce training for someone between jobs is likely to differ considerably from training for someone who has never been employed. English as Second Language training for immigrants with high levels of education will not much resemble training for immigrants who are not yet literate in their first language, let alone English.

The same sort of "niche market" approach which has been required of most other areas of the U.S. economy is called for in the development of workforce and workplace literacy programs. These will include a great deal of diversification and targeting of programs. Programs should be attempted and funded only when clear need can be demonstrated, key participants support program goals, and a system for monitoring effectiveness and making flexible adjustments is in place. Since literacy and basic skill growth takes a good deal of time, effective programs will require a mix of services which address short-term needs and link together to meet the long-term goal of developing more competent, flexible citizens.

Providing specialized skills training for high performance workplaces

The increase of technology use usually brings with it an increased demand for worker basic skills. Higher worker basic skills are called for both to use the new technology and to benefit from technical training designed to prepare workers for using new technology. In addition, technology also makes it possible and mandatory for workers to perform several job tasks rather than a single repeated task.

Two factors indicate a skills gap that makes this need for workplace literacy training urgent:

- Up to 35% of businesses are adopting high performance techniques, such as quality assurance teams and greater use of technology, so that they can compete in the global economy. These high-performance workplaces have a greater demand for higher-skilled workers who are able to work in self-directed teams, and gather and record information to monitor the quality of their own work. These are *new* skills for many workers, who are more accustomed to being closely supervised, being given explicit instructions and carrying out single tasks. In addition, an emphasis on continuous improvement usually calls for the ability to study and benefit regularly from on-going training.

- Results from the National Adult Literacy Survey (NALS) show that one-half to three-fourths of workers in some common manufacturing and service job categories perform at the lower two levels of the survey, which include only such skills as finding a single piece of information on a form, or totaling a short column of figures. Though these workers have some literacy, they are ill-equipped to perform independently the complex, multi-step tasks called for in high-performance workplaces. Millions of workers need training in such areas as working in teams, problem-solving and decision-making, using print materials to find out how to do new tasks, using computers to access information, and understanding processes and trends.

Recommendations

To solve this problem and keep U.S. companies competitive, policymakers in the private sector and at federal and state levels are encouraged to provide seed money and incentives for innovative programs and to promote industry-wide collaborations which share information and instructional materials. This workplace instruction should focus on the new and more demanding job tasks, and build in practice of the necessary skills. In addition, *workforce* training for new, returning and displaced workers should address the higher-level information processing, team-work skills, and study skills called for in high-performance workplaces.

Businesses can provide monetary incentives for worker participation in literacy programs, ranging from paid class time and cash payments for reaching goals to a full-scale pay-for-knowledge scheme. In such a scheme, workers are paid for the knowledge and skills they can demonstrate they have, instead of being paid for the number of years of seniority, or for job title, or for current job performance. Workers' pay is determined by a combination of a relatively low base pay level plus additional pay for qualifying as having skills. To increase one's salary, skills can be demonstrated by successfully operating a machine, doing a task, or taking a test.

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Providing retraining in service job skills for displaced manufacturing workers

In the last thirty years, the United States has experienced a large shift in employment from manufacturing to service sector jobs, which continues today as more manufacturing industries downsize to remain competitive. The workers displaced by this process often find that they must now have higher literacy skills to get service sector jobs that pay less than their former jobs in manufacturing. These workers have a clear need for literacy programs, and possibly counseling, but it is less clear who should provide them.

- Since 1965, there has been a dramatic shift in employment from jobs in manufacturing industries to jobs in the service sector. In 1965, 30% of the workforce was employed in manufacturing, but by 1993, that number had decreased to only 16% of workers. This means that, if the 1965 percentage still held true, more than 15 million additional people would be employed in manufacturing than are actually employed there today. On the other hand, the service sector has increased from employing 64% of the workforce in 1965 to 79% in 1993.

- In the past, it was possible for many people to earn middle-class incomes while working in manufacturing, and they were not required to have high school diplomas or advanced literacy skills to remain employed. However, the shift towards employment in services has meant that people must have higher literacy skills to get jobs that pay less.

- The fact that workers may have to train for jobs that pay less than their old ones presents serious motivational and affective consequences, which workplace literacy policymakers need to take into account when planning redeployment programs for these workers. Counseling may well be a necessary component of training programs in such situations.

Recommendations

Although both employers and governments may have some responsibility toward displaced workers, it appears that, under current conditions, the greater burden will probably fall on governments.

Employers: The change to high performance workplaces normally involves a reduction in the number of employees required. However, unless current laws and practices are changed, there is limited incentive for employers to provide extensive training to laid-off workers. Some employers do provide such transition training without incentives or inducements, but most do not. Patterns for transition training developed jointly by labor and management in several unionized industries can serve as a model for other employers.

State and Federal Governments: Because many former employers are unlikely to provide for displaced workers, the indications are that public institutions will be more involved in any literacy training for these workers. Federal and state governments could support the establishment of literacy training targeted at skills needed for service jobs or jobs which are anticipated as part of community and state strategic development plans.

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Providing training in flexible skills for temporary and part-time workers

Several forces are leading to an increase in the numbers of temporary and part-time workers. In an effort to become more productive, many businesses are dissolving entire departments and outsourcing work when it needs to be done. Technological change and restructuring the organization of work has allowed large businesses to downsize by up to 35% placing many experienced workers in the ranks of the unemployed or part-time employed. Even businesses that are hiring face the ever-increasing costs of long-term employment commitments, such as benefits, and are less likely to invest in permanent, full-time employees. Millions among the ranks of the increasing numbers of temporary and part-time workers will require basic skills programs that teach them the flexible skills required in a wide variety of jobs. This is especially true of temporary workers who may hold several different jobs during a single year.

The educational needs of temporary and part-time workers differ considerably from those of permanent, full-time employees:

- Permanent, full-time employees remain in the same job for long enough to become familiar with what is required of them. Due to repeated practice, they often do not need to consult procedure manuals or solve problems of an unfamiliar kind.

- Temporary workers, on the other hand, move from job to job, and face higher and more varied literacy requirements as they discover how to perform each new job task. Many will require education in flexible skills such as using resources to solve problems and answer questions on the job. The Secretary's Commission on Achieving Necessary Skills (SCANS) has recommended several such skill areas to prepare workers for the new workplace. Among these are resource skills, interpersonal skills, information processing skills, system thinking, and using appropriate technology.

These general skills are of use in many different job areas, allowing workers who have them the flexibility to succeed in the range of jobs they are likely to hold over their working lives. Learning these skills using materials from several different job areas is the most likely path to success. However, temporary workers are unlikely to receive workplace literacy training from their client employers, because these workers often do not remain with one company long enough to make the employer's investment cost-effective. The problem becomes one of who is responsible for such training—the individual, the employer, the state, or the federal government.

Recommendations

Solutions to the problems of low-skilled temporary and part-time workers will need to come from several directions.

At the State and National Levels: Public information campaigns should stress the need and desirability for individuals to continually reinvest in themselves through continued learning. This can be supported by incentives in unemployment support for individuals who immediately seek new training. Incentives might be targeted for training which meets quality indicator guidelines for providing flexible skills. A federal role might include developing standards for skill levels attained by learners.

In the Private Sector: The 2000-3000 temporary placement agencies operating in the private sector can be encouraged to compete in terms of the quality of employee they provide. Federal or state recognition awards could be used to competitive advantage by agencies which provide training and have high percentages of temporary employees reach designated skill levels.

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Providing workplace programs for workers in small businesses

Small businesses are rarely in a position to provide in-house literacy programs, but their workers need education just as much as workers in larger companies. This is an important area of the economy for the following reasons:

- Smaller businesses hire more workers annually than do larger businesses.
- Smaller businesses have few resources to provide workplace training for their employees, and they do, in fact, provide less training for their employees than larger organizations. A recent Bureau of Labor Statistics study indicates that fewer than 2% of small businesses provide basic skills training while nearly 20% of large businesses do.
- In addition, small businesses experience a high rate of failure and turnover. So, although workers are more likely to be hired by small businesses, they are also more likely to be looking for other jobs than are workers hired by larger companies.

Small businesses in the United States are at a competitive disadvantage in the area of training resources. In Australia and many European countries, the corporate profits of all businesses are taxed to provide a training fund. Large businesses can avoid the tax by providing in-house training. Small businesses can benefit from the tax only by sending workers to receive training provided by government-supported providers. Small businesses

in the United States do not have access to such training resources and are rarely able to provide them in-house.

Recommendations

These conditions suggest the need for several approaches that policymakers in businesses, trade associations and communities should consider:

- Smaller businesses in particular industries may be unable to provide successful workplace literacy programs alone, and so these organizations are more likely to be able to provide training through collaborations with other employers in the same industries, trade associations or public institutions. Such consortia can provide the economies of scale which make literacy programs feasible. Incentives for such consortia are likely to be a good investment.

- State funding and incentives for workplace literacy programs can be targeted to address this underserved area of the economy. To take advantage of such incentive funding, education providers are likely to contact small businesses looking for partners and in this fashion increase the awareness of small business owners of basic skills resources available to them.

- For workers who may have to change from one type of job to another within a geographical area, general job skills training may be more appropriate. Consortiums of small businesses and community colleges, rather than specific workplaces, may be the most feasible delivery systems for these workers.

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Providing generic workforce development programs for new, returning and displaced workers

The decrease in manufacturing jobs and the shortfall in skills of entry-level workers suggest a considerable shift over the next decade in the need for workplace literacy programs. Training for a particular job will no longer be enough. This suggests a need for more workforce—rather than just workplace—programs which provide the generic skills of employment rather than those of a particular job.

Millions of workers need training in such areas as working in teams, problem-solving and decision-making, using print materials to find out how to do new tasks, using computers to access information, and understanding processes and trends. Skills like these are of use in many different job areas, allowing workers who have them the flexibility to succeed in the

range of jobs they are likely to hold over their working lives, in the new era of mobility and of temporary and part-time employment.

Several groups of workers fall within this category, each with their own distinct needs:

- Entry-level workers often do not have the skills required in today's workplaces. Their schooling has not prepared them for working in teams, obtaining and using information from print sources, and solving problems independently.

- Those returning to the workforce, including women who have been raising families, may need training in newer technologies such as up-to-date computer skills.

- Displaced workers, perhaps the victims of down-sizing in a high-performance workplace, will need transition training to enable them to obtain other jobs.

- The long-term unemployed, whose lack of skills has prevented them from holding a job, need low-level basic skills support to start them on the way toward employment. Intensive workforce training could also be provided for selected individuals, targeted as the most likely to succeed.

Recommendations

Several types of general workforce development programs will need to be provided and encouraged in a variety of ways.

In the Private Sector: General workforce development could be provided by consortia of companies with similar skill requirements, perhaps using the assistance of a community college, who could pool their resources to train potential workers for their industries. Support from local Chambers of Commerce, with an eye toward developing a local, highly-skilled workforce, could help define and monitor the sorts of general programs offered.

At the State and National Levels: Government agencies could negotiate with employers and unions to collaborate in providing the private sector training just mentioned. In addition, federal and state governments, wishing to boost the economic competitiveness of particular communities, could provide targeted workforce development programs through colleges and technical schools. Post-secondary institutions could be encouraged to recruit from the pool of available talent, offering them bridge programs and the opportunity of further education and training.

All of the above workforce development programs—for new, returning and displaced workers—could use a "semi-targeted" approach, involving the use of real job-related materials from a variety of jobs. As much as possible, these materials should be of a general nature and focus on skills which cross industries. Centers providing such employment training could be organized through community colleges, adult education programs and employment offices, where each center could select from the range of job simulations available to match the job opportunities in their region.

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Providing job-related and workplace readiness programs for workers with little English

Increasing numbers of workers do not speak English as their first language. For this ESL (English as a Second Language) group, workplace and workforce literacy programs will need to provide instruction in general workforce readiness skills, and in job skills at targeted workplaces, as well as long-term education to allow continuous improvement in overall English competency.

The problem is made worse by the facts that workers with little English are:

- over-represented in lower-skilled jobs;
- less likely to be provided with education from employers;
- unemployed more often and have greater needs for education due to turnover.

ESL workers do not all have the same need for instruction in reading and writing, listening and speaking. Some are highly educated in their native language, while others may be illiterate. However, two general approaches apply:

- Workers with little English are likely to learn more quickly if they are taught in the context of the job and outside interests.

- Workers from other cultures may need help in making the shift to American workplace behaviors, attitudes and expectations.

Recommendations

Workers whose first language is not English have special problems dealing with workplace literacy. Instruction targeted at job skills and a long-term sequence of educational experiences appear to be the best ways to improve the employability of many of these workers. Solutions to this growing problem need to come from employers, governments, and communities.

Employers: Businesses with substantial ESL populations among their workers should establish combined English and workplace skills classes, so that workers can learn the language and the job at the same time. Also, providing a long-term sequence of classes will allow workers to continue practicing their English skills, which is particularly important for those who do not speak much English at home and therefore need to be provided with regular practice. Employers may be able to attract experienced ESL teachers in adult education to conduct these classes. In other cases, classes team-taught by adult educators and bilingual workers can help bridge language gaps.

State and Federal Governments: Though all geographic areas have some ESL workers, large workplace ESL populations tend to be concentrated in certain parts of the country or in parts of states. Businesses in areas of concentration bear a greater part of the educational burden, and will need encouragement and assistance in providing high-quality

programs for ESL workers. Both state and federal governments could provide seed money and incentives for innovative workplace ESL programs, as well as helping to fund and develop the workforce programs needed by ESL populations not currently employed or holding only a succession of temporary or part-time jobs.

Communities: In many cases, ESL communities themselves can provide substantial help in program recruitment, locating potential instructors, identifying locations for workforce programs, and involving full families in language learning activities. Asking for help in these ways can provide and maintain valuable resources, not the least of which is the dignity of ESL learners.

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Providing programs that target non-exportable jobs

It has become almost a cliche criticism that government funded programs prepare learners for jobs that do not exist. Though the criticism is exaggerated, the likelihood of preparing learners for jobs which leave the country is greater than ever as companies go through annual reexaminations of location, technology, taxes, and other factors influencing profitability. Many jobs are vulnerable to relocation. Policymakers planning for future workplace literacy programs may do best to look at job training in relation to non-exportable jobs—those that are difficult to move to other countries. Jobs that *must* be provided locally are likely to be a good investment for training resources.

- Global labor markets are influencing U.S. employment patterns by exporting low-skill jobs to even lower-wage countries. These exportable jobs are mainly in manufacturing and in the service areas that do not deal with clients face-to-face.

- However, jobs in health, retail, construction, education, and administrative support services are more resistant to this export strategy. Among these less "exportable" jobs, likely candidates for basic skills training include nurses' aides, teachers and teachers' aides, administrative support, retail employees, and skilled trades.

Recommendations

Both federal and state government policymakers planning for future workplace literacy programs may do best to look at job training in relation to these non-exportable jobs. Jobs that *must* be provided locally are likely to be a good investment for training funds. In addition, federal and state governments, wishing to boost the economic competitiveness of particular communities, could provide targeted workforce development programs through colleges and technical schools. Government funding of training in such areas is more likely to lead to employment because these jobs are not going to leave the country before the training is completed.

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Section Two: Indicators of likely program success

Over the past two decades, research has identified the challenges that workplace literacy programs face. For example, we have learned that:

- literacy improvement takes a significant amount of learner practice time,
- transfer of learning to new applications is severely limited,
- significant learning loss occurs within a few weeks if skills are not practiced.

Successful workplace literacy programs are characterized by:

- active involvement by major stakeholders (e.g., management, employee organizations, instructors, and the learners themselves);
- a custom-designed curriculum which integrates basic skills instruction with workplace applications and materials;
- instruction which addresses individual learners' needs and is long-term;
- the provision of incentives to participation for both employers and employees (e.g., funding assistance, paid tuition, enhanced productivity, promotion opportunities);
- rigorous evaluation that includes assessment of worker gains in job-related abilities.

Although effective programs incorporate these elements, few have the necessary resources to incorporate them all at the outset. A program may have to begin with one class, such as a GED (General Equivalency Degree) program or perhaps a short job-related course which teaches some basic skills, and then expand gradually to include more customized instruction. Thus, an effective literacy program that meets the needs of all workers can be achieved gradually, over a longer period of time.

This section elaborates upon what has been learned about effective workplace literacy programs. The elements discussed within this section can serve as guidelines for policymakers who wish to foster the development of more effective workplace and workforce basic skills programs. In some cases, these guidelines can serve as criteria for funding decisions. The same guidelines can also serve as part of a program evaluation checklist. It is unlikely that a program diverging from several of these guidelines is likely to be successful.

Research Results

Over the past twenty years, educational research has established a number of constraints on the way a workplace literacy program can operate and still remain effective:

- Literacy improvement takes significant learner practice time.
- Transfer to new applications is severely limited.
- Significant learning loss occurs without regular practice.

Literacy Improvement Takes Significant Learner Practice Time

- Training material and technical reading material in the workplace tend to range from upper high school to beginning college difficulty levels.

- It takes an average of 100-120 hours of practice and instruction for learners in adult basic education classes to make a grade level improvement. This means that a worker who has difficulty reading simple sentences will take hundreds of hours of practice and instruction before he or she can easily read workplace memos, manuals and safety instructions.

- Therefore, it is important to provide workplace instruction which multiplies practice outside of classes. This means linking instruction to materials and opportunities for practice which exist in the work and home lives of learners. Much like a diet, exercise or health program, an effective workplace literacy program must help adults change their lifestyles to include more literacy practice.

Transfer to New Applications is Severely Limited

- Research indicates that there is a severe limitation to how much literacy transfers from one type of task to other types of tasks. A couple of months of general literacy instruction at four hours a week will provide only a slight improvement in general literacy skills, and usually shows no noticeable impact on a worker's ability to apply general literacy to technical applications.

- General literacy instruction transfers only minimally to job applications. The limitations of literacy transfer have serious implications for workplace literacy programs. If a small amount of instruction is all that is available and improved workplace practice is the goal, it is wiser to target instruction directly upon specific workplace demands.

Significant Learning Loss Occurs Without Regular Practice

- Gains in general literacy abilities are lost without the opportunity for practice, but learning gains can be retained if job-related materials are used to teach literacy abilities and further practice is available on the job.

- The timing for instruction in workplace skills is also important. "Just-in-time training" provides such instruction when it is needed and increases the likelihood of immediate practice opportunities.

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Characteristics of Effective Programs

Effective workplace literacy programs are characterized by:

- the involvement of all major stakeholders, including workers, supervisors, managers and educators;

- multiple strands of instruction which address learner needs and allow a succession of learning experiences for long-term education;

- custom-designed curriculum that integrates basic skills instruction with workplace applications and materials;

- the provision of incentives to participation for both employers and employees (e.g., funding assistance, paid tuition, enhanced productivity, promotion opportunities);

- rigorous evaluation that includes assessment of worker gains in job-related abilities.

Involvement of Major Stakeholders

- The support of management, workers, union members, program providers, and classroom instructors is important to the success of any workplace program. Without substantial agreement among all stakeholders about reasonable goals for the time and resources available, program failure and resulting disappointment is highly likely.

- Involvement in the planning stages increases the likelihood that stakeholders will buy in to the program. Without this "buy-in" the needed commitment to flexible problem-solving which all workplace programs require is unlikely to be available.

Multiple Program Strands Should Address Multiple Problems

- Multi-strand programs should address the needs of diverse populations on a long-term basis. These can include low-level literates, mid-level literates in need of refresher training, ESL learners, and fairly skilled literates needing study skills support for new training demands.

- Program strands should be integrated so that low-level learners can progress through a sequence of learning experiences from basic to more advanced instruction.

- A multi-strand program can expand from small beginnings to meet the needs of all workers.

Custom-Designed Curriculum

Custom-designed curriculum:

- takes learner interests into account,

- is based on an analysis of job tasks and skills,

- uses materials from workers' jobs and sometimes their everyday lives.

Incentives for Employers and Employees

Many incentives exist for employers and learners to participate in workplace literacy programs. These incentives can be grouped into three categories: monetary incentives, job-related incentives, and learner support incentives:

- **Monetary incentives** for employers include government funding to start programs. This funding can come from federal, state or local governments.

- Employees' monetary incentives include tuition and course support, and financial gains such as cash awards, promotion, and pay for knowledge..

- **Job-related incentives** for employers include enhancing productivity, quality and safety through higher skill levels.

- Employees' workplace incentives include improved safety and increased opportunities for promotion and retention.

- **Learner support incentives** include program flexibility, support services, and opportunities for continued educational advancement and lifelong learning.

- Less tangible benefits for learners include increased self-esteem and recognition from supervisors.

Evaluation

- Evaluation has not been a high priority in many workplace literacy programs. The research literature shows that only a small percentage of programs report any form of rigorous program evaluation.

- However, there are systematic methods for evaluating workplace literacy programs which have been used to good advantage by superior programs. These methods evaluate the success of instructional methods and processes, whether workers have made gains in job-related skills, and whether program goals are being met. In this fashion, workplace literacy programs gather the information they need to pursue continuous improvement.

- Assessment instruments appropriate for measuring workplace skills include:
    - ratings of employee job competencies,
    - job-related reading scenarios,
    - company records relating to attendance, safety, promotion, etc.,
    - productivity records (e.g., scrap rates, customer complaints), when these are kept on individuals or teams in training.

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Section Three: Summary of Policy Suggestions

In this final section, the policy suggestions and recommendations made earlier are summarized by policymaker group:

- federal and state governments,
- community educators, and
- businesses and unions.

This summary is preceded by an overview of the current situation regarding support and funding for workplace literacy programs. The overview describes how this support is divided among federal government, state government, and private industry.

A decade ago, many programs were funded by the National Workplace Literacy Program (NWLP) through its seed money to get programs started. The allocation of funds to the NWLP was then, and still remains, about $20 million per year. There is no clear reckoning of the total of state-level funding for workplace programs, but there is good reason to think that it exceeds federal funding by a great deal. For example, nearly twice as many programs report state funding as report federal funding. The levels of funding differ markedly from state to state, but the statistics do indicate that state literacy policies may become the driving force in the implementation of government-funded literacy projects.

Turning now to the private sector, it is apparent that American employers spend vastly more upon basic skills instruction than do taxpayers. It is estimated that American business spent more than $44.4 billion for training in 1989. About 10% of this went to literacy education. This $4 billion vastly exceeds the $20 million per year which the federal government has allocated to the National Workplace Literacy Program.

For more than a decade, basic skills courses have been offered by partnerships between the United Auto Workers and automotive manufacturers such as Ford, General Motors, and Chrysler. Total training budgets for these joint ventures are several hundred millions per year. Increasingly, consortia of employers and unions have begun to cooperate to provide information and workplace literacy services, for example the United Steel Workers of America and a dozen major steel corporations, and the Electronics Industries Association.

One pressure driving some business and union efforts in workplace literacy training is participation in the global marketplace. Many businesses wishing to do business internationally seek certification for high quality control and productivity standards, for example, complying with International Standards Organization (ISO 9000) guidelines. To meet certification, businesses must document procedures, provide training, demonstrate that all employees are able to inspect, measure, and test for quality. High levels of literacy, communication, and computation skills must be demonstrated as well as on-going training focusing on continuous improvement. Obtaining and maintaining ISO certification requires constant training of employees.

It can be seen, therefore, that successful national policies for workplace literacy provision depend on both public and private sectors, governments and businesses. How those groups can assist the development of a well-trained and educated workforce is set out below.

Federal and State Governments

Government policies can contribute to workplace literacy in a variety of different ways, which are described in Section One of this report:

- providing seed money for starting programs that target populations in need,
- developing workforce programs for those not affiliated to a particular employer,
- making the public aware of the need for all workers to engage in lifelong learning.

In order to keep U.S. companies competitive, policymakers at federal and state levels are encouraged to provide seed money and incentives for innovative programs that target particular areas of need such as employees in high-performance workplaces, English as Second Language workers, and displaced manufacturing workers who need retraining for service sector jobs. Government agencies could negotiate with employers and unions to collaborate in providing the training just mentioned, and to promote industry-wide collaborations which share information and instructional materials.

As well as targeting worker needs, both federal and state government policymakers planning for future workplace literacy programs may do best to look at job training in relation to non-exportable jobs. Jobs that *must* be provided locally are likely to be a good investment for training funds. Government funding of training in such areas is more likely to lead to employment because these jobs are not going to leave the country before the training is completed.

In addition, more general *workforce* training is required for new, returning and displaced workers, as well as many part-time and temporary workers. Federal and state governments, wishing to boost the economic competitiveness of particular communities, could provide targeted workforce development programs through colleges and technical schools. Post-secondary institutions could be encouraged to recruit from the pool of available talent, offering them the opportunity of further education and training. All of these workforce development programs—for new and displaced workers, for small businesses and temporary agencies—could use a "semi-targeted" approach, involving the use of real job-related materials, but of a fairly general nature. Centers providing such employment training could be organized through community colleges, adult education programs and employment offices, where each center could select from the range of job simulations available to match the job opportunities in their region.

In order to persuade more workers to participate in literacy education, public information campaigns should stress the need and desirability for individuals to continually reinvest in themselves through continued learning. This can be supported by incentives in unemployment support for individuals who immediately seek new training. Incentives might be targeted for training which meets quality indicator guidelines for providing flexible skills. A federal role might include developing standards for skill levels attained by learners.

Community Educators

Community colleges are encouraged to become involved in forming consortia with the local business community to provide workplace literacy programs for smaller businesses in the same industry, who may be unable to provide successful workplace literacy programs alone. Such collaborations can provide the economies of scale which make literacy programs feasible. For workers who may have to change from one type of job to another within a geographical area, more general workforce and job skills training may be more appropriate. Community colleges can again form consortia with small businesses, but over a wider range of industries. Community colleges could also act as clearinghouses for computerized job simulation packages, where companies or individual workers could select from the range of job simulations available to match the company's needs or the job opportunities in the region.

Businesses and Unions

Policymakers in the business and union communities are encouraged to provide incentives for innovative programs and to promote industry-wide collaborations which share information and instructional materials. This workplace instruction should focus on new and more demanding job tasks, and build in practice of the necessary skills. In addition, it should provide the opportunity and encouragement for individuals to invest in themselves as they become life-long learners. Businesses can provide monetary incentives for worker participation in these literacy programs, ranging from paid class time and cash payments for reaching goals to a full-scale pay-for-knowledge scheme.

Temporary placement agencies operating in the private sector are encouraged to implement longer-term, higher-level adult literacy training as an investment in the quality of the individuals they provide to client employers. Temporary workers need to be very flexible as they change from job to job, and need the ability to learn quickly from print materials. Federal or state recognition awards could be used to competitive advantage by agencies which provide training and have high percentages of temporary employees reach designated skill levels.

Smaller businesses in particular industries may be unable to provide successful workplace literacy programs alone, and so these organizations are encouraged to provide training through collaborations with other employers in the same industries, trade associations or public institutions. Such consortia can provide the economies of scale which make literacy programs feasible.

Businesses with substantial ESL populations among their workers are encouraged to establish combined English and workplace skills classes, so that workers can learn the language and the job at the same time. Also, providing a long-term sequence of classes will allow workers to continue practicing their English skills, which is particularly important for those who do not speak much English at home and therefore need to be provided with regular practice. Employers may be able to attract experienced ESL teachers in adult education to conduct these classes. In other cases, classes team-taught by adult educators and bilingual workers can help bridge language gaps.

Finally, general workforce development could be provided by consortia of companies with similar skill requirements, perhaps using the assistance of a community college, who could pool their resources to train potential workers for their industries.

Conclusion

The nature of workplace and workforce education is changing rapidly on many fronts. Both industry and government are experimenting with new ways to meet the challenge of working successfully in a global economy. Solutions adopted by industry range from the highly structured "pay for knowledge" approach to the more general raising of educational levels in the automotive and steel industries. A common thread is life-long learning. Workplace training is not seen as a "quick fix" of a particular problem, but as part of the on-going education of employees to enable them to work flexibly in an ever-changing environment.

State and federal governments are giving assistance through direct funding or through subsidies and tax incentives. Governments are also contributing to more general workforce education through, for example, pre-employment literacy programs.

In all these situations, basic skills instruction is being linked to workplace preparation, work experience and actual job tasks, so that industries and their employees are better able to succeed in the global marketplace.

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