

Refereed Articles

Findings From Four Workplace Literacy Program Evaluation Studies

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Abstract

Similar evaluation strategies were used by two third-party evaluators in four workplace literacy projects funded by the U. S. Department of Education's National Workplace Literacy Program. Focusing primarily on the reaction and basic skills mastery levels of outcomes, the evaluators found similar themes emerging from the four projects. All projects reported significant gains in basic skills mastery using standardized norm-referenced and criterion-referenced tests. Stakeholders in all programs, including students, reported empowerment of students as the major outcome of the workplace literacy programs. Along with increased self-confidence, students became "turned on" to further learning opportunities in both the company and community. This outcome was valued by the organizations which had initially begun the programs in order to improve worker productivity.

Introduction

Evaluation studies in workplace literacy range from simply gathering student/company reactions to a program, to assessing how much participants learned, to measuring how much students are applying what they learned on the job, to, finally, determining the impact of the training on the organization. The purpose of this paper is to identify the themes which

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resulted from evaluations of four workplace literacy programs which focused primarily on the first two levels of evaluation—gathering student/company reactions and determining how much participants learned. All programs were evaluated using similar instruments to collect both qualitative and quantitative data (Brown, 1990, 1992; Harlow & Askov, 1994; Planning, Evaluation, and Accountability Services, 1994). All projects collected substantial qualitative data from various stakeholders at the reaction level of evaluation. Standardized norm-referenced and criterion-referenced tests were used to measure changes in basic literacy skills.

The three organizations in which the four programs were conducted included the Pennsylvania Department of Transportation which had two funded projects (*R.O.A.D. to Success*), Pennsylvania Blue Shield (*Job Linked Skills Program*), and a consortium of community colleges and textile manufacturers led by Piedmont Community College in North Carolina (*Partners for Employees Progress*). All projects were funded by the National Workplace Literacy Program of the United States Department of Education. The goal for all projects was to develop a workplace literacy model having a customized basic skills curriculum to increase basic skills required by the industry in which the program was implemented. The target population to be served was adults who could benefit from improved basic skills. The general objective was to improve workplace basic skills of workers as a prerequisite for improvement in productivity.

All projects had multiple stakeholders or partners, including the industry for which the curriculum was developed, adult educators who delivered or taught the curriculum, a college or university which developed the customized curriculum, and, in two cases, a union. The curricula employed the functional context approach (Sticht, 1987) so that the content of the basic skills instruction related directly to the job requirements. Literacy task analyses led to the development of the curricula which were intended to be job-specific for the targeted industries.

All students were taught at job sites provided by the industry. Workers were given released time to participate. Teaching was done by adult education teachers using both print materials and computer software. Instruction included group and individual methods. The dropout rate was very low in most of the programs.

Evaluation was conducted by an external evaluator who worked closely with the projects' stakeholders to collect both formative and summative evaluation data. All partners in each project were involved in designing the evaluation and helping to collect data. In all projects

interview surveys were used, both pre and post, to gather reactions to the program from students, teachers, industry trainers, supervisors, and plant managers or CEOs. In all projects customized, criterion-referenced tests were developed and administered to assess mastery of job-specific basic skills. In three projects the Tests of Adult Basic Education (TABE) were administered both pre and post instruction to assess changes in basic skills. In the other project changes in basic skills mastery were measured by the Comprehensive Adult Student Assessment System (CASAS) tests. Quantitative measures of changes in job performance or impact on the organization were not possible to obtain because of time and resource limitations.

Workplace Literacy Evaluation Outcomes

The major reasons that companies engage in worker education, as identified by Bassi (1992), are to retain workers, prepare them for future training (perhaps necessitated by new technology and reorganization), reduce errors or waste, meet safety or health requirements, and improve customer relations. In a series of systematic case studies of 72 firms engaged in workplace education, Bassi's survey data cited improvements in productivity, worker morale, and customer satisfaction. She also noted moderate or substantial impacts on workers' self-confidence, mathematics skills, morale, communication on the job, and problem solving.

The most complete discussion of strategies for evaluating workplace literacy programs can be found in the two volumes by Mikulecky and Lloyd (1992, 1993). The authors caution that narrowly developed curricula, focusing only on the exact job tasks that workers must perform, will result in limited transfer back to the job. Other desired outcomes, such as problem solving, critical thinking, team building, and communication, will probably not occur unless they are intentionally built into a curriculum. They stress the importance in evaluation research of measuring not only what is being taught directly but also what is being fostered indirectly.

Sperazi, Jurmo, and Rosen (1991) discuss participatory approaches to developing and evaluating workplace literacy programs in the context of Massachusetts' efforts. They stress broadly defined outcomes that include students' personal development as well as job specific outcomes. Participatory approaches tend to yield broader curricula that focus on life skills as well as workplace literacy abilities that are transferable across a number of jobs.

The projects that were evaluated in this study were all job specific, but at a mid-level of specificity. In other words, the curricula were not linked

specifically to single jobs; workers in similar jobs in perhaps the same department of the industry could all use the same learning materials. The curricula all involved problem solving and critical thinking as well as reading, writing, and math skills. Nevertheless, the guidelines from the U. S. Department of Education stated that the curricula were to be job specific and not generic adult basic education or life skills.

Evaluation Findings

Pennsylvania Department of Transportation (2 Projects)

Students improved their basic literacy skills as measured by the TABE and a criterion-referenced test. Attitudes of workers were measured by an interview instrument. Workers became more positive about taking the training, about the print materials used in teaching, the use of the computer, and the methods used in teaching. They felt more positive about being a student and perceived their family as increasing their support for them in this role. Teachers and the computers were perceived to be the most helpful to them in the program. They felt the course improved their basic skills.

Partners and students reported that students improved their self-esteem, computer skills, reading skills, aspirations for more education, relationships with family and fellow workers, and group work and co-operation. Workers who were somewhat hostile toward the program at the beginning became more cooperative and positive in outlook.

All partners had favorable reactions to the program and the progress made. The union acted as an advocate for the program and encouraged commercial drivers to participate. The curriculum developers were satisfied with completing a model curriculum which met the needs of the students. The teachers were satisfied with the large number of workers who increased their basic skills in reading and writing. The Transportation Department saw the major benefit as helping drivers pass the Commercial Driver's License. According to their supervisors, workers improved their job performance.

Pennsylvania Blue Shield

The partnership of the three major organizations was instrumental to the success of the program. Students improved significantly on the TABE and customized criterion-referenced tests. Students improved their feelings about taking the program, using the computer for learning, and improving job performance. They felt more support from family and

fellow workers. Workers changed very little on perceived chances of getting a better job. Students became more objective about the level of their reading and writing skills. They felt they increased problem solving and computer skills.

The primary motive of students was self-improvement in order to get a promotion. They were interested in learning both job-related skills and more general basic skills which cut across other sections of the company. They felt they improved in self-confidence and self-esteem. They became more interested in additional educational opportunities and more confident in their ability to learn. They said the class helped with job performance and would recommend it to fellow workers. Several students applied for a promotion because they were more confident. They became more aware of their strengths and weaknesses. Students became more knowledgeable about other parts of the organization. Students developed more favorable attitudes toward the company.

Supervisors supported the program and felt it was successful. They expected students to gain more self-confidence, a more positive attitude, improved attitude toward the company, increased reading skills, improved decision making, and personal improvement. Most were satisfied that expectations had been met. They cited increased writing skills and improved chances of mobility.

All partners felt the program was successful. The major benefit to the students was perceived to be learning basic skills for lifelong learning. According to the company supervisors and managers, worker productivity in quantity, quality, and reliability will increase in time.

Piedmont Community College

Employees received basic and technical literacy education so they could become more proficient in their current jobs, prepare for job changes, move laterally or upward in the workplace, and/or obtain a high school credential. All stakeholders were unanimous in support of the program. Job related literacy skills improved for a majority of the participants as measured by a standardized test and customized criterion-referenced tests. As reported by supervisors, a majority of the participants increased productivity and quality, and a significant number exhibited improved attendance at work.

Students were positive about the program. Some saw it as a means of advancement in the company, and a few saw it as an improvement outside the company. Most were motivated by a desire for self-improvement. They liked the teachers, the individualized instruction and assistance, and the

opportunity to use the computer. Most reported using what they learned on the job and at home.

One reported benefit was learning more about the company. They improved their ability to read materials, such as the employee benefits handbook, related to their welfare. They appreciated the company's support for the program by allowing them to attend during work time. Most students hoped to earn their GED. Most would not have taken adult education courses on their own.

Common Evaluation Themes

The organizations represented in all projects expressed a high degree of satisfaction with the projects. Primary reasons for satisfaction were perceived accomplishment of their own vested interests. For example, the company perceived improvement in the workforce and personal development of the students. The teachers felt that the students improved their basic literacy skills and that the needs of the students were met. The curriculum developers felt that the model program was completed as planned and that the content was designed in a functional context for the appropriate organization. Students were generally satisfied with gains in knowledge and skills.

Direct benefits to students as a result of the workplace literacy programs were improved basic skills, including reading, writing, and math, as documented by standardized, norm-referenced and criterion-referenced tests. These skills were expected to improve work performance or to be a prerequisite for additional job training.

Job performance, as measured by productivity, quality, and safety, was reported as being improved, although this finding was not documented quantitatively. Workers and supervisors cited greater chances of horizontal or vertical mobility in the organization as well as better chances of employment outside. Students reported a better understanding of the workplace organization both within their own unit as well as in other parts of the organization. They became more favorable towards the employer primarily because the organization was perceived as being interested in them by providing the opportunity for self-improvement.

The outcome most frequently cited by all stakeholders, however, was empowerment of the students. After participating in the programs, students felt that they could ask questions, participate in team meetings, and apply for promotions. Other benefits cited in these evaluation studies were improved problem-solving skills and interpersonal relationships as

manifested by improved cooperation on the job and better relations with colleagues. Oral and written communications improved among the students, supervisors, and fellow workers.

As students increased in their sense of empowerment, self-esteem, and self-confidence, they became more interested in learning and were motivated to seek more educational opportunities both within and outside the company. As a result of participating in the educational programs, students gained a better understanding of their strengths and weaknesses as learners. They became “turned on” to learning as they had not previously been either during formal schooling or on the job.

Students in all programs were unanimously positive about their teachers. Teachers in all programs reported that they experienced some conflict between teaching the job-specific curriculum and an educational program which met the needs and interests of the students. Most tried to find a compromise that incorporated the students’ goals, even those that were not work related, into the job specific curriculum. Perhaps it was the teachers’ skill that led to the unanticipated gains in feelings of empowerment, confidence, problem solving, and communication.

All projects reported support for the students and the program by supervisors, managers, fellow workers, and family members. At the completion of the projects, workers who did not participate expressed an interest in doing so. Hence, the literacy projects developed legitimization by significant others, and any negative stigma at the beginning generally became a positive image.

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