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ABSTRACT

The Kodak Skills Enhancement program was a workplace literacy project funded through the U.S. Department of Education's National Workplace Literacy Program. The project goals were as follows: (1) establish a positive climate within the Kodak corporate environment to ensure program effectiveness by garnering support at all levels; (2) determine the workplace literacy needs of Kodak's Colorado division; (3) write a performance-based functional context literacy curriculum for three targeted functional job groupings; (4) develop and use a multistrand model for implementing a workplace skills enhancement program; (5) evaluate the program's effectiveness and efficiency; and (6) make project models available for replication throughout the industry. An independent evaluation confirmed that all of these goals were met. Employees' workplace literacy needs were assessed through observations and interviews, focus groups, supervisory input, and individual assessment. Performance-based literacy training modules emphasizing reading, math, and writing skills were developed and delivered along with management awareness training, a skills enhancement center, peer tutoring, and group instruction. The project models were disseminated at national and state conferences and through a network of northern Colorado manufacturing organizations. (The external evaluation report is appended. Appended to it are interview guidelines and survey forms for Kodak employees and supervisors.) (MN)

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ED 361 533

**Kodak Skills Enhancement Program**  
**U.S. Department of Education**  
**National Workplace Literacy Project**

**Submitted by**

**Bart P. Beaudin, Principal Investigator**

**January 22, 1993**

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**KODAK SKILLS ENHANCEMENT PROGRAM  
U.S. DEPARTMENT OF EDUCATION  
NATIONAL WORKPLACE LITERACY PROJECT  
in partnership with  
Kodak Colorado Division**

**FINAL REPORT**

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**GOAL I : ESTABLISH A POSITIVE CLIMATE WITHIN THE KODAK  
CORPORATE ENVIRONMENT TO ENSURE AN EFFECTIVE SKILLS  
ENHANCEMENT PROGRAM BY GARNERING SUPPORT AT ALL LEVELS.**

**ACTIVITIES AND RESULTS:**

**Preparation**

The project staff began the process of climate setting by working with the training department liaison to meet with members of the literacy skills committee who had begun initial exploratory work into literacy skills enhancement needs through a survey of supervisors in 1989. Project staff was thorough in informing the committee of the plan proposed in the grant and continually consulted with that committee in planning the communication and implementation of the needs assessment at levels. The committee was consulted regarding language, procedure and protocol. The result of this involvement was a valuable understanding of corporate and worker issues by project staff, a smooth entry of project staff into the corporate environment, and the support of personnel at all levels throughout the program.

All needs assessment staff were carefully oriented to the corporate environment through training by a project staff member who worked as the liaison with the Kodak Training Department. This was done through training sessions and meetings that allowed needs assessment staff to become familiar with Kodak Training Department personnel. These meetings provided needs assessment staff a chance to learn additional pertinent details that facilitated their acceptance on Kodak site. They were oriented to fine details such as accepted dress and language so that their presence would be respected but not intrusive in any way.

**Communication and Feedback**

Through all of the following phases of program development and delivery, information was continually channeled back to all employees who had participated at any level and to all Kodak personnel who held a stake in

the skills enhancement program. This was accomplished through a close and effective working relationship between project staff and Kodak training staff. At all points where workers were asked to spend time in participation of planning activities, care was taken to deliver results of those activities, obtain feedback, and respond as possible. The result of this investment in time and communication led to support, acceptance and facilitation of the program by training department personnel, managers, department heads, supervisors, and line workers. The wide variation and fluctuation of worker schedules, the many buildings at Kodak Colorado Division, and the unexpected changes in work load present significant challenges to scheduling training, both tutorial and group. This challenge was surmounted by the across the board support and cooperation described above. Kodak Training Department staff and project staff both confirmed that without the support of those mentioned above, the high level of success that the Skills Enhancement Program achieved would have been impossible.

An important vehicle of communication proved to be an extensively delivered Supervisory Awareness Training (see Goal IV for description). This provided project staff with direct contact with over 150 supervisory personnel who represented all departments participating in the Skills Enhancement Program training. This contact began ongoing dialogue and mutual awareness of one another between project staff and all supervisory personnel. A result of this process was publicly verbalized support and encouragement toward participation by supervisors.

Another successful method of communication was the Learning Discovery Workshops ( see Goal IV), available to all workers on a voluntary basis. Learning Discovery Workshops were primarily attended by line workers, but were also available to supervisors and others. In each small group session, participants received information about the changing skill requirements, participated in an assessment of their own skill level, and explored the possible skills enhancement interventions available to them. Each Learning Discovery Workshop was facilitated by one of the project staff trainers. In many cases this personal contact with project staff encouraged the participant to ask questions and seek training with comfort.

### **Establishing and Maintaining Trust**

Key principles of confidentiality and consistency were adhered to in establishing and maintaining the trust of all workers.

Project staff and Training Department personnel both found that in the complex activities of program delivery, unintentional breaches of confidentiality are potentially likely. To guarantee confidentiality to all, processes and methods of assessment and information handling were carefully designed. Project staff maintained all assessment and training results off site and were the sole handlers of that information. No results regarding any individual were shared with Training Department staff or supervisors or any other Kodak personnel without the explicit permission and knowledge of the individual. In addition to confidentiality, Kodak assured all participants that success or failure in skills enhancement training would not affect their employment to the negative.

Consistency was established by adhering carefully to announced procedures, times and specifics. Kodak Training Department staff required a deliberate effort be made to adhere to any announced procedure or schedule. At times, this provided additional effort and challenge to project staff. The project staff learned that this consistency was important and highly instrumental in maintaining support and trust at all levels.

## **GOAL II:**

### **TO DETERMINE THE WORKPLACE LITERACY NEEDS OF KODAK COLORADO DIVISION**

#### **ACTIVITIES AND RESULTS:**

The determination of workplace literacy needs at Kodak Colorado Division involved five steps:

1. Development of process and instrumentation
2. Determination of basic skills required at Kodak Colorado Division in targeted job areas through observation, interview and data analysis
3. Conducting of focus groups to report results of step 2 and to prioritize basic skills tasks according to frequency of use, importance to job performance, and immediacy of need for training.
4. Conducting of Supervisory Awareness Trainings to report results of step 3 and collect specific current and future applications of basic skills tasks to be incorporated into training content as functional context.
5. Implementation of individual basic skills assessment.

#### **Development of Process and Instrumentation**

The first step consisted of development of the needs assessment process and instrumentation. This was collaboratively done by a needs assessment specialist from Colorado State University, a member of the project staff and four additional contract staff members. Information gathered in a 1989 Kodak Colorado Division survey of supervisors, particular current information provided by Kodak and a review of literature on workplace basic skills were used in developing a method of observation and interview.

Simultaneous to the development of the needs assessment process and instrumentation, Kodak Training Department staff and literacy committee members determined 21 target departments for participation in the Basic Skills Program. Project staff worked to provide information to Kodak personnel about basic skills issues and the nature of basic skills training, in order to facilitate a reasonable and effective selection of a target population.

#### **Observations and Interviews**

Contract specialists from Colorado State University toured and observed jobs in all work areas involved in the target population. Supervisors in each area identified competent workers to be interviewed. Interviews were conducted to determine a comprehensive list of basic skills job tasks performed by Kodak workers. From that collection of data a list of 38 basic skills tasks were identified. (see comprehensive needs assessment report for listings and statistical evaluation of data)

#### **Focus Groups**

Individual focus groups were held with each department in which a project staff member presented the list of skills produced in step 2, explained the process of data collection and analysis, discussed the significance of the findings and related that significance to job performance issues. The focus groups members were then each asked to rank each of the 38 items on a scale indicating how frequently these tasks are actually used in the typical jobs in their areas. This provided a realistic element of information from a very wide variety of positions and viewpoints.

Next, they were each asked to rank these basic skills tasks as to how important or critical they were to successful job performance. Finally, each focus group member was asked to indicate the 10 skills listed that they would select as those which they would like to see training developed for within the next 12 months. This last question was designed to determine the immediacy of need for training.

From data collected to this point the Training Department staff and Skills Enhancement Program project staff were able to determine the content for three group training classes to be designed and delivered. The groups classes were applied reading, applied writing and applied math. Each was specifically defined by the outcome of the needs assessment.

A summary of these findings was presented in detail and a graphic presentation and explanation was delivered to focus group participants at the completion of this step (see complete data in comprehensive needs assessment report)

### **Supervisory Awareness and Input**

In addition to building a positive climate for training, the Supervisory Awareness Training was the setting for the final step of the needs assessment. Information was presented and discussed from steps 2 and 3 and supervisors were asked to specifically name job activities and materials to consider for context for the classes to be designed and delivered. This provided project staff with current and relevant functional context. In addition supervisors were asked to serve as contacts, if needed, to help in obtaining job materials or to be available to explain the use of those job materials to trainers. These functional context materials were successfully used in designing classes and may or may not appear in the distributed copies of the curriculum depending on their proprietary nature.

### **Individual Assessment**

Through participation in Learning Discovery Sessions, the TALS (Test of Applied Literacy Skills) and a math portion of the TABE (Test of Adult Basic Skills) were administered to individuals. Individuals received test scores in private interpretation sessions with project staff. Each participant could evaluate his/her skill level and make an informed decision regarding appropriate training measures.

### **GOAL III:**

#### **WRITE A PERFORMANCE-BASED, FUNCTIONAL CONTEXT LITERACY CURRICULUM FOR THE THREE TARGETED FUNCTIONAL JOB GROUPINGS.**

As a result of the needs assessment process, several departments within Kodak Colorado Division were targeted to be the main recipients of the Skills Enhancement Training. The training was, however, open to employees in any department.

The follow-up survey given to supervisors, managers and group leaders then surfaced the skills that leadership felt were most critical to successful performance and most frequently used on the job: reading, writing and math. Performance-based, functional context literacy curricula were then written for those three basic skill areas.

## Curriculum Design

The curricula were designed to be performance based and include functional context. During the Management Awareness Training strand of the program, managers and supervisors were asked to identify specific job tasks that workers were expected to do that used reading, writing and math skills. They were then asked to name specific documents, forms, training manuals, procedures, etc. that workers used to perform those job tasks. These responses were consolidated into a master list.

Learning objectives for each skill area were subsequently developed directly from the list of job task requirements provided by the supervisors and managers. The goal of the instruction was to help operators build on an underlying set of basic skills and become more proficient at applying those skills in the workplace. The courses were designed to maximize an employee's ability to meet the challenges of a constantly changing work environment requiring constant upgrading of skills.

Training design and methodologies were targeted directly at operator level employees and included additional time for modeling of skills taught, recognizing thinking processes needed to use skills, practice, application of skills to workplace materials or scenarios, and participant feedback.

As classroom materials, exercises and activities were being developed, participants of the Management Awareness Training were contacted and asked to provide samples of the workplace materials named as those used by workers. Both blank and filled out materials (control charts, activity reports, peer reviews, etc.) were collected so trainers could fully understand how the materials were used by workers and use blank copies for formulation of activities and exercises. Procedural directions and Kodak required training materials were obtained from as many different job positions as possible. The workplace learning consultants also attended several Kodak required trainings in such areas as Quality and ISO 9000 requirements in order to further familiarize themselves with Kodak performance expectations. At the beginning of each 24 hour session, participants were shown the master list of workplace materials (included in curriculum) for that skill area and asked to bring in samples of work materials to further customize the class for participants.

In this way, it was assured that the training was meaningful to operator level employees and that the materials were useful and appropriate to workplace basic skills learning objectives. Samples of the three curricula are included in this final report.

**EVALUATION, FINDINGS AND TIMELINE:** The training was developed in stages, with the Reading and Math trainings developed and delivered first and the Writing training offered toward the end of the grant period. It was felt that this best reflected the needs and interests of Kodak employees. Several training schedules were tried in delivering courses, from one four-hour session per week for five weeks to a two-and-a-half day training workshop. The different training schedules met the needs of employees in various departments and work schedules.

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## **GOAL IV**

### **TO DEVELOP AND USE A MULTI-STRAND MODEL FOR IMPLEMENTING A WORKPLACE SKILLS ENHANCEMENT PROGRAM.**

#### **Management Awareness Training**

A Management Awareness Training was developed in order to help supervisors, managers and group leaders better understand the purpose of the Skills Enhancement Program, what the role of the supervisor would be in the program and specifics about identification of skill deficiencies in employees, referrals, assessments, group training, tutoring and the Skills Enhancement Center. The training was used to help supervisors identify the dynamics of changes in the workplace and the need for an expanded view of 'basic' skills.

The training was given in small groups of five to ten to 147 management level employees. A training manual was developed to accompany the training and is included in this report.

#### **Skills Enhancement Center**

A Skills Enhancement Center was established and integrated into the Kodak Career Development Center. Materials were bought to facilitate self study in Reading, Math and Writing as well as other basic skills. Participants at the Learning Discovery assessment sessions were referred to the Center for self-directed study. Group instruction participants were shown the Center during the course of the training. Use of the Center was facilitated by an on-site coordinator. At least 50+ Kodak employees benefited from the use of the Center during the course of the grant period.

#### **Peer Tutoring**

Volunteer peer tutor candidates were recruited through Supervisory Awareness Trainings. Supervisors were asked to identify and approach individuals who might potentially be qualified and interested in this opportunity. The Training Department also approached a few individuals with this opportunity. Two key Training Department employees had obtained tutor training prior to the beginning of the project and their personal commitment was a good model for others.

Tutor training was designed by project staff. The training was based on adult literacy tutor training models with adjustments for the specific situation and content of training for this project. Interpersonal workplace issues were addressed as part of the training.

Nineteen individuals were completed tutor training.

Learners/participants who selected peer tutoring were interviewed in one on one sessions and an attempt was made to place each individual with an amicable and appropriate tutor. Individual education plans were developed and in most cases learning contracts were written between the learner and tutor.

Ten tutor matches were made. Project staff encountered many barriers in successfully implementing this strand of the Skills Enhancement Program. Kodak Colorado Division has many schedule variations. This made it very difficult to find time for people to meet. Often times were arranged but had to be canceled or changed because of the learner's or tutor's job demand. Another barrier was the size of the work site and the large number of buildings on the site. Tutors and learners were often not in

proximity to one another in a way that facilitated meetings. Commitment was sometimes a barrier. Because project staff were not continually present on site, only moderate structure and supervision prevailed.

In summary, some of the peer tutoring activity resulted in very positive outcomes for the learners. The ratio of success to difficulty indicates that peer tutoring may not be an effective or realistic model for a manufacturing organization such as a Kodak Colorado Division. The difficulties it presents might potentially undermine the motivation of both learner and volunteer tutor.

### **Group Instruction**

The group instruction strand of the workplace skills training included Learning Discovery, Math, Writing, and Reading workshops. Operator-level employees were initially recruited into Learning Discovery workshops announced through regular Kodak communication systems. This workshop was designed to help employees identify the current and future skill requirements of Kodak jobs, assess their current skill levels and learning styles, and begin to develop a personal training plan. The Test of Applied Literacy Skills (TALS) and Test of Adult Basic Education (TABE) were used to assess employee skill levels in Prose, Document and Quantitative Literacy and basic math.

One on one interpretation sessions were scheduled with participants as a follow up to the Learning Discovery workshops in order to consult with employees individually on their personal training needs. From this consultation session, participants were referred either to self-directed study in the Skills Enhancement Center, one on one tutoring, or group instruction in Math, Writing or Reading.

Group instruction was delivered to 138 participants during the grant period. Most instruction was delivered in 20 hour segments in groups of six to eight participants. Scheduling of larger groups of participants at Kodak was very difficult because of their extensive use of variable and rotating shift scheduling. Approximately 2760 contact hours of instruction were delivered. Instructors used various techniques to evaluate and track individual progress.

**EVALUATION, FINDINGS AND TIMELINE:** The training was developed and delivered within the timeline of the grant. The group instruction and the Skills Enhancement Center proved to be the most used and beneficial strands of the program. The peer tutoring strand of the program became cumbersome with the multitude of shifts and shift changes available to Kodak employees.

It was felt that the Management Awareness training helped considerably in establishing a positive climate at Kodak in which the Skills Enhancement Program could thrive. Managerial support was a key ingredient in recruiting participants for assessment and training. It was also essential in order to provide employees time off work to participate in training.

## **GOAL V - EVALUATE THE EFFECTIVENESS AND EFFICIENCY OF THE PROGRAM**

### **ACTIVITIES AND RESULTS:**

#### **Formative/Summative Evaluation Activities**

Ongoing evaluation was an integral part of the Kodak Skill Enhancement Program. Project personnel requested written and oral feedback from program participants, supervisors, management and Kodak training staff throughout the project. Feedback was collected in a manner consistent with the Kodak culture. Participants were asked for expectations and given evaluation forms at the beginning and end of each training session. Supervisors were periodically contacted to ensure that training content was consistent with department content and skill needs. Program update presentations were made to management. A close working relationship between the Kodak training staff and project staff afforded the opportunity to receive feedback on a constant basis which resulted in the project being able to most closely meet the needs of the company and the grant.

As a result of collecting feedback, necessary changes were made. Examples of changes made are: (1) Training times were adjusted to better fit shift needs and (2) training content was altered to meet the needs of specific groups.

The project staff and Kodak staff remained cognizant of the goals of the project and their timelines and worked to meet those timelines and to carry out the project as described in the proposal. As part of the grant proposal, a model for formative and summative evaluation was developed and is included in the appendix of this report.

The project was also evaluated by an external evaluator and that report is included in this report.

**EVALUATION, FINDINGS AND TIMELINE:** Using the formative and summative evaluation matrices included in the proposal as a model was helpful in monitoring the operation and successes of the project. Even when the project was not on schedule according to the proposal, the project staff and Kodak staff were aware of it and could make judgments accordingly.

Indicators included in the matrices of the evaluation model, such as, "Standards for Success" and "Evidence of Employee/Corporate Impact" were not always realistic. The project staff continued to look for ways to quantify results of the project. However, there were frequently too many variables to singularly attribute results to the Skill Enhancement Program. Also, empirical data collection methods for many of the indicators were too cumbersome for this project. For example, one indicator listed on the matrix as "Evidence of Employee/Corporate Impact" is "Kodak employees at all levels will take ownership and responsibility for a quality program". While this continued to be a goal, it was not quantitatively measured. In the summative evaluation matrix, one indicator listed in the "Methods of Evaluation" matrix is "quantify improvement in targeted job tasks." Again, while improvement in job tasks was a goal of the Skills Enhancement Program, no metrics were identified or used to collect this information other than anecdotally.

It is the conclusion of the project staff that research in the area of measuring workplace basic skills program effectiveness and successes, beyond demographics, remains to be done. Because of the close working

relationship between the project staff and Kodak personnel, effectiveness feedback was constant, and the project staff believed that they were able to provide a meaningful program based on that feedback. Project staff used the Kirkpatrick Model of training evaluation as a guide for understanding the realities and limiters of the Kodak Skill Enhancement Program.

## **GOAL VI**

### **MAKE PROJECT MODELS AVAILABLE FOR REPLICATION INDUSTRY-WIDE**

#### **Replication**

The entire curriculum was packaged for replicability within Kodak Colorado Division. Much of the content was proprietary and not available for replication. The overall outline of the content, course goals and objectives are included with this report.

#### **Dissemination/Information Sharing**

Information about the grant activities and findings was disseminated by the project directors through the following avenues:

U.S. Department of Education Conference  
Washington, D.C.

American Association for Adult and Continuing Education  
Annual Conference, 1991  
Montreal, Canada  
Presentation

Colorado Association for Adult and Continuing Education  
Annual Conference, 1991  
Denver, CO  
Presentation

Colorado Council for the International Reading Association  
Annual Conferences, 1992  
Denver, CO  
Presentation

Colorado Community College Office of Educational Services, Roundtable  
National Workplace Literacy Project Colorado Front Range Region  
Training, 1992  
Advisory Board, 1991-92

A presentation prepared to deliver to area high school administrators and educators.

A videotape highlighting the project was made. It is included in this report and is available upon request.

A conference entitled "Rocky Mountain Workplace Basic Skills Summit" will be held April 1 and 2, 1993 in Fort Collins, Colorado.

A network of Northern Colorado manufacturing organizations was formed by the project staff to discuss basic skills training issues.

**EXTERNAL EVALUATION REPORT**

**NATIONAL WORKPLACE LITERACY PROGRAM  
KODAK SKILLS ENHANCEMENT PROGRAM**

**COLORADO STATE UNIVERSITY  
AND  
EASTMAN KODAK COLORADO DIVISION**

**DECEMBER, 1992**

**Report Prepared by:  
Jean E. Anderson**

**EXTERNAL EVALUATION REPORT  
KODAK SKILLS ENHANCEMENT PROGRAM**

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Appendix D: "Survey Form for Kodak Supervisors" with Results

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## INTRODUCTION

This report is a compilation of the results of one-on-one interviews conducted by the external evaluator with participants of the Kodak Skills Enhancement Program in Windsor, Colorado. This program was funded through the National Workplace Literacy Program of the U. S. Department of Education. This report is submitted in compliance with evaluation requirements of the National Workplace Literacy Program and in accordance with the evaluation plan as outlined in the local program proposal.

The evaluator attempted to pay particular attention to the emphasis placed by the U. S. Department of Education on establishing links between workplace literacy programs and work performance. This emphasis was complementary to the goals of the local project.

The goal of this report was to determine "evidence of employee/corporate impact" as called for on the evaluation plan for the program. The primary emphasis was to address Goal "V c" of the program's plan: to "evaluate the project using an external evaluator" with employee/corporate impact evidenced by a "clear understanding of project effectiveness." The data gathered for this report provides significant information on perceptions of employees and supervisors as to the impact of the program on individual behaviors and work performance.

A great deal of hard and soft data was generated internally by the staff of the education partner. It is hoped that the anecdotal information gathered through the external evaluation and presented in this report will lend a useful and somewhat different perspective on these internal findings. Quantitative data was generated by the instructional staff and will be addressed in their final report.

### External Evaluation Methodology

The original grant proposal was reviewed to provide a background of the project for the external evaluator in order to identify appropriate areas for evaluation. The surveys and interviews conducted by the external evaluator indirectly addressed five of the six goals of the program as outlined in the proposal: climate, needs assessment, curriculum, multi-strand instructional model, and evaluation. The sixth goal dealt with dissemination of project models which, at the time of this report, was still in process.

Surveys and interviews were also based on the four indicators of program success as identified by the U. S. Department of Education, Office of Vocational and Adult Education, Division of Adult Education and Literacy, in the May 1992 publication,

Workplace Literacy: Reshaping the American Workforce. (Refer to Appendices A and B for Interview Guidelines and Results; Appendices C and D for Survey Forms and Results.)

The external evaluator first met with representatives of both the education partner, Colorado State University (CSU), and the business partner, Eastman Kodak Colorado Division, to review and agree upon purposes of the evaluation and to discuss strategies for obtaining required data.

One-on-one interviews were then conducted with seventeen participants from Kodak: eleven employees who were student participants in the program and six supervisors whose employees were students in the program. All questions were open-ended; interviewees were not prompted to respond in any particular manner. The effort was to permit interviewees to mention new skills, changes, and impact on their own. Each interviewee was also asked to independently complete a short survey form before beginning the interview. All interviewees participated in the evaluation voluntarily.

The external evaluator then met with the Kodak site coordinator for a one-on-one interview, followed by a group meeting with all three of the instructional staff from Colorado State University. (Refer to Appendix E for interview Guidelines).

Results of these interviews and surveys were then tabulated and compiled for this final report.

#### Format of Report

This report is divided into four sections: Project description; results of interviews and surveys from employees and supervisors; results of interviews with partners; and conclusions.

Commendations and recommendations are incorporated into the results section. These came from both the business and education staff of the project during their interviews. Their remarks are extremely valuable for informing the future practice of workplace literacy.

In the conclusions section, the project was compared with the success indicators identified in Workplace Literacy: Reshaping the American Workforce. Corporate impact was also addressed along with major themes that emerged during the interviews.



## DESCRIPTION OF KODAK SKILLS ENHANCEMENT PROGRAM

The Kodak Skills Enhancement Program began in May, 1991 and ended on October 30, 1992. Colorado State University (CSU), School of Occupational and Educational Studies was the grant recipient and education partner. Eastman Kodak Colorado Division in Windsor, Colorado was the business partner.

As stated in the project abstract, the mission of the project was "to upgrade workplace skills for intermediate level workers in a high tech industry in order to promote productivity, retrainability, job retention and job advancement within the industry." Three functional job groupings were targeted for literacy audits.

Six goals were identified for the project:

I. Establish a positive climate within the Kodak corporate environment to ensure an effective skills enhancement program by garnering support at all levels.

II. Determine the workplace literacy needs of Kodak Colorado Division.

III. Write a performance-based, functional context literacy curriculum for the three targeted functional job groupings.

IV. Develop and use a multi-strand model for implementing a workplace skills enhancement program.

V. Evaluate for effectiveness and efficiency of the program.

VI. Make project models available for replication industry-wide.

The results of the external evaluation indicate that employees, supervisors, Kodak training staff, and CSU instructors perceive the project to have had significant, positive employee and corporate impact.

Each partner had nothing but praise for the other: Kodak commended instructors on their understanding of their corporate culture and needs as well as their flexibility; the CSU instructors commended Kodak on the high level of support they received for the program at all levels of the company.

## RESULTS: EMPLOYEES AND SUPERVISORS

This section reports the results of surveys and interviews conducted with Kodak employees and supervisors who participated in the project. Responses that provided evidence of employee impact of the project are categorized according to the major themes that emerged from an analysis of the interviews. The goal was to provide a clear understanding of project effectiveness. Corporate impact is implied in employee impact and is addressed more completely under "Conclusions."

Summary. Overall, comments from all participants indicated a high level of quality of instruction. Reading skills, particularly skimming and scanning skills, getting the main idea and identifying the key points instead of reading for detail, were the skills most consistently mentioned by employees as being new and of importance for them on the job.

There was excellent support for the program at all levels of the company. Noteworthy is the support of the supervisors. Their support did seem to vary proportionately with their level of understanding of employee needs. Three of the supervisors commented specifically on the quality of the "Supervisor's Awareness Training" they received at the start of the project.

Supervisors did indicate a difficulty in assigning a 100% correlation between participation in the classes and improved skills. They did assert, however, that employees' self-confidence and self-esteem improved as a direct result of the classes.

Supervisors, employees, and the Kodak site coordinator clearly explained the correlation between improved skills and greater self-confidence.

### Employee Interviews

Changes noted in the Workplace Seven of the eleven employees interviewed elaborated on changes taking place in the workplace.

Changes employees noted in the workplace included more writing, increased use of computers, self-managed work teams and high performance work teams. One noted that physical jobs are becoming fewer and fewer as "robots and machines do those jobs now; the more skilled jobs are those that people need to be prepared for now."

Two employees noted more reading was needed on the job.

One employee explained in detail that the foremen and group

leaders were no longer available as liasons between the floor and the other people in the company; that employees have to deal with others, for example engineers, directly. Thus, he felt a stronger need for his work to be presentable.

Classes Related to Work All employee comments were positive; they agreed that the curriculum materials were directly related to their work. "They were begging us to bring things in" from work to the classes, said one student. One employee stated that classes were tailored to their needs: "She let us pick our own curriculum." Two emphasized that the instructors asked questions throughout the classes and got feedback from the students so they could adjust the curriculum "to be sure people really got what they needed." Two employees actually wanted to use materials from outside the workplace; the instructor adjusted accordingly.

Comments on Classes Employee comments covered all aspects of the project.

Three employees commented favorably on the small class size. One mentioned that it was helpful to learn from others in the classes; that it was much better than using just tapes to learn from.

The quality of the instructors was specifically mentioned by eight employees. Employees noted that students being put at ease and made comfortable, and that classes were designed to meet student "needs, skills and capabilities". Instructors were described as everything from "nice" to "great". It was important to one employee that the teacher let the class know that she learned something from them, the students. She didn't feel dumb in the class. That ten of the eleven employees interviewed wanted to take more classes was indicative of the quality of instruction.

Skills Enhancement Center Six of the eleven employees mentioned using the "library"; two did not use it.

New Skills. Every employee interviewed was able to provide specific examples of new skills acquired as a result of participation in the program. Specific skill and behavioral changes identified by employees are listed in Chart 1. None of the employees mentioned test scores as a means of knowing if their skills had improved. It was what they could do now that they couldn't do before that they depended on to tell them if they had learned anything new.

One person commented that the classes "opened our eyes to a new approach to reading."

Needs Assessment There were two comments on the effectiveness of the pre-tests in identifying skills that needed to be improved or in identifying skills that were already well developed.

Self Esteem By far the greatest number of comments received dealt with self-esteem. This terminology was not included in any of the questions asked by the evaluator; it was volunteered by the employee. Usually it related to job performance. One employee stated, "Any time you improve yourself, it gives you better self-esteem and you're more confident in your work."

One employee commented that the classes helped people be able to adapt to the changes going on in the workplace - "to know where they fit in". He also commented that he now knows he's still capable of learning and changing.

One employee felt as though she had gained a little self-confidence; that she was starting to make more decisions on her own, and was not quite so timid anymore.

Personal Lives Three respondents, without prompting, specifically mentioned the impact of improved skills in their personal lives.

Want More Training Ten of the eleven employees interviewed wanted to take more training. One employee wasn't sure if these classes were the reason he wanted to continue. As one employee said, these classes gave him the confidence and the brush-up on skills he needed in order to take more classes.

Two employees mentioned they felt these classes prepared them to take further training, by helping them brush up on their skills or by teaching them new study skills.

Want these classes to continue Three employees mentioned that they would like to see these particular classes continue. Two mentioned they would like them at a more advanced level. Classes they would like to see offered included computers, math, communication, and team-building. The latter skill was seen as important because of the changes taking place in the workplace due to the incorporation of self-managed work teams.

Concerns. Several employees did not sign up for math classes this time because they heard that "you had to go to the front of the class" to work out problems and they knew they would be too embarrassed to do that.

Two employees expressed concern that they had attempted to get special assistance and Kodak personnel had not gotten back to them with a report on the status of their requests. This had a dramatically negative impact on one employee who did not express an interest in continuing in more classes. (Follow up on these two situations indicated that both are being attended to.)

## Chart 1.

### Skill Changes Identified By Employees

"I can figure fractions now in my head or on paper instead of having to use a tape measure."

Has received solicited and unsolicited positive feedback from his supervisor on his writing skills. He feels "more self-confident in my writing."

Feels more thorough in his writing now; more conscious of how he writes things and with his work on the computer. He's able to communicate what he wanted to communicate the first time, that is people don't have to ask him to clarify what he means anymore. He "pays more attention to reaching the people" with whom he's trying to communicate.

Now will read things she wouldn't before because she didn't think she could understand them.

Asks more questions

Listens better

Reading comprehension has improved a little. Follows instructions better and things "stick with me better".

In reading, can pick out important ideas and then "like a puzzle, can put it back together again."

Better able to understand SPC charts

Able now to pick out key points in reading which helps him as he does research to solve problems. He finds he's now able to ask the right questions and put all the information in the right sequence to do "investigations."

Understands the importance of accuracy now and takes more time; knows people "judge you" by accuracy of written communication. Now, with E-mail, everyone sees her work so she is even more sensitive to the need for accuracy.

In reading, they now know the difference of reading for detail versus skimming or scanning. They have a greater awareness of their skills.

On the job they are reading the training modules more easily and therefore are less nervous during "audits".

They now pay attention to and use graphs and charts more than before.

## Supervisor Interviews

Changes in the Workplace One supervisor noted the increase in the utilization of computers in the workplace. He also discussed the need for more team work, interpersonal skills, and the ability of employees to work without supervision.

The training advisor concentrated on the global picture of the changing workplace. No one else mentioned this perspective.

Because of the transition to self-managed work teams, employees' responsibilities have increased. As all employees are now writing procedures, two supervisors noted the need for improved writing skills. It was also noted that employees need presentation skills.

The comment was also made that the increase in the number of computers now makes it possible and therefore necessary for everyone to read the daily activity reports, thus increasing employees' need for reading skills.

Comments on Program The training advisor stressed that the program was very important to the corporation. He explained that many of the employees hadn't used their skills for a long time but now, because of all the changes, these skills are really needed.

He was the only person to comment on realizing that changes do not happen overnight and that perhaps the effects of this program are still yet to be seen.

One supervisor felt that the employers got a lot of information about employees' needs and are now trying to adjust to that knowledge and plan for the future.

Two of the supervisors really recognized the need for this type of skills training, first out of an awareness of the changing workplace and secondly, out of a recognition of the true skill levels of their employees.

One supervisor believed that "there is a group of people out there who really need the classes" but, since he felt there is a stigma attached, he felt only the more assertive individuals would sign up "and who knows what will happen to this other group." He noted that once the barrier of assessment had been broken, once the interested employees took the TALS and TABE tests and met the instructors, all the employees were enthusiastic about participating. (It seemed as though he were indicating discussing this might be helpful in reaching this hard-to-reach group he mentioned.)

He stressed the need for sensitivity to employee needs and feelings. He was clear to say that the classes may not have been as effective with different instructors.

He also focused on the need to raise the awareness of supervisors; that the need for these classes is there and that everyone will eventually benefit from the classes being offered. He suggested bringing the classes into all the buildings, not just the training building and that training be incorporated into shut down times.

Another supervisor also commented that this type of training can be intimidating to people on the floor.

Confidentiality Two supervisors mentioned the assurance of confidentiality as an important factor in employee participation.

Employee Skills Supervisors noticed an increase in employee skills, particularly in communication and self-confidence. They noted employees were more relaxed, more flexible and versatile. One supervisor noted that employees' abilities to express themselves in a group were better; they were more assertive.

One supervisor noted that his employee now asked fewer questions on job assignments; in this case this was a positive change. The supervisor found it difficult, however, to ascribe this and other changes in his employee solely to his participation in the class. The employee was new and he felt these changes could have been attributed to the natural learning curve of new employees. He noted that the jobs the employee is now being required to do, however, do require higher skill levels and he is meeting those new requirements.

The feedback one supervisor received from his employee's co-workers on his peer reviews was that the changes in his skills were dramatic. For example, the employee had been unable to communicate in writing - "you couldn't understand what the person was trying to say. Now you can. Not only does he write it accurately, he's thinking it through beforehand."

One supervisor took the TALS test himself (Tests of Applied Literacy Skills that was administered to all employee participants) in order to discover the skill levels being assessed. He was surprised at what he felt to be "low levels" being tested. He also expressed surprise in finding out that even with a high school diploma, individuals may still have reading, writing and math skills at what he determined to be fourth, fifth, and sixth grade levels. Note: none of the tests administered in the program give grade level scores for students and the entire program staff were extremely careful to not assign or even discuss grade levels with students, supervisors, or anyone else involved with the program.

One supervisor determined that changes had taken place in employee skills by an examination of the end product: there were fewer mistakes. Whether employees' "skills had improved, whether they just knew what to look for now, or whether they just took more time with their work", he was unsure, but he was certain that the end result is now better.

One supervisor noticed that prior to taking the classes, his employee entered numbers into the computer but didn't understand what she was doing. Now she understands the formulas she's using.

Another supervisor noted his employee was asking more questions, a positive change, and that his ability to read charts and graphs had improved.

Two other supervisors noted that more employees were reading and using the charts and graphs that are posted in all settings of the workplace.

The training advisor noted improvement in reading, writing and math skills and that people were more willing to participate in teams. This was seen as important because of the increased utilization of teams in the workplace.

That the program was a factor in building employee confidence, the trainer had no doubt. He felt it got employees out of the "I'm not smart enough" syndrome so that they started to function better in a team environment and work better with others. He noted that the classes jogged people's memories and "brought them back into the real world."

But he also found it difficult to identify the class as having been 100% the cause of other skill changes; a great deal of other training is going on in the company as well.

One supervisor commented that the increase in the confidence levels of the employees he has seen are dramatic. He felt the "instructors exuded" it and it "rubbed off" on the students.

It was also determined that people didn't understand the matrices that are used at department meetings. In response to this discovery, a supervisor helped develop a module around that particular reading skill.

"Introductory Training": Supervisor's Awareness Training The supervisors referred to this training as the "introduction" to the program. Two made favorable comments without prompting; the explanation of the need for confidentiality was singled out as having been well presented.



One supervisor seemed less well informed than the others and stated that he would have liked more information on the program before starting.

Concerns. One supervisor commented on the changes that were occurring throughout the company during the time period the classes were being offered. He felt that if these changes had not been going on concurrently with the classes, enrollment in the classes might have been higher. Employees, he thought, might not have enrolled due to "peer respect and a feeling of obligation to the floor," and not out of lack of interest or desire. Based on his other comments, this was interpreted to mean that employees felt a responsibility to the job and to their co-workers; that even though they may have been interested in the program, they did not want to add to their co-workers' work loads, nor neglect their duties on the job by taking time away from the job to attend classes.

The assessment process that each employee went through before enrolling in the program also allowed employees to become aware of what they needed and of what they already knew. At the beginning of the project during the first class sessions, employees were asked to make an appointment with the instructors to get their test results interpreted for them. This was not a successful strategy according to one supervisor; his opinion was supported in a later interview with the CSU instructional staff. His suggestions for change were the same ones implemented by the instructors mid-way through the program.

### Employee Surveys

Refer to Appendix C for tabulation of results of employee surveys.

Questions 1 and 2 were dependent upon the classes in which the employees were enrolled. Six of the six people who took the math classes felt their skills improved. Nine of the eleven who took either the reading or writing classes felt their skills improved.

Six out of ten respondents agreed they now suggest ideas more often; the one "no response" did comment, however, that she felt "more open with the team members at our team meetings."

Eight out of nine respondents agreed they ask questions more often.

Nine agreed they feel better about their job performance.

Eight of ten respondents feel they work better with their co-workers. Nine of ten respondents agreed they work better with their supervisors.

Eight of eleven respondents want more training.

#### Employee Comments from Surveys:

"Certain things about the reading were very good and could have done better, had we have had not so much to cover."

"I always enjoy learning classes here at the plant. I would not take a class at this time outside of work hours or off site."

#### Supervisor Surveys

Refer to Appendix D for compilation of responses to supervisor surveys.

Two of the six respondents agreed that their employees' math skills had improved. Three had no opinion and one answered "Not Applicable."

Six of the six agreed that their employees' reading and writing skills had improved.

Five agreed that employees suggest ideas more often; one had no opinion.

Six agreed employees ask questions more often.

Six agreed employees feel better about their job performance.

Five agreed their employees work better with co-workers and supervisors; one had no opinion for each of these statements.

Six agreed their employees want more training.

#### Supervisor Comments from Survey:

"Initially, the confidence level was much higher but has diminished somewhat."

"Seen alot of benefits - hope to see the program continue - in some form."

"It is hard to tell at this time on results. Need more time - SEP was completed just a few months ago. All feedback was positive!"

"Two individuals participated and one showed very good changes and the other showed limited changes."

"I do not get the opportunity to work in detail on the floor with the student. I can say he is progressing faster than normal or expected. Some of the progress, I feel, should be contributed to the classes taken".

## RESULTS: PARTNERS

The purpose of these interviews was to obtain the perspectives of the staff who had been involved in the delivery of the program, in its development and implementation.

A one-on-one interview with the Kodak site coordinator was held. This site coordinator is also a staff assistant in Human Resources. Refer to Appendix E for "Partner Interview" guidelines. A group interview was held with the CSU instructional staff.

Summary. As stated by the Kodak site coordinator during the initial planning meeting, "The most remarkable testament to the success of the program is the fact that the Skills Enhancement Program has been integrated into our regular training curriculum for 1993."

One of the CSU instructors emphasized that "a lot of time was spent in climate setting; over 150 supervisors participated in the management training sessions." Both Kodak and CSU staff agreed that this gave them the "biggest impetus for success."

### Responses of Kodak Site Coordinator

Expectations. The site coordinator stated that she hadn't come into the program with any expectations. She hadn't talked with anyone who had ever done it. "If we thought about it, we tried to make it become a reality."

At the fall close out conference in Washington D.C., the program monitor from the National Workplace Literacy Program commented to the site coordinator that the Kodak Skills Enhancement Program appeared to be an exemplary model of workplace education. The site coordinator was extremely proud of this fact.

Workplace Changes. The transition to self-managed work teams was mentioned first, with the corresponding need for increased interaction with people, processes and machines. The coordinator explained that Kodak is moving from a conventional work environment to one that requires more of a team approach to get the job done.

Supervisor Involvement and Support. The Kodak site coordinator stressed the importance of the management awareness training conducted at the start of the project. The supervisors agreed to a two-hour session. During the session they were introduced to the project, provided with the results of the employee needs assessments, received an overview of the "new basic skills", and received clarification of the expectations being placed on them.

This included providing paid release time to their employees with participation being reasonably confidential.

The coordinator declared the session a success: over 150 supervisors, approximately 75%, attended voluntarily. The change the site coordinator has noticed is that the supervisors now call her wanting to know about the program, asking if certain things can be taught under its auspices. Their support is also evidenced in their request to a continuation of the program at more complex, sophisticated levels.

The supervisors were also involved in gathering job materials, training modules (AMT's) for example, from which the instructors were able to develop relevant learning materials.

Employees have been referred to community based programs for basic skill education. The managers have now said they want this to be a part of Kodak's own internal training offerings.

The support of the supervisors is also evidenced by their having taken steps to ensure employees had paid release time to participate in the classes.

Eighteen supervisors were trained as tutors for the program.

Relevance of Instruction. Task analyses and utilization of actual work materials assured that the curriculum was relevant to employees' jobs. Additionally, Kodak set up real time environments for CSU staff so they could become familiar with the Kodak culture. The instructors attended Kodak training classes, for example on quality leadership, and ISO 9000 certification. They were participants in what went on at Kodak internally. They learned the nomenclature and the nature of shiftwork. They took tours and viewed videotapes of production processes. The coordinator believes that all this "helped integrate what they were going to teach with whom they were going to teach."

The employees voluntarily participated in a needs assessment process in which they took the TALS (Tests of Applied Literacy Skills) and TABE tests (Tests of Adult Basic Education), again providing necessary information for curriculum development. Employees also provided materials from home and the workplace.

Skill Improvement. The coordinator believes employees' skills have improved, based on the fact that people have had new responsibilities placed upon them or have had job changes requiring new skills. Employee feedback she has received also substantiates her belief.

She has learned of increases in self-confidence, in reading skills and in problem solving. She knows employee reading skills

have improved because they can now use E-mail which is a new expectation for them. Employees also read the graphs and charts that are at all their work settings where they didn't before.

Employees have improved their math skills with regard to SPC. They are able to use calculators and to "mentally step through the process of calculating".

Improvements in writing skills of which the site coordinator is aware are evidenced in the peer reviews written by employees and in the notes that appear on E-mail. Additionally, employees are now able to write procedures for the training modules.

The perception of the site coordinator was that more employees are now considering career advancement. Employees are also now able to prepare resumes and to present themselves well in interviews. One factor that may have contributed to this increased interest in career advancement is related to the fact that employees came to classes from all over the plant; students in the classes were able to explore job opportunities of which they had been unaware and to determine the skills they would need for those jobs. Everyone became aware of the larger production picture and of their particular part in it.

Impact on Productivity. No baseline data was collected about productivity improvement so this is unmeasurable at this time. But the coordinator felt she was able to make certain statements about the quality of work life. "When people feel good about themselves, they perform more efficiently; they're more productive." She noted that, at times, employees completed a 12-hour shift and then went to a four hour class; she related this to employees' desire to do better on the job.

She felt it was significant to note that production quality was maintained throughout, even when employees took time away from the job for class.

Goals. The original proposal stated that the project was designed to promote productivity, retrainability, job retention, and job advancement. The inability to establish a direct causal relationship between productivity and the classes has already been stated. Evidence concerning employees now considering job advancement has also been cited.

Concerning the goal of retrainability, the site coordinator stated that once the employees participated in the program, they became aware of other training available to them in the company. She noted they developed the confidence to ask about other training and felt they could succeed.

The coordinator described job retention as a "loose" area. She stressed there was never any threat of job loss due to not participating in the program. The message conveyed to employees by their supervisors and during the "learning discovery" process, was that the workplace will be different and that employees will have to think differently as well. The employees thus became aware of the new skills they'd need to match these changes.

Strong Program Characteristics. The site coordinator maintained that the single most important factor that contributed to the success of the program was that participation was completely voluntary. The feedback she has received has confirmed this. Second was the climate setting done with the supervisors, gaining their input and involvement. Next was the assurance of confidentiality; that only employees' supervisors would know they were attending classes. And last but not least, she stressed the flexibility of the CSU instructors, particularly their willingness to make last minute schedule changes.

She also commended the instructors on their expertise in understanding Kodak's culture and their willingness to attend Kodak's other training classes. They said they had wanted to know as much as they could to make their classes a good "fit".

Recommendations. The coordinator stressed that other companies should not treat this program as a separate offering; it should actually be integrated into their regular training offerings. If treated as "special" there is the potential for the program to not appear as part of the investment the company is making in its people. It may also convey the impression that the program is temporary, that it may not be continued. This could be detrimental; individuals are usually more willing to invest their time and energy in a permanent, on-going effort on which they can depend.

The coordinator felt that the tutor-learner strand of the project was not as great as it might have been. The staff left the arrangements and contracts up to the tutors and learners and didn't really "engage them in the process". This was interpreted to mean that tutors and learners could have been more involved in the program. She felt that regular status sessions with the tutor, the learner and the CSU instructors could have been a possible help, and that it might also have helped to involve them in some of the dynamics of the group sessions by establishing a forum in which to bring them together to share their successes.

#### Responses of CSU Instructional Staff

The interview with the CSU instructional staff was a group interview that addressed essentially only two parameters of the

program: what, in their opinions, were the strengths of the program and what would they do differently next time?

Supervisory Awareness Training. The instructors felt this session was important because it provided the supervisors with an opportunity to ask questions in order to develop a common understanding of the purposes and benefits of the program.

Skills Enhancement Center. The instructors described the center and its role in the project. This resource center for students had already existed, but the grant enabled Kodak to purchase materials appropriate to the literacy needs of the employees. The "library" enhanced the employees' ability to engage in self-directed learning. Feedback indicated that the center was used with satisfaction. The instructors took each class to the center; many had never been there before. Kodak made sure that the center was easily accessible and comfortable for the employees; there was never any pressure to return materials; workbooks were often given to employees to keep and share with others in their homes.

Strong Program Characteristics. The three instructors outlined in detail the means by which they ensured the curriculum was designed for the functional context of the job:

Task analyses

Employee needs assessments

Focus groups and training with supervisors to prioritize training needs in terms of importance, frequency, and criticality/immediacy

Utilization of specific job-site materials identified and obtained by the supervisors and, later, by student employees

Individual interviews with supervisors and training staff to become familiar with the nature of the work involved and the expectations for employees.

The result was curricula customized for Kodak, and then again for each learner group. The instructors tried to be as specific as possible, for example, to allow for a particular sample task from the workplace to be worked on individually within a group activity.

Other factors they felt were program strengths included the following:

Incorporation of their previous experience in workplace literacy programs

Utilization of professional resources in the field such as



Carnevale, Phillippi, and government publications such as The Bottom Line

Use of the problem-solving model taught by Kodak in their own training sessions on quality. The process and vocabulary were already familiar to the employees or would be eventually

The identification of a target range for skills needed by individuals to be competent in their jobs. This helped the employees define their skill needs - what they needed to learn

Incorporation of the Learning Discovery Sessions where the changes going on in the workplace and the relevancy of skills to meet the demands of these changes was stressed. Employees' understanding of skills needed in the workplace was increased and their understanding of their own skills was clarified. They also received information on what training that was available to them. Instructors felt that the result was to increase employees' skills for self-directed personal development

Excellent motivation and positive attitudes of participants

Involvement of the Kodak staff who had written the grant: there was no "selling job" that needed to be done in the company.

Emphasis placed on program quality, voluntary participation, and meeting the real needs of learners. The standards of success they began with meant that they would have had to have classes of 20 people. This didn't happen. But Kodak stated that this program was the best attended voluntary training program they ever put on. Thus, it was one of their best successes. This served as a reminder to the instructors that the standards of the education partner are not always the standards of the business partner and re-adjustments in perception are sometimes necessary.

Employees able to attend classes on company time or comp time.

Instructor encouragement of employees to continue their learning. Instructors identified resources and aids for employees to enable them to continue learning after the classes had ended.

Concerns. Several areas that could have been stronger were identified by the instructional staff. Their comments indicate critical reflection of their practice.

They perceived the one-on-one tutoring piece of the program as a weakness. There are over 200 shifts at Kodak and scheduling sessions was complicated. There was no formal set-up for keeping in contact with and coaching the tutor and learner pairs. The instructors made sure they were available to them with phone numbers and E-mail, for example, but the communication just didn't happen. The instructors admittedly put their energy into other parts of the grant.

According to one instructor, the actual coordination of this section of the program would have taken more coordination than would have been cost or time effective.

Scheduling of classes was difficult and several different strategies were tried to accommodate both the work schedules and learning needs of the employees. Instructors tried one or two long days of class time and shorter classes spread out over several weeks. They just "kept working at it" to try to work around employees' schedules. They admitted that, unfortunately, the class configurations that fit best with work schedules were not always the most supportive of the learning process.

During the initial needs assessment when employees were tested on the TALS and TABE, employees were asked to return to the training center for an interpretation of their results. Only some did. The results without interpretations were sent to them in the mail. Later in the program, the instructors changed the procedure and had each employee sign up at the time of testing for an interpretation session. This was much more effective. These sessions were seen as extremely beneficial in climate setting; they reduced the anxiety of the employees, confirmed the skills they already had, and enabled them to talk about upper level training opportunities.

The program didn't really have access to a learning disability specialist as originally described in the grant, primarily because the funds were so limited. Next time, the instructors would consider either not writing in this specialist or would obtain a commitment from the person "up front" for the precise amount of money budgeted.

Testing of employee skills proved to be an area for serious reflection and discussion. The following issues were raised by the instructors during the interview. Is there a need to re-evaluate what educators really want to do in workplace programs? Is there a need to develop something entirely new? Do workplace educators really want to do pre and post testing as is currently done in Adult basic education (ABE)? What else could be used to prove success?

In contrast to testing, the instructors felt that some of the most valuable evidence of learning took place with student "ah

ha's". These happened when students brought in materials from their jobs and then, with the instructor's assistance, for the first time were able to understand them. The instructors considered this aspect of the learning process important because it is these experiences with success that ensure employees will feel good about classes. And they saw this as the final assessment of the real worth of classes.

Criterion referenced tests were examined by the instructors for their pros and cons. The following questions were asked: How easy is it to fall into teaching to the test? Would their use enable the instructors to remain flexible, to change course content in "the middle of the stream" in order to accommodate student needs and interests? They noted that changing the length of class times to accommodate scheduling could affect the usefulness of these tests. Determining the best evaluative efforts for workplace education programs is still a struggle. They stated the need for and type of testing utilized is directly dependent on the amount of accountability desired by companies; this varies dramatically. At least one instructor believes that the need to provide quantitative evidence of student progress seems to be exclusive to the realm of teaching basic skills; the same type of accountability of progress tends not to be demanded for upper level management training.

Recommendations. The instructors suggested that workplace education programs should take advantage of the "good work" being done in human resource development within companies to combine it with the "good work" being done in adult basic education in order to develop new practices for workplace education. This is in reaction and opposition to what they perceive as the current trend of merely transferring practices from ABE to the workplace without a critical examination of their appropriateness or practicality.

The instructors discovered the value of learning from their mistakes; they realized they learned from the negatives that occurred which enabled them to make timely and appropriate adjustments during the program.

## CONCLUSIONS

This section will use the results of interviews and surveys to indicate the extent to which the program addressed the four success factors identified by the U.S. Department of Education in the 1992 publication, Workplace Literacy: Reshaping the American Workforce.

Significant themes pertaining to corporate impact that emerged during the interviews will then be identified.

The external evaluator was struck by the consistency of responses from all project participants. Responses did not contradict each other; they consistently confirmed each other. Perceptions of the program were the same from student/employees, supervisors, Kodak coordinating staff, and CSU instructional staff.

### Success Indicator I: Active involvement by all project partners

The results of the supervisor interviews indicate a high level of involvement and understanding among supervisors. The "Supervisor's Awareness Session" was largely responsible for the understanding of employee needs, for clarification of expectations, and for the continuing support supervisors have given to the program.

The Kodak site coordinator confirmed these findings from her perspective as staff assistant in human resources.

### Success Indicator II: Active involvement by employees

When questioned about their involvement in the program, the employees responded only as to what classes they had taken. If asked, they confirmed that they had been involved in the needs assessment at the beginning of the project, that is they remembered having taken the tests. When asked, they also mentioned they had used the "library" (Skills Enhancement Center). From the interviews and surveys, there was no indication of any other employee involvement in the project.

### Success Indicator III: An analysis of job-based literacy skill requirements

Most of the supervisors, the Kodak site coordinator, and the CSU instructional staff, spoke of the task analyses that were conducted at the beginning of the project. The site coordinator explained the process in detail, stressing the thoroughness of the analysis of needs.

Noteworthy is the range of skill levels based on the TALS tests that the CSU instructors were able to establish - and validate with employees - for the analyzed jobs.

#### Success Indicator IV: Instructional materials related to literacy skills on the job

Without exception, supervisors, employees, the site coordinator, and the CSU instructors provided evidence of the relevancy of instructional materials to the job. Employee responses particularly highlighted the specific skills they were now able to use on their jobs.

A functional context curriculum was the goal of the instructors and all efforts were geared to this end. Based on the developmental process described by the project participants, they were successful. Again, it was the employee comments that emphasized the instructors' interest in determining individual skill needs and in their willingness to adjust their instruction accordingly.

Curriculum and Adult Learning. The instructors' responses provided evidence of the incorporation of adult learning principles in their instruction. Employee responses confirmed this perception. Instruction was learner-centered, problem-oriented, and individualized. There was an emphasis on providing employees with skills needed for self-directed learning; this was particularly evident in the "Learning Discovery Process" described by the instructors.

#### Corporate Impact

As stated by the Kodak site coordinator, the most compelling evidence of the success of this project is that these skills classes, at a slightly higher level of complexity, have been incorporated into the regular corporate training offerings for 1993. Complete "institutionalization" of the program was achieved. Responses gathered during the external evaluation tend to indicate widespread and long-term corporate support.

Supervisors indicated that they are now more aware of employee skill levels and needs; they know that there is a need for this type of class within their company. The Human Resource department is able to state that quality does not diminish when employees take time out to attend classes.

Employees are eager to continue their education, particularly on-site.

The awareness of need and the incorporation of strategies to meet that need are clear evidence of long-term corporate impact of this project.

## Final Comments

The results of the external evaluation clearly indicate that the four program goals of the project were met: a positive climate was established with the corporate environment; workplace literacy needs were determined; a functional context curriculum was developed; and a multi-strand model for instruction was implemented. Employee and corporate impact is clear: the project was significantly effective in increasing employees' skills that are used on the job. This was confirmed by the site coordinator, the supervisors, and the employees themselves.

Based on comments from the site coordinator, the CSU instructors and, most importantly the supervisors themselves, the "Supervisor's Awareness Training" was an extremely important part of the project. The result of this session was the support and involvement of supervisors in "selling" the program to employees, in developing curriculum, and in encouraging the company to continue the training.

Program weaknesses were adjusted for during the program. Ensuring employees an opportunity to receive a verbal interpretation of their test results was a concern mentioned by both supervisors and instructors. Instructors adjusted their practices accordingly to meet this need.

Employee requests for special assistance are being worked on by Kodak staff. It is recommended that employees receive some communication at regular intervals on the status of their requests. This will prevent learners from becoming discouraged.

The only area that remained in need of attention was the tutoring strand of the project. This need was recognized by the site coordinator and the CSU staff. If this component is to continue, it is an area that will need to be supervised more closely.

CSU staff were also able to identify the challenges that still lie ahead for reflective practitioners of workplace education programs; assessment of employee progress and skills was highlighted. And supervisor responses evidenced the difficulties of attempting to link participation in workplace education classes with productivity on the shop floor.

But, as this project demonstrated, significant and observable changes in employees' workplace skills, attitudes, and behaviors are possible as a result of workplace education programs. It is the final recommendation of this evaluator that the models produced by this project be well utilized by all those involved with workplace learning.

Interview Guidelines  
for  
Employees

For Employees Only:

1. Are you going to take any more classes? Where? What are you interested in studying? SEE NARRATIVE

YES: 10 NO: 1

2. Did being in these classes make a difference to you -- about wanting to take more classes? How? Why? SEE NARRATIVE

YES: 9 NO: 1 MAYBE: 1

For Employees and Supervisors

1. What changes are happening in the workplace that these classes have helped with?

SEE NARRATIVE

2. How did you participate in the project? (e.g. took management classes; took math, reading, writing, classes, etc.)

MATH: 6 WRITING: 3 READING: 9

Did you use the library (Skills Enhancement Center)?

YES: 6 NO: 2 UNKNOWN: 3

3. How else were you involved? (e.g. in planning, task analyses, "Learning Discovery" process, etc.)

NO OTHER INVOLVEMENT MENTIONED: 11

4. Did you know what to expect from the program when it started? Please comment.

YES: 1 NO: 10

- 5. Do you feel these classes have made a difference on the job? Is anything done differently now?

YES: 11 NO: 0

6. Did you feel the materials used in class were related to the job?

YES: 9 NO: 2 (1 just didn't bring in materials from his area; 1 was office worker)

7. What other differences have you seen (on the job, in yourself) as a result of this project and these classes?

**SELF-CONFIDENCE, SELF-ESTEEM: 4 NO OTHER CHANGES: 3**

---

8. Do you feel skills have improved? Which ones?

**YES: 11 NO: 0 IMPROVED SKILLS WERE SAME AS CLASS TAKEN**

9. How can you tell these skills have improved? (e.g. by tests; by how they do their jobs, etc.)

**BY TESTS: 0 BY OTHER MEANS: 11**

---

10. Do you have anything else you'd like to say? (Additional Comments)

**WANT THESE CLASSES TO CONTINUE: 8**



Interview Guidelines  
for  
Supervisors

1. What changes are happening in the workplace that these classes have helped with? SEE NARRATIVE

2. How did you participate in the project? (e.g. attended Supervisory Awareness Training, etc.)

ATTENDED "INTRODUCTION" SESSION: 4 TRAINED AS TUTOR: 1  
DEVELOPED MODULE: 1 "SELLING"/COORDINATING: 1 NOTHING:1

3. How else were you involved? (e.g. in planning, task analysis)

SEE #2

4. Did you know what to expect from the program when it started? Please comment.

YES: 3 NO: 3

-----  
5. Do you feel these classes have made a difference on the job? Is anything done differently now?

YES: 5 NO:1

6. Did you feel the materials used in class were related to the job?

YES: 4 NO:1 DON'T KNOW: 1

7. What other differences have you seen as a result of this project and these classes?

SEE NARRATIVE

-----  
8. Do you feel skills have improved? Which ones? SKILLS IMPROVED SAME AS CLASSES TAKEN; SELF-CONFIDENCE

YES: 6 NO: 0 UNSURE IF THIS IS RESULT OF CLASSES: 2

9. How can you tell these skills have improved? (e.g. by tests; by how they do their jobs, etc.)

SEE NARRATIVE

-----  
10. Do you have anything else you'd like to say? (Additional Comments)

SEE NARRATIVE

APPENDIX C  
N = 11

Survey Form  
for  
Kodak Employees

Please rate each of these statements by circling the number of the best answer from your point of view.

- 1 = Strongly disagree
- 2 = Disagree
- 3 = No opinion
- 4 = Agree
- 5 = Strongly Agree

N/A= Does Not Apply

As a result of these classes, do you:

	1	2	3	4	5	N/A	N/R
1. Feel your math skills have improved?				4	2	5	
2. Feel your reading and writing skills have improved?	1	1	7	2			
3. Suggest ideas more often?	1	3	3	3			1
4. Ask questions more often?			1	4	4	1	1
5. Feel better about your job performance?	1	1	7	2			
6. Work better with co-workers?	1	1	8				1
7. Work better with supervisors?	1		7	2			1
8. Want more training?			3		8		

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Survey Form  
for  
Kodak Supervisors

Please rate each of these statements by circling the number of the best answer from your point of view.

- 1 = Strongly disagree
- 2 = Disagree
- 3 = No opinion
- 4 = Agree
- 5 = Strongly Agree

N/A= Does Not Apply

As a result of these classes, do you feel your employees':

	1	2	3	4	5	N/A
1. Math skills have improved?			<u>3</u>	<u>1</u>	<u>1</u>	<u>1</u>
2. Reading and writing skills have improved?				<u>4</u>	<u>2</u>	
3. Suggest ideas more often?			<u>1</u>	<u>4</u>	<u>1</u>	
4. Ask questions more often?				<u>6</u>		
5. Feel better about their job performance?				<u>2</u>	<u>4</u>	
6. Work better with co-workers?			<u>1</u>	<u>3</u>	<u>2</u>	
7. Work better with supervisors?			<u>1</u>	<u>3</u>	<u>2</u>	
8. Want more training?				<u>4</u>	<u>2</u>	

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## APPENDIX E

### PARTNER INTERVIEW GUIDELINES

Note: These questions used with Kodak site coordinator.

Question #6 was the only question asked of CSU instructors.

1. Describe your involvement in the project. Who participated in what activities? Management? Employees?
2. How were the classes designed to be relevant to the job? (task analyses; instructional materials)
3. Has the program improved the literacy skills of the workforce?
4. Have the improved literacy abilities of the workforce improved the productivity of the workforce?
5. How successful was the project in reaching the original goals?

To promote: productivity  
retrainability  
job retention  
job advancement

6. What were some of the most important characteristics of the project that you feel contributed to its successes and failures?
7. How effective was the management awareness training? What results/changes have you seen?
8. How was the needs assessment conducted?
9. What changes in the workplace have you identified that indicated a need for this type of program?
10. Is the program what you had originally expected?
11. What recommendations do you have for a project like this? Especially considering the program will be continued. What changes will be made, if any? What will be the same? How has this project helped you to design this training?
12. Additional Comments