Theory to Practice

Redirecting Research and Practice to Meet the Changing Context of Workplace Literacy

Kevin J. Freer, Verna Terminello, and Robin Clossman-Wright

Introduction

Adult educators and human resource development (HRD) professionals have taken various approaches to setting up workplace literacy programs. These approaches range from bringing in outside sources to set up Adult Basic Education/General Educational Development (ABE/GED) worksite programs (Askov & Van Horn, 1993) to implementing customized workplace programs that focus on functional context (Philippi, 1991). Yet companies still debate whether to begin a workplace literacy program because the rewards have not proven to be great enough to justify the expense of hiring teachers and paying employees for "nonproductive" time.

Our research and practice have allowed us to be involved with programs which are more authentic, holistic, and learner-centered. These programs are participatory and empower participants (Jurmo, 1994) to become flexible learners who can also become better employees who fit in with the demands of their changing workplaces. These programs support the work environment, training participants, and the organization and can be justified more easily to employers whose concern is still the bottom line. Such programs are set up so that literacy learning is integrated within what workers actually do on their jobs.

Kevin J. Freer is Assistant Professor of Adult Education at The Ohio State University; Verna Terminello is employed by Educational Advantage, Worthington, Ohio; Robin Clossman-Wright is a Corporate Training Administrator for T.S. Trim Industries, Inc., Pickerington, Ohio.

Traditional Approaches to Workplace
Literacy ABE/GED and General Skills

Traditionally, ABE/GED worksite programs focus on helping employees to learn basic reading, writing, and math and eventually pass a high school equivalency test. While research on these programs shows that individual employees gain self-esteem, experience reduced absenteeism, and generally have better attitudes as a result of passing the GED test, the relation of their newly acquired skills to the job has not been clearly documented (Sticht, 1987). In fact, in some studies, measures such as scrap rate and job errors have actually increased after these programs have been implemented (J. Opliger, personal communications, 1995). Research on learning transfer has demonstrated that learning more general literacy skills does not necessarily translate to increased job knowledge or skills (Sticht, 1987).

These programs are difficult to sell to businesses and are best handled by the adult education programs in the public schools, the local community college, or vocational school. If done at the site of the business, ABE/GED programs should be referred to as worksite, rather than workplace, literacy programs because they do not directly relate to job skills. Practitioners in ABE/GED often follow models of "successful" programs that use standardized testing, commercially published materials, and direct methods of teaching. Critical decisions made by literacy experts for planning programs are based on participant test scores, availability of materials, and availability of teachers (Askov & Van Horn, 1993). Employers are often not willing to fund such programs. While employers recognize the importance of an altruistic, "feel good" program, they cannot always justify paying workers for "non-productive time" away from their jobs.

Functional Context Approaches

Functional context approaches, on the other hand, tailor literacy learning specifically to the business and its particular mix of workers, placing an emphasis on the specific requirements of *individual* workers (Mikulecky, 1987; Philippi, 1991). Standardized instruments are also used to test these individual workers. Lesson design uses scenarios that simulate actual work events, and participants use work materials to enhance their reading, writing, and math skills. While practitioners using this approach provide the functional context needed for improved job performance, they often run out of ideas for teaching. At such times they may resort to commercial vendors for more generic math or reading

materials that are related to fields other than than the participant's specific job classification. Workers often are bored reading and writing about their jobs, especially when they are seasoned employees who have been in the same job for years.

Literacy experts and managers make program decisions from a top down model based on a Literacy Task Analysis to determine the reading, writing, and math requirements of a job. The job is then broken into discreet skills that are then emphasized by direct teaching methods. While advocates of this approach say that participants learn the skills necessary to function in the workplace, the emphasis is still on individual job skills (Jurmo, 1993) practiced in contrived settings. Even though participants practice the cognitive skills expected on the job, they are in classrooms and not necessarily with the people they really work with. Their new skills are often not supported in authentic contexts.

Meeting the Needs of the Changing
Context of Workplace Literacy

These approaches then fail to meet the literacy needs of employees engaged in the wider array of activities in the workplace that go beyond their individual jobs. Employees who must be in classroom training for compliance to regulatory agencies such as OSHA or HUD, or who must participate in such "world class strategies" (U.S. Department of Education, 1991) as quality initiatives (TQM or ISO 9000), Total Productive Maintenance (TPM), Just-in-Time (JIT), visual factory systems, or teamwork, are not being supported with the approaches described above. Workers who now have added such responsibilities as "use of technically sophisticated equipment and collection and analysis of product or service quality statistics by teams or departments to measure cycle time, scrap, reworked materials, consistent product or service quality, and customer satisfaction" (Philippi, 1994) can still not be expected to have the skills they need when they have been through one of these traditional workplace literacy programs.

These programs, then, have failed in their responsibilities for both individual and organizational development (Gilley & Eggland, 1989). We question the efficiency and effectiveness of the approaches that are based on current research and practice of ABE/GED preparation and the traditional functional context approach to workplace literacy. What is necessary is an approach that links the theory and practice of authentic literacy learning in the workplace and which takes into consideration the skills needed for a changing, world-class workplace.

Authentic Workplace Literacy Learning

On the Job

Primarily what is lacking in both the current literature and practice is an approach to literacy instruction that supports employees in authentic settings *on the job*. Authentic learning is real world, contextualized learning (Herman, Aschbacher, & Winters, 1992) where workers are "likely to apply what they learn" (Knox, 1986, p. 67). Workers cannot always apply skills learned in a classroom setting to actual job practices, nor can employers always afford to pull workers off their jobs to participate in classroom training. Instead of using scenarios to teach basic skills, we believe skills can be learned on the job as the tasks of the job demand, with minimal classroom intervention and minimal direct teaching. Decision-making for such programs should be participatory, involving workers, supervisors, trainers, and managers (Sperlazi & Jurmo, 1994).

Organizational Needs Assessment

While traditional approaches begin with standardized testing, we advocate authentic assessment (Waugh, 1991), beginning with an Organizational Needs Assessment (ONA) to include interviews with focus groups of stakeholders who can identify the needs of employees in the changing workplace. Questions about quality initiatives, TPM programs, and other world-class strategies should be asked to determine the vision of the company for the future, to determine the "what will be." After the ONA is conducted, a Literacy Task Analysis (LTA) should be done, but the LTA should be expanded. The Literacy Task Analysis *Expanded* (LTAE) should include observations by teams, if they are already formed, of classroom training that all employees are expected to understand and of other jobs employees will be cross-trained to do. The LTAE will help determine the "what should be" (Terminello, Wulfhorst, & Freer, 1993).

Authentic Skills Assessments for Employees

Practitioners should then develop authentic assessment instruments (Herman, Aschbacher, & Winters, 1992) which specifically address the "What will be?" and the "What should be?" workplace requirements and not just individual job skills or general skills. For example, if employees are expected to write a certain kind of log, they should be tested on their ability to do so, not on general writing skills. If they are expected to do metric conversions, they should be tested on metric conversions, not on

generic math skills. Employees can be identified variously as those who can perform these skills independently, who may need minimal help, and who may need some classroom instruction and perhaps tutoring.

Curriculum as Literacy Events

Curriculum can be developed to address these needed skills, for the specific group of employees identified, for a minimal amount of classroom time. After that, lower skilled employees can receive continued support from their team members, team leaders, or supervisors as they implement TPM or other programs and as they collaboratively participate in such authentic "literacy events" (Heath, 1992) as writing logs and status reports, charting and graphing, or practicing metric conversions.

Training

What is also lacking in both the current literature and practice is an approach to literacy instruction that supports employees in training classes. Many trainers are content experts who know little about teaching adults with limited reading, writing, and problem-solving skills and who do not understand teaching reading in the content areas (Vacca & Vacca, 1989). Training materials are not always user-friendly to all participants. The materials are not well written, organized, or formatted (Sticht & McDonald, 1992). Often the background knowledge of the learners is not considered, and materials are leveled by mis-using readability formulas (Doak, Doak, & Root, 1985). Also, many trainers have limited experience teaching front line employees; training materials have generally been written for managers, and trainers only have experience doing management training.

Practitioners often assume that individuals who go through training classes will understand and be able to apply their new knowledge and skills to become better workers. A high body count in classes or a good evaluation of the class no longer can be equated with successful training. Practitioners cannot assume they can predict comprehension of training materials because they know reading levels of participants and materials. Practitioners of adult education owe participants, organizations, and regulatory agencies more than just body counts or assumptions about understanding and learning. Rather, there must be documentable changes in behavior as the result of training classes, and training must be cost effective by showing a payback to the organization. Figure 1 provides a summary of the three workplace approaches discussed in this paper.

Figure 1: Comparison of Workplace Literacy Approaches			
	ABE/GED Skills Approach	Functional Content Approach	Authentic Learning Approach
Assessment	• Individual • Standardized tests	• Individual • Standardized tests • Competencies based on individual job tasks/LTA	• Individual and group • Self-evaluation • Authentic, holistic • Competencies based on ONA, LTA, LTAE, and portfolios
Curriculum	• Prescribed • Commercially published materials • GED preparation • General reading, writing, and math	• Developed up front • Job-related materials to read • Commercially published materials • Job scenarios and simulations	• Evolves based on the changing context of the workplace • Authentic, job-related reading and writing tasks • Reading and writing tasks across the "curriculum"

Instruction	• Basic skills for GED preparation • Materials-driven • Test driven • Classroom situated ("non-productive time")	• Discreet skills for individual jobs • Skills driven • Classroom situated ("non-productive time")	• Reading, writing, and math processes • Driven by actual job tasks and requirements • Situated in individual jobs, TPM, quality initiatives, teams, OJT, etc. ("productive time") • Individual education plans • Interventions training
Roles	• Teacher directed	• Teacher directed	• Collaborative: workers, HRD, professionals, literacy experts, managers
Program Evaluation	• Standardized test scores • Numbers who complete GED • Number of participants' instructional hours	• Cost benefit analysis • Employee turnover • Productivity/efficiency	• Evaluation of team processes • TPM outcomes • Quality of work • Cost benefit analysis • Employee turnover • Productivity/efficiency • Continuous goal setting

Redirecting Research and Practice

Previous attempts to improve models of workplace literacy based on general skills in ABE/GED programs or job specific skills within a functional context approach have failed to meet the needs of a changing workplace. What is important now is an understanding of the changing context of the workplace. What new approaches can respond to the workplace literacy needs for employees on their jobs and in training events? How can adult educators and trainers best integrate basic skills instruction in order to redesign curriculum and instruction to support employees on the job and in training?

The changing context of the workplace also suggests implications for further inquiry in such areas as organizational needs assessments, learner assessments, curriculum development, teaching strategies, and program evaluations. What methods should determine literacy requirements of workers who must be multi–skilled? How should ongoing needs assess-ments of individual learners be conducted? What instruments and strategies should be developed to assess learner effectiveness in a training context? How will impact on the job be evaluated? How can adult educators provide evidence of a return on investment for their workplace literacy efforts?

New roles for trainers and literacy specialists must be developed as they learn to collaborate in supporting literacy for employees engaged in multi–skilled jobs and training. Literacy educators, trainers, and other instructors will have to assess employees' changing literacy needs within the context of training episodes, effectively facilitate learning on the job, and evaluate program effectiveness. The steps necessary to train trainers and literacy experts must be documented in order to be transferable to different settings. What must be included in a training model on how to initiate an authentic workplace literacy program?

Finally, a program planning and implementation model is needed in order to benefit a variety of workplace settings. Adult educators and HRD professionals must document the program implementation process. What planning model would serve this purpose? How should such an imple-mentation plan be designed for these workplace literacy programs? Linkages between research and practice need to be strengthened in planning and implementing authentic workplace literacy programs. The content and conduct of each should reflect models of participatory action research (Brooks & Watkins, 1995; Sperlazi & Jurmo, 1994).

In conclusion, we believe an authentic workplace literacy program differs from traditional approaches in several ways. Assessment of learn-

ers is holistic and context specific, never is standardized, and is only done after an Organizational Needs Assessment points to a "literacy problem" rather than other problems such as work flow, climate, or the need for technical or more effective on-the-job training. Curriculum development is an on-going process, where authentic literacy events take the place of "lessons." Training classes are recognized as another context for literacy learning as we use content area reading approaches in the classroom. Program evaluation is ongoing and becomes the responsibility of all participants, not just managers who make decisions about program funding. Finally, increasing the literacy skills of employees becomes a shared responsibility of the entire organization.

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