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ABSTRACT

This document presents a model for implementing workplace literacy education that focuses on giving front-line workers or first-line workers basic skills instruction and an appreciation for lifelong learning. The introduction presents background information on the model, which was developed during a partnership between a technical college and an adult education center and two area businesses for the purpose of meeting each business's specific needs: prepare employees for technical changes in the workplace and interdepartmental cross-training; upgrade employees' basic communication and math skills; introduce employees to computer skills and team-building skills; and provide the remedial instruction workers need to attain to pursue additional education. The remainder of the document examines the following components of the model: needs assessment; curriculum development; recruitment and retention; and evaluation of the program on four levels (customer satisfaction, participants' learning gains, participants' behavior change; and the program's organizational impact). Appendixes constituting approximately 70% of the document contain the survey instruments, forms, interview schedules, and pretests/posttests developed for the project's needs assessment, curriculum development, and evaluation phases. Also included are a paper, "Learning Style Inventories: What Can They Tell Us about Developing Workplace Literacy Programs?" (Chris L. Walsh), and a resource list that contains 38 references. (MN)

VISIONS2
Learning for Life Initiative

Workplace Literacy Implementation Model

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INTRODUCTION

One of the many goals of the National Workplace Literacy Grant, VISIONS2: LEARNING FOR LIFE INITIATIVE, is to develop a model for other providers of basic workplace literacy skills. Towards this end, we have taken our experiences from working with over 200 employees at two industries and developed a Best Practices Guide or, as we prefer, "*Workplace Literacy Implementation Model*" for others to use.

Hopefully, those working in the workplace literacy field will find our observations useful. With all the wonderful material written about how to begin a workplace literacy program, we did not attempt to repeat those steps in this publication. However, included in the appendix is a reference list of useful materials to implement and evaluate workplace programs. Also included are resources used in developing curricula for workplace programs. We comment throughout this publication on the steps we employed to develop a workplace program and how they worked or didn't work in different situations. We also put forth some of the problems we encountered along the way and how we attempted to resolve them. Items we developed that are included in the Appendix are marked throughout this document with an asterisk.

"The contents of this document were developed under a grant from the Department of Education. However, these contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the federal government."

BACKGROUND OF THE GRANT

In order to understand the workplace improvement activities surrounding our national grant, it is important to be familiar with the instructional goals outlined in the grant application and to realize the uniqueness of the industrial sites we served. In fact, one of the primary facets of "best practices" is to value the differences between workplaces. To effectively serve workers and the industries they serve is the ability to recognize the differences between work sites and to accommodate instructional, recruitment, retention, and evaluation components to those differences. Flexibility is the name of the game. We as educators and planners must move quickly when things don't work. We must not become discouraged when our literacy activities are curtailed or postponed for company activities. We must not lose sight of the fact that industries' primary goals are to be productive and to produce a product as safely as possible. With those ends in mind, it becomes easier to plan our workplace development activities to serve the goals of the company.

GRANT GOALS: The goals required by the National Workplace grant included:

- Basic literacy instruction for the front-line worker or first-line supervisor to increase productivity, reduce absenteeism, increase chances for promotion, and respond to technological change.
- Appreciation for lifelong learning.
- Instruction must focus on remedial basic skills taught in the context of the job. Formal task analysis had to be conducted to determine the needed skills.

Likenesses and Differences Between Our Plant Sites

Plant One:

Culture

- Located in rural area.
- Fatherly towards workers, a true family atmosphere exists at the plant.
- Viewed the upgrading of basic skills as empowering the workforce.
- Front-line workers are predominantly minority males with less than a high school education. The education level is changing as older workers retire and new workers are hired with the minimum of a high school diploma or GED.

Goals

- To prepare employees for technical changes within the plant and the industry.
- To prepare employees for inter-departmental cross-training.
- To upgrade the basic skills of employees in the areas of communication and math.
- To introduce employees to computer skills necessary for their jobs.

Incentives

- Pay for class time
- Provide Calculators, Measuring Tapes, Notebooks and Tote Bags for classes
- Access to 9 computers for in-class use

Influences on Instruction

- Technology being introduced into plant operations
- Changeover to 12-hour rotating shifts for Production Department
- Voluntary classes attended after work hours
- Top management support (Plant Manager and Human Resources Manager)
- Change in management (Plant Manager and Human Resources Manager)

Plant Two

Culture

◊ Located in rural area only 20 miles from a major city. Many employees commute.
◊ Viewed basic skills support as a good-will gesture to employees.
◊ A younger workforce consisting of minority and non-minority workers, both male and female, with higher education levels than other site.

Goals

◊ To increase skills needed for team participation: i.e. communication, conflict resolution, cultural sensitivity, and problem solving.
◊ To improve basic reading and writing skills of employees.
◊ Remediation of skills necessary for workers to increase their educational levels through GED attainment, technical or college degree.

Incentives

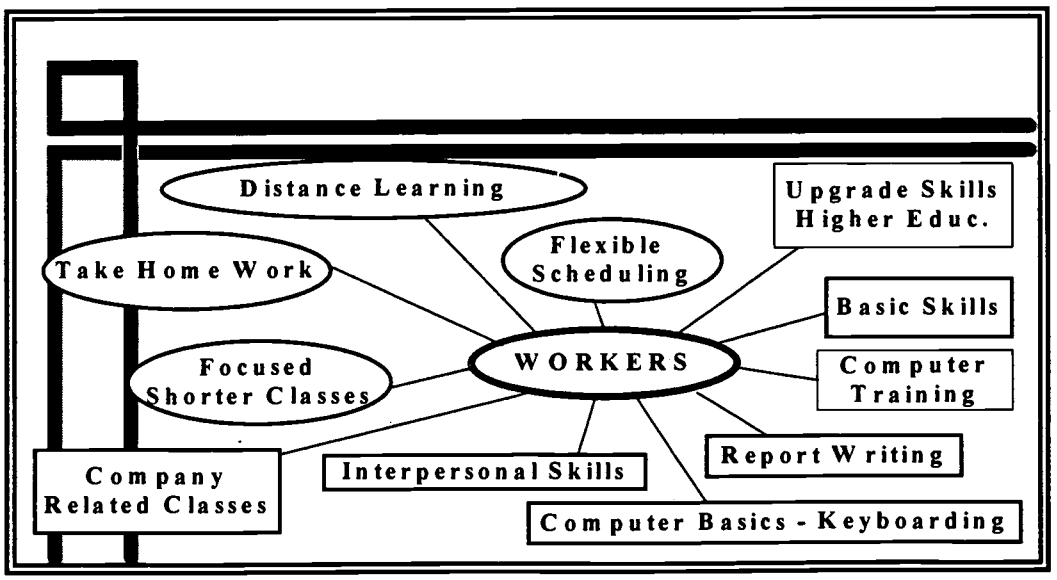
◊ One-half pay for class attendance
◊ Laptop computers for skills practice at home
◊ Purchased satellite dish to take advantage of distance education opportunities

Influences

◊ 12- hour shifts plant-wide
◊ Voluntary classes conducted after working hours
◊ Plant Manager and most supervisors believe employees have appropriate job skills
◊ Purchased by a foreign company - workers given more responsibility & workforce trimmed.
◊ Changes in management (Plant Manager and Personnel Manager)

DEVELOPMENT OF OUR CURRICULUM

Numerous needs surveys were used in the development of our program model. One survey involved personally interviewing all workers at one of the industrial sites. We conducted the interviews due to the lack of response to planned classes. During the interviews, workers told us what type of classes they wanted (represented in the following chart) and when and how they wanted the classes to be taught. They overwhelmingly endorsed an independent study method of instruction so that they could work instructional activities into their busy lives. We also received insight into 12-hour rotating shifts. Workers' requests for instructional activities closely mirror those expressed in the SCANS report.



From numerous meetings with supervisors, managers, and workers, as well as soliciting information by way of interviewing, informal contact, and written needs surveys, we developed a ***Workplace Implementation Model.*** The development of the model took many years to completely formalize, but after much experience, we developed activities we believe are valuable and transferable to other sites. The overall characteristics of our model are described next and are followed by more specific descriptions of activities pertinent to success. Our model could be described as:

Collaborative

→ Interest Surveys*
→ Personal Interviews*
→ Evaluation*
→ Planning teams composed of workers and managers
→ Personal Contact
→ Company Newsletters*
→ Instructors accepted as part of the "team"
→ Involving workers in decision-making related to the classes
→ Workers and management involved in a participatory approach to planning and implementing workplace literacy programs

Problem-Focused

→ New Technology (computers and machinery)
→ Understanding Co-workers
→ New or Expanded Job Duties
→ New Hires
→ Use of Technology (i.e. e-mail , VAX)
→ More Decision-Making by Employee
→ Assuming Leadership
→ Advancement in Company

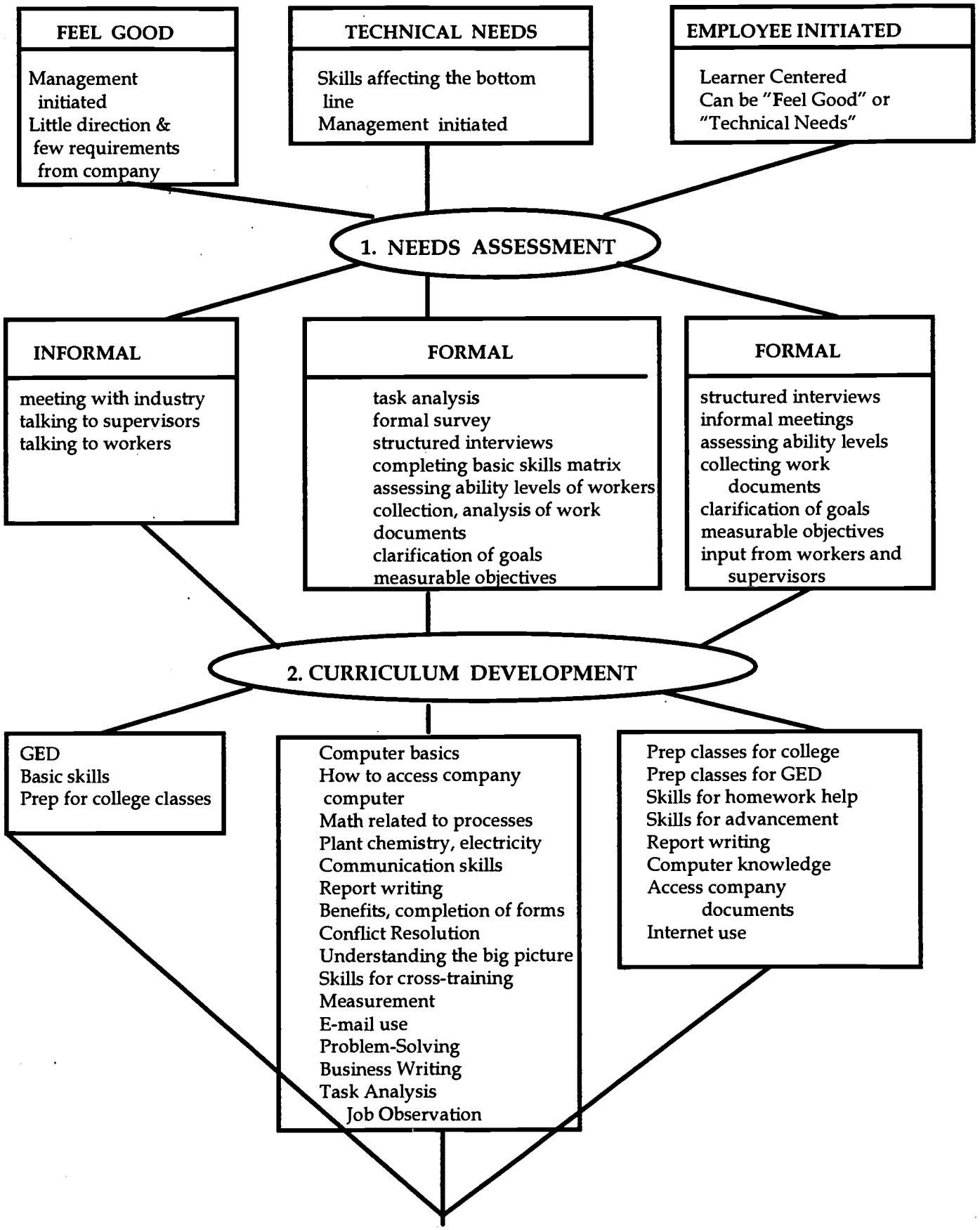
Infusion of basic skills with Information Technology☜

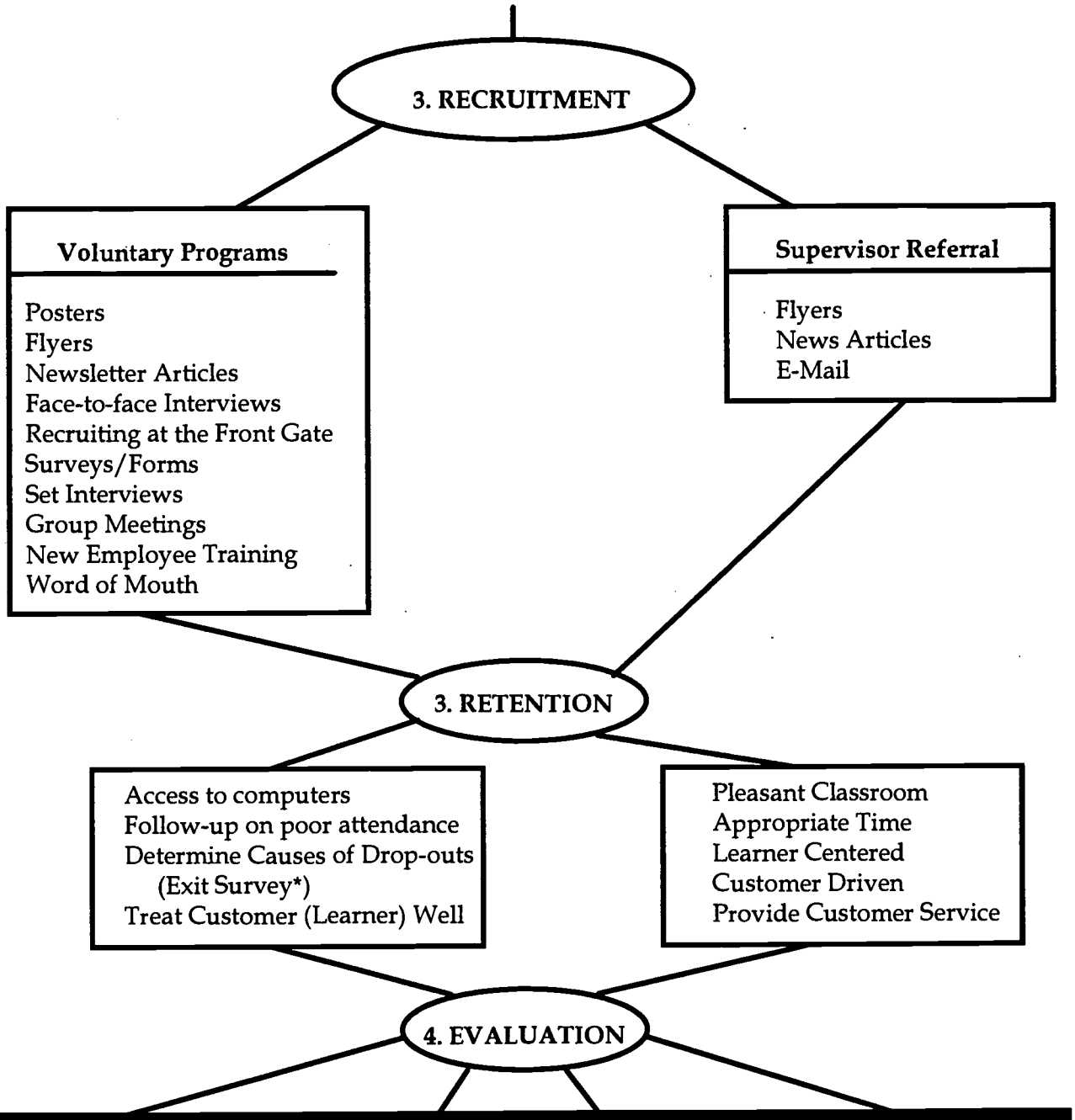
→ Problem-Solving
→ Learning Styles
→ Organizing
→ Planning
→ Communication Skills
→ Computer Skills
→ Working with Others

☜NOTE: These skills were taught individually or infused into learning in context.

WORKPLACE LITERACY IMPLEMENTATION MODEL

Our implementation model is divided into four main areas: ***Needs Assessment, Curriculum Development, Recruitment and Retention, and Evaluation.*** Throughout our grant, we encountered three types of workplace programs: A) *"Management Feel Good"*, a voluntary program where employers choose learning objectives such as GED or basic skills classes; B) *"Technical Needs"* , relating to work processes and productivity and; C) *"Employee Requested"* where the employee initiated the need, such as in computer training, math, prep for higher education, homework skills, etc. The following matrix helps to explain how the components of our model fit together.


FEEL GOOD
Management initiated
Little direction & few requirements from company
TECHNICAL NEEDS
Skills affecting the bottom line
Management initiated
EMPLOYEE INITIATED
Learner Centered
Can be "Feel Good" or "Technical Needs"
1. NEEDS ASSESSMENT
INFORMAL
meeting with industry
talking to supervisors
talking to workers
FORMAL
task analysis
formal survey
structured interviews
completing basic skills matrix
assessing ability levels of workers
collection, analysis of work documents
clarification of goals
measurable objectives
FORMAL
structured interviews
informal meetings
assessing ability levels
collecting work documents
clarification of goals
measurable objectives
input from workers and supervisors
2. CURRICULUM DEVELOPMENT
GED
Basic skills
Prep for college classes
Computer basics
How to access company computer
Math related to processes
Plant chemistry, electricity
Communication skills
Report writing
Benefits, completion of forms
Conflict Resolution
Understanding the big picture
Skills for cross-training
Measurement
E-mail use
Problem-Solving
Business Writing
Task Analysis
Job Observation
Prep classes for college
Prep classes for GED
Skills for homework help
Skills for advancement
Report writing
Computer knowledge
Access company documents
Internet use



Level One	Level Two	Level Three	Level Four
Student feel good	*Assessment of Learner*	*How worker applies*	*Change in productivity, attendance, attitude*
Student Evaluation*	Pre/Post Testing*	Follow-up survey*	Supervisor - Pre/Post Survey*
Supervisor pre/post Evaluation*	Self Performance Evaluation*	Anecdotal information	Interviews with Management
Interviews with Management	Portfolio	Supervisor - Training Effects on Department Form*	Company Records

The rest of this report contains information on the four areas of the Workplace Implementation Model that worked, did not work, or were not attempted because they did not fit at that particular work site.

1. NEEDS ASSESSMENT

Effective needs assessment should include:

- Asking managers/supervisors what changes in performance they would like to see.
- Asking learners (workers/team members) what they want/need to learn.
- Looking for commonalties across departments that may give wider appeal to classes offered. See examples of Chemical Department Basic Skills Matrix* in the appendix.
- Observing workers performing their jobs. Looking over the paperwork that gives instructions and safety information about their jobs. Asking workers how they use the forms and other documents on a daily basis.
- Considering needs assessment as a continual process.

Plant One Instructor Comments: Informal Needs Assessments occurred throughout the grant period in casual conversations with employees. One of the best forms of needs assessments has been a structured informal conversation at the end of the last class in a series. During this chat session, I have a list of questions that I ask as we discuss the class and future offerings. Students also have a chance to write their comments about the present class or recommend future classes on the comment sheet of the Student Evaluation of Instruction.

A plant-wide Needs Assessment was performed before a summer series of workshops relating to suggestions the students had given to the instructor as to classes they needed.

Performing job task analyses helped break barriers with workers. I operated an overhead crane, stood knee-deep in muck in the quarry, and walked on roofs to view repairs. These and other daily activities of the workers caused me to be viewed as someone different from an academician here to tell them what they did not know.

Interviews with the supervisors have been very successful in uncovering some of the training needs that presented opportunities for class development. Planned meetings with upper management also pinpointed some of the directions for professional development that were able to be made plant-wide. Basic skills classes can undergird training and make it more viable. By talking with management about the importance of preparing workers for plant-wide training sessions, we enlisted their support for classes.

Plant Two Instructor Comments: A Needs Assessment Survey was given to all of the plant employees. By far, the greatest amount of information for classes was gleaned from informal conversations with workers and team leaders during lunch and other break times. My office was conveniently located near the lunchroom/breakroom and everyone felt comfortable just "dropping in" to chat. These chats kept me up on what was going on in the plant and many training opportunities were the result.

In order to address the training needs of the plant and give every worker the opportunity for personal input, we conducted private interviews with each worker. The interesting result of this process was that in reviewing the results, the needs expressed by the workers paralleled the SCANS report.

2. CURRICULUM DEVELOPMENT

At both plants:

- Use of authentic materials
  - departmental documents
  - manuals, handbooks
- Based on Needs Assessments
- Lessons mirror job activities
- Learner-centered
- Confidentiality of learner is of utmost importance
- Get documents by hook or crook

Plant One Instructor: Most of the curriculum was developed by the on-site instructor with input from supervisors, managers, and workers. An external curriculum developer was used to produce one course that related chemistry with plant operations. A course requiring electrical expertise was developed by an electrician with an industrial background. A purchased workbook was used to introduce electrical theory and practices. The instructor related the information to plant activities and developed hands-on experiments corresponding to the concepts being taught. The class was the result of a collaborative effort between the on-site instructor, grant project director, workers, supervisors, management, and the electrical instructor.

Seven workshops were developed in response to a needs assessment. The on-site instructor compiled information for the workshops from a variety of sources including materials from other national workplace sites. One of the grant educational partners provided the instructor and materials for one workshop. The Business Writing workshop was facilitated by the English Department Head of the technical college with input from workers. The other topics facilitated by the on-site instructor were: Communication I, Communications II, Learning Styles, Self Esteem, and Reducing Stress.

Plant Two's approach reflected the needs of that workplace: Employees on higher skills levels wanted to prepare for post-secondary education. The on-site instructor developed "Jump Start" classes to prepare for entrance testing and to increase basic math, reading, and writing skills related to college entrance testing. Test-taking skills were stressed.

Interviews showed workers wanted an individualized approach to classes that would allow them to come when they were able, rather than have classes on scheduled days. The Instructor developed an individual plan of study for each employee and organized a learning resource and computer room. The instructor also developed resource materials to cover a wide range of requests from how to write a good report to how to access e-mail and plant documents on the computer.

The company purchased laptop computers for at-home use by workers. Also, employees used the computers in the resource room. A self-paced instructional book developed by the instructor lead them through the skills needed to perform job-related computer operations.

3. RECRUITMENT & RETENTION

We combined the topics of Recruitment and Retention as we found these areas closely related. Various methods to recruit and then retain students were used throughout the grant period. Because of 12-hour rotating shifts and the fact that classes on the most part were voluntary, workers found it very difficult to commit to classes. As a result of poor participation, workers were interviewed to find out their needs for classes. One plant wanted a majority of individualized instruction or short classes (no more than 12 cumulative hours). When we responded to their needs, time spent by workers on improving personal basic skills or job skills increased. Our biggest problem was in recruiting students, rather than in retaining them. Because of 12-hour rotating shifts, we limited the length of classes. We kept records on why students dropped out of classes. Those reasons included: not enough personal time to commit to classes, pressing family duties that needed to be conducted during their days off, and the need to rest after working 12-hour rotating shifts. When enrollment dropped during the grant, a brainstorming meeting was held by the grant staff and the following list of recruitment/retention strategies were gathered. Personal interviews with over 200 employees were one of the suggested activities planned to increase interest in classes. Each instructor comments on the workability of the proposed activities at their particular job site.

Recruitment, Retention, and Building Internal Program Support

PRACTICE	EFFECTIVENESS	
	Plant One	Plant Two
Introduce the project at new hire orientation	This was done for the first year and one half. Effective in bringing in some new students. Since the change in management this has not been done.	Company HR personnel include information on VISIONS2 in new hire orientation.
Mail project correspondence to potentially interested employees	I have not used the mail. I found that personal contact is more effective.	In-house mail used to alert interested employees when classes begin.
E-mail information about the project company-wide	Not all employees have e-mail access. I use e-mail to keep in touch with supervisors that are not on shift while I'm here - this has been very useful.	E-mail is not available to many of our target market.
Market the program by using a variety of visual items	In addition to the above, I have a page in the plant bi-monthly newsletter.* Upcoming classes & mind puzzles are featured. The mind puzzles have generated discussion and interest in class. The newsletter has been an effective & viable means of communication.	Bulletin Boards, Company Newsletter, Flyers, and Brochures have been employed.
Devote a prominent bulletin board to the Workplace Learning Project	Space in the plant is limited, therefore I use the common boards in the lunchroom & departments.	Company has designated bulletin board in main hallway for VISIONS2 use.

Use the brown bag workshop approach (takes up little time)	Did not use the "brown-bag" approach. However, I did use 2-hour workshops and found this format very effective.	Orientation sessions for classes were held on four successive Wednesdays to reach all shift & day workers.
Provide information kiosk at employee entrance & exit	There is no common entry/ exit & limited space within the plant. There is a table & bulletin board space throughout the plant.	The bulletin board in the main entryway was available for posting notices.
Attract people to the information: i.e. Popcorn Day	The plant gave out apples at the start of the program to emphasize learning programs. This was done at a plant-wide meeting to introduce me, the program, and create interest.	VISIONS2 had space at the Annual Health Fair. We emphasized reading materials dealing with health & stress management.
Encourage individual department meetings regarding workplace learning	I have been asked to speak at department meetings in every department. These structured & often informal meetings have been effective ways to get out information.	One department invited grant staff to several meetings. Others held meetings at irregular times and intervals and never got around to including us.
Establish one-to-one recruitment either by the company, project representative, or preferably both.	Initial fears were overcome in small group meetings within departments & one-on-one contact initiated by the employee. I spend time in the lunchroom during breaks and lunches - this has been a good recruiting tool - a casual & relaxed atmosphere.	The instructor was very successful at recruiting students while "sitting around" in the breakroom during lunch and other break times. Most of our Independent Learners were recruited in this way.
Conversing with employees	Talking one-on-one with employees has been the most effective recruitment & retention tool. Keep it casual and relaxed - don't pressure people into committing unless they are ready.	Lunchroom and hallway conversations have been fruitful ways to recruit new students. The Instructor has an open door policy for all team members.
Visit throughout the plant	I make a habit of spending time each week in some part of the plant. This keeps me visible & serves as a recruiting tool. I also learn what is going on and class ideas have come out of these visits.	This is a little more difficult than sitting in breakrooms. The nature of our product (food related) and the small efficient workforce makes this an intrusion instead of a visit.
Structure For Success In Your Particular Environment	**EFFECTIVENESS**	
	Plant One	**Plant Two**
Designate someone to work on "buy in" daily at an operation level	The former personnel manager was one of the best cheerleaders we had. Her enthusiasm for the cause was contagious.	Some supervisors (mostly women) took on as a project to sell; others simply regarded us as a "one more distraction" in the workplace.

Establish Workplace Learning's physical presence in the facility	Having the instructor on-site daily has been most effective in establishing this physical presence.	Was done through establishing an office for the instructor and designating a nearby room as a computer & resource room.
Set up a check-out system for books, videos, etc.	We have no formal system. Yet several students have requested to borrow books or videos and they are welcomed to do so. The honor system has worked , so far only one book is missing.	The checkout system has been very successful. Textbooks, novels, reference books, computer manuals, and magazines have been loaned to individuals throughout the plant.
Provide alternative ways for students to participate in classes, i.e. videos	We video taped the electricity classes and students checked out the videos for make-up. The company paid students for their make-up time watching the 2-hour video.	We really tried! It may take a generation or two to get us to a good place with "distance" learning. The company bought a satellite dish from the ETV network so GED, college classes, and manufacturing training could be received at the plant. We've had only moderate success as only 6 or 7 students have used it.
Develop an awareness of the cultural differences and its implications among instructors, fellow employees, and supervisors.	There is a family atmosphere at the plant. Many employees have been here since it opened and while all are aware of diversity, each person is treated like a long-time friend.	NA
Make and keep a promise of confidentiality for students.	As educators, confidentiality is the soul of our credibility. If we allow ourselves to "tell tales out of school" and gossip about students - they won't be back in class & our credibility goes down the tubes.	While this was not the big issue we expected it to be, we discovered a handful of employees who needed reassurance. The promise of confidentiality did convince some to participate.
Target particular employees who have potential	I have encouraged some personnel to take particular classes & some supervisors have encouraged enrollment.	Except for a few team leaders who embraced the project, very difficult to do without total commitment from a supervisor.
Offer paid release time for classes or flex- time	Front-line supervisors were allowed to flex class time. Most training was after work hours.	For required classes: Meeting times were scheduled as a part of the normal working day or as required overtime.
Schedule classes properly for employees to attend	The switch to 12-hour shifts for the production department necessitated new scheduling. The offering of short classes or workshops has been the best way to work around this monster. The prod. dept. works 8-hour shifts two days a week - our window of opportunity!	Independent learning opportunities were developed for employees due to their 12-hour rotating shifts inhibiting employee participation. Personal matters prevented many from coming in on their days off.

Plan class time around work schedules being inclusive of all shifts	This has been the biggest challenge. We scheduled classes on a rotating basis to allow for rotating shifts.	Independent Study and Resource Room requested by employees.
Plan for Supervisory and Management Support	**EFFECTIVENESS**	
	Plant One	**Plant Two**
Include supervisors as part of the advisory team because they are strong leaders	Supervisors were a part of the advisory team in order that they have "buy-in" to the program and therefore encourage their crews to participate. This has been a great influence on the program. I seek them out for input and ideas. I also seek & receive input from the front-line worker as they are the true experts in their field. This combined insight has been a valuable commodity.	An advisory team was set up early in the grant period, but was dismantled when changes in human resources managers occurred. Personal contact with supervisors or "team leaders" have encouraged some of them to promote classes to those they supervise. This contact also serves as a conduit for new class opportunities.
Have supervisor provide employee with initial overview of the program	In some instances this could backfire. I prefer to be the one giving the initial information to employees.	Independent, voluntary approach doesn't utilize this approach.
Create manager support of the project, not only at the top, but the direct managers of the employees whom we would like to participate	The support of the managers has been valuable. They have provided information and class ideas. The chemistry and electricity classes were a direct outgrowth of conversations with the plant manager. Other managers provided time & support by allowing me free access to their areas.	Attempted to do by personal contact with managers. Some were interested; others were not. The best example of middle manager support came from those who participated as students themselves and recommended classes to their department based on personal experience.
Provide supervisor's a beginning orientation program to explain workplace literacy - i.e. class content, schedules, scope of program, adults as learners, confidentiality, task analysis, etc.	The instructor's and Project Director developed a booklet of information for supervisors. We then set up and conducted orientation sessions at both plants for front-line supervisors, team leaders, and management.	An supervisor orientation program was held at the beginning of the grant and information packets were distributed.
Strengthen Instructor links with the Company	**EFFECTIVENESS**	
	Plant One	**Plant Two**
Create high visibility of the instructors at the company (i.e. earn the trust of the employers)	Wow! Being on-site increased my visibility both with workers & management. Employees often drop by my office to talk. I also make weekly visits in the plant.	The instructor was introduced in the company newsletter and visited each department to introduce herself to managers. The most success with workers came from regular visits to the plant's break areas.

Build in Rewards for Learning	EFFECTIVENESS	
	Plant One	Plant Two
Have an employee recognition event.	We have not had such an event for the grant program.	Most employees preferred to keep skills needs private and preferred not to be recognized.
Celebrate the project in company and community publications	In addition to the full page in the plant newsletter, the program was mentioned in a company-wide publication at the start of the grant. There was nothing in the local news about the program, but once locals meet me, they know about me.	Company did not stress the importance of classes, however education was stressed in several departments. Company gave me permission to include articles in their company newsletter.
Provide incentives and rewards at work	Employees received $10 an hour. The company provided tote bags, notebooks, calculators, tape measures, and refreshments for classes. Several participants have received promotions. One employee told me that I got him his promotion and he thanked me for it. I asked if I got a percentage of his raise - he told me to take it up with his wife!	Very little or non-existent.
Tie classes offered to advancement and/or lateral job opportunities	One of the company goals is to cross-train employees. The number of promotions shows the company values its employees and acknowledges their growth.	Flat organization; little room for advancement.
Establish pre-approved tuition reimbursement based on participation in college courses	The company provides this incentive and has for years. Employees are encouraged to take advantage of this program.	The company already had a 100% reimbursement plan in place. We used this as an recruiting tool for our "Jump Start" classes. (Prep for Post-secondary education)
Help employees work for a goal	Goal setting was a new skill for many employees. It was a valuable lesson learned as long term and job-related goals were set and met.	Several of our Independent Learners were working toward GED's. The company gave a $50 saving bond as a reward for successful completion.
Make classes relevant for students	Employees would not come to classes if the content were not relevant! A superintendent informed me that one of his employees thanked him for strongly recommending a class by stating, "That was the most useful class I've ever attended." I was shocked because the student complained the whole class period about attending.	Interviews with each employee and student enabled us to include instruction that was targeted to that student's individual needs.

Strengthen Peer Support	EFFECTIVENESS Plant One	Plant Two
Create an awareness of the progress of peers/co-workers to help others become interested on participating	The recommendation of peers is the highest form of praise for a program.	We respected the privacy of our students as they requested, however some students passed on information about classes to their fellow workers.
Support Supervisors in Creating a Learning Climate	**EFFECTIVENESS Plant One**	**Plant Two**
Encourage immediate supervisors to support the employees	Supervisor's support of programs and employees has never been a problem. It is one of the assets of the program.	Instructor continually conversed with supervisors about the content of classes.
Acknowledge participation by supervisors and managers	Supervisors and managers have been very supportive. They receive monthly progress reports and weekly attendance data.	Supervisors received monthly reports of activities and progress.
Link Workplace Essential Skill Training to Other Training	**EFFECTIVENESS Plant One**	**Plant Two**
Provide access to computers in classes (i.e. use computers to deliver basic skill training)	There are nine 486 computers for use with classes. Computer use is an integral part of the class as it has become a basic skill in a company that is automating. We also use computers for basic skills remediation in math and for business writing. The computer has always been a vital piece of our program.	We developed a writing class for the computer. Everybody called it "Computer Class", yet the content was writing skills. Employees also had access to "Skills Bank", computer material on Algebra, Math, Chemistry, & Keyboarding to sign out and use as needed. Instructor also provided additional support and coordination.
Link literacy to team building and decision making	All classes are participatory & team-based in nature. Open decision making is encouraged.	Two departments particularly stressed literacy skills to increase team skills.
Structure the Program with Rewards, Recognition, and New Opportunities	**EFFECTIVENESS Plant One**	**Plant Two**
Develop a plan to reward (compensate) participants across the board	Other than the pay for class time, there are no other monetary/rewards offered.	No across the board rewards. However, $50 savings bonds were given to workers who received their GED.
Create high visibility of class participants & their success throughout the company. Get them in front of their peer group, i.e. recognition at meetings, award ceremonies, etc.	Certificates of Completion were given by the project. Classes such as: Basic Cement Chemistry, Basic Electricity, & basic computer classes have given a different light to the program & removed the "LITERACY" stigma.	Not a popular request at this company. Many individual employees wanted help with writing and didn't want their supervisors to know.

4. EVALUATION

The last component of our model is evaluation, however, evaluation components were developed at the beginning of the grant. The instructors and the project director answer the question, ***"How do we determine our overall effect on workers and the workplace --what determines our worth?".***

Plant One Instructor: We conducted pre and post supervisor evaluations of effectiveness on employees, however, I best determine the effect on individual workers by their personal comments. They tell me when they buy personal computers because of instruction we have offered in this area; when they receive job promotions as a result of being in our classes; when they express the satisfaction of learning a skill such as using a calculator for the first time and can use it to make them better consumers; and the joy of applying their newly learned skills on the job and in their personal lives. One of our participant who retired in 1995 recently came to visit and brought me a card inscribed, "From your student who retired from the job but not from learning." I can only hope that more of my guys feel that way!

At the end of every class and workshop, participants complete an evaluation form that includes space for personal comments/recommendations. Pre and post test scores are reported to management in a blind report that shows a comparison of scores and gains made.

Plant Two Instructor: Because the organization in the plant is flat and there is little room for promotions, there is very little chance for workers to advance at the plant. However, one employee was able to receive a promotion after taking a math course. He then passed a math test required by the plant. Five students enrolled in higher education as a result of participation in the classes. Overall, workers who were initially dependent on the instructor for help with writing reports, have gained confidence in their writing and now ask the instructor to proof their reports instead of helping them with construction and development. There has been increased interest in checking out the laptop computers for home use. More employees are interested in the Internet and are asking for information on various topics. Assess to information has certainly increased.

Project Director: We use the various evaluation components mirroring Kilpatrick's four levels of evaluation. Comments made by the students on their evaluation sheets indicate that they see the value of their classes. Many comment their classes were not long enough, even though they have expressed that because of their shift schedules, they are unable to commit to long- term classes. When they commit to a class, whether it is required by the industry or whether they have sought out the class itself, if the class mirrors a real and immediate need for the employee, the value of the class becomes clear to the learner. It is also of great satisfaction to see a supervisor rate an employee on higher levels (productivity, attendance, and attitude) as a result of involvement in our program. Increases in productivity are harder to measure for a voluntary skills improvement program, because not enough workers from any one team or line volunteer to attend on their own time.

The following chart has comments from the two instructors about various forms of evaluation according to Kilpatrick's "Four Levels of Evaluation". We wanted not only to look at course evaluation, but also to identify our worth to the company and the worker.

Four Levels of Evaluation - Comment Sheet

1. *REACTION* (Customer Satisfaction) In level one we are assessing the effectiveness of the instruction for our students.
2. *LEARNING* (increase knowledge, skills, or attitude) In level two we measure before & after knowledge, skills and, attitudes.
3. *BEHAVIOR* (extent of transfer of learning back to the job) In level three we look at how the knowledge, skills, and attitudes transferred to job improvements.
4. *ORGANIZATIONAL IMPACT* Level four looks at the quality, safety, sales, costs, profits, and productivity results that the company benefits as a result of training.

The Four Levels & Application Examples	Usefulness	
Level One (1) Customer Satisfaction	**Plant One**	**Plant Two**
Student Evaluations*	We used student evaluations with each class & workshop held. Negative comments dealt with the comfort level of the room or chairs.	Used at the end of each class. Responses are predictably in the excellent and good categories. We get few comments about how to improve a class.
Employer Satisfaction Form*	This form was useful in assessing management perceptions.	Management completed this form as a matter of "have to" and not much thought went into comments.
Interviews	The most useful information I received was from informal conversation (interviews) with participants.	Informal conversations tend to give the best information about what participants think about training or what they want from a class.
Surveys	Course participants complete an End-of-Course Survey. This provided information about job promotions & buying home computers.	Surveys for Independent Learners were difficult to collect.
Level Two (2) increase in knowledge, skills, or attitude	**Plant One**	**Plant Two**
Standardized Tests	Attempted to use Wonderlic Test but failed due to lack of company support. The most effective testing was the pre/post test given with each course to measure growth outcomes.	Most useful when training is over a long term. As they may give a measure of general increases in literacy but do not indicate mastery of specific material.
Pre/Post Assessment*	Very useful in assessing the growth of participants as a result of training.	Helpful in determining whether class content has been learned.

Simulations/Demonstrations*	Have found this most useful in assessment of computer skills & electricity demos to show skills acquired through training. Also used to demonstrate the use of tape measure and calculator use.	Appropriate for manual tasks, such as use of gauge in measurement class, or the locating of information on the computer network.
Observation	Supervisors report that they have observed workers using more initiative to solve problems on the job and making decisions without seeking out the supervisor.	Very difficult to observe workers on the job due to the nature of work done at the plant. Independent students working in the resource room could be observed improving their skills.
Document Review	Writing sample portfolios show participant progress even when the participant feels they aren't making progress.	Portfolios of written work give clear examples of progress made on specific tasks.
Student/Instructor Self Report*	In the computer classes we used a self-report pre/post checklist that the Plant Two instructor developed. This method worked exceptionally well as it allowed students to assess their personal growth. I feel that this gave an honest insight to the relevance that the classes had in relation to their work.	Classes that incorporated the use of computers for accessing and using workplace documents had two separate goals and two measures of outcomes: 1. Building skills in locating & using the information can be evaluated by questions answered from the located information or demonstration. 2. For gains in computer use to access information, we used self report pre/post check sheets. Fairer than testing on information & skills that are new to learner.
Level Three (3) transfer of learning back to the job	**Plant One**	**Plant Two**
Student Reports*	We developed a Follow- up Student Survey for the Summer Seminar Series. This went to learners after the training & no one responded; successive attempts to gather information proved fruitless.	Formalized reports are difficult to collect from independent students, however individual students report orally to me how they are using their new skills on the job.

Supervisor Reports*	We developed a Supervisor Report of Effectiveness for periodic use. This was useful as it made supervisors take a serious look at workers & at the training provided. This enhanced supervisor support of classes. Supervisors rated workers using a Likert scale.	Only two supervisors completed their Report of Effectiveness Forms.
Surveys*	Our Supervisor's Report on Course Effectiveness worked in tandem with the Student Course Evaluation.	Not utilized.
Interviews/Focus Groups	Attempted but never took off due to lack of time allotted for meetings and work schedule conflicts. Plan to interview individuals before grant ends.	The project director conducted interviews with supervisors and participants..
Instructor Reports	Supervisors receive monthly reports of course progress.	Supervisors receive monthly reports of course progress.
Observation & Anecdotal	Observation gives useful information that coupled with anecdotal information often provides the "true" picture. For instance, in the last year of the grant the top two management positions changed. The new management supported the programs but saw us as "on the way out" & they had their own plans for training.	Anecdotal reports tend to tell the real story. This information was acquired from conversations in the cafeteria or hallway, casual comments from a supervisor, or an "Oh, by the way" comment from a manager or co-worker.
Performance Review	Performance reviews were confidential documents within the Human Resources Office and were not accessible for our viewing.	Performance reviews were confidential documents within the Human Resources Office and were not accessible for our viewing.
Level Four (4) Organizational Impact	**Plant One**	**Plant Two**
Company Data	The best example is the number of course participants that have received promotions and transfers.	No specific measures are in place for Level Four. The company never articulated goals for improvements in attendance, waste reduction, etc. Too much was left up to the individual worker.

Interviews	Interviews with managers and supervisors have been useful and informative throughout the grant period.	Informal conversations show that there has been some notice of selected individual progress.
Surveys	The Employer Satisfaction Form is one way of getting input from management on their perceptions of the program.	Very hard to measure overall organizational impact for independent workers.
Focus Groups	The Focus Group for the end of program has not been held at this time.	Not employed.
Observation	The Supervisor Evaluations and comments have shown that class participants are showing an increase in effectiveness at work.	Supervisors and instructor have observed that workers are now completing various job tasks without assistance.

LEARNING STYLES RESEARCH

One of the goals of our national grant was to conduct research that would aid other workplace instructors in developing programs for industries. The VISIONS staff decided to focus on learning and communication styles for several reasons: to increase our effectiveness in the classroom, to increase communication in the plants, and to use as a recruitment tool for classes. A description of our study is included in the appendix. The instructors comment on how they used the learning styles survey and the results of the research on learning styles:

Plant One Instructor: The Learning Styles Survey (C.I.T.E.)* was administered plant-wide to 109 employees. There was much interest in the results and presentations were made in each department to explain the interpretation of scores. A workshop was conducted to further explain learning styles, but it was lightly attended, due to the fact that presentations about the results had been made previously in the different departments of the plant. We received many positive comments about the usefulness of the presentations, as front-line workers and supervisors understood why they were having difficulties communicating. A real understanding of how individual differences affect communication spread throughout the plant. Several employees asked for copies to take home and administer to their families. They brought back the results to the instructor for more discussion.

Plant Two Instructor: The Learning Styles Survey was administered to several work groups for the purpose of helping the members better understand themselves and their co-workers. These presentations produced comments such as "No wonder you asked me to explain it to you again", and "Now I know why it bothers me so much when so-and-so does that." Using a group profile* to capture the group members' scores allow comparisons to be made among group members in a controlled, agreeable atmosphere.

The Learning Styles Survey was also administered in each class to make learners more aware of their own preferences in addition to those of their classmates. A class profile was prepared and discussed. The profile and discussion allowed learners to recognize their weaker modes of learning so these modes could be worked on and strengthened.

The management team at the plant took the Learning Styles Survey as part of our study. One major result of comparing the management team scores was to realize that the plant manager was strongly auditory and group, while all of the personnel who report to him were visual and individual. Knowing the manager's communication style helped several of the middle managers change their method of reporting to the plant manager. Instead of presenting a long written report through interoffice mail, they now deliver the report in person and affix a short summary as a cover sheet. The new method of communicating gives both parties the chance to communicate in their preferred mode.

Many team members requested Learning Style Inventories to take home to their families. Their request told us that they found the information about styles useful and accurate.

Use of the learning styles research

Plant One Instructor: The research has made me more cognizant that the kinesthetic mode needs to be addressed in training in order to reach a large portion of our audience. By making instruction more hands-on, we are making it more relevant to our audience and thus transfer of learning occurs. Our research identified the Audio/Visual/Kinesthetic (AVK) style as prevalent. An interesting aside is that both instructors tested AVK while the project director is visual linguistic - this helped in our own internal communication and teamwork.

Plant Two Instructor: The learning styles research has been useful to me in my teaching. I have used the information to develop new teaching strategies. I intentionally use an eclectic approach in teaching a class. This approach is easy and very natural for me since my own learning style is auditory/visual/kinesthetic. Since life does not cater to learning styles, I believe it is important to acquaint learners with many different styles of teaching. As long as learners are catching on to the material, this method works fine. It is when a learner encounters difficulty that knowing his or her preferred style is important. I flip to the preferred style to help the learner get the concept, then attempt to explain it again in another style and have the learner explain it back to me. Target teaching in the learners preferred style makes the learning happen faster and hopefully makes the new concept click for the learner.

INSTRUCTORS ANSWER QUESTIONS ABOUT WORKPLACE EDUCATION

How can we get information on our effectiveness to the company so that they will support us?

Plant One Instructor: This is a tough one!!! It doesn't seem to soak in when top personnel hear favorable comments.

Plant Two Instructor: Delivering classes that address workplace needs gets a manager's attention! Without clear connections between instruction and performance requirements, there is no hard measure of effectiveness or success.

What are the most effective programs?

Plant One Instructor: Some of the "soft skill" workshops were the most well-received, yet probably not the most effective because there was no follow-up on the job and workers didn't see the value of the skills. However, the most effective by comment has been the Using Computers at Work, Pre MaC classes (MaC is a maintenance program that requires workers to track their activities on computer versus the old paper and pencil routine). Participants are gaining useful preparatory computer skills that they know they will be using on a regular basis once the MaC program is installed.

Plant Two Instructor: Most effective are those programs that have specific, targeted instruction delivered over a short period of time--six to eight hours of instruction over a period of two to three weeks, instead of a 40 hour, ten week class. Instruction should address real immediate needs for the company and its employees.

How do we get workers involved?

Plant One Instructor: Workers need to feel that they are getting something from the training that translates back to their job. But they also need to deeply feel the need for training. Case in point: there were some recent job openings within the plant and new standards called for a GED or High School Diploma for the positions. Workers that had been temporarily filling the positions were not qualified because they had not finished high school. For years, the former Plant Manager and Personnel Manager had told employees that a GED or High School Diploma were crucial for promotions. Over the last three years, I couldn't force three employees into a GED class, now they are calling me and asking for such classes.

Plant Two Instructor: Three elements are needed for worker involvement: total management support, basic skills and training integration, and mandatory attendance in classes.

Project Director: Getting workers interested in coming to classes on their own time when they work such long hours has been a challenge. We do extensive needs surveys to determine what classes are needed. The most successful classes in terms of attendance and relationship to the job are classes which have management support and collaboration. Many hours of meeting with supervisors goes into developing a course of this nature. While not always requiring workers to attend, management sends the message that the class is important to the workplace and to the workers' success at their jobs. Some courses have been required and although the worker may initially complain, they come to recognize the significance of attending class. Other courses which have been developed because of worker input have been successful if they are short and focus on a specific problem. Courses of long duration, such as improvement of reading and math, are not successful and have high dropout rates.

How best to reward or recognize students?

Plant One Instructor: At the least, students should be recognized with a Certificate of Completion.

Plant Two Instructor: Workers are best rewarded when they learn what they expected or needed to learn. Recognition is another matter. Certificates, pictures on bulletin boards, stories in newsletters are good ways to recognize those who wish to be recognized. Surprise recognition may backfire, bringing unwanted attention to a reluctant or shy learner. Also, some workers prefer to keep their skills inadequacies to themselves.

What do you think is the state of basic skills in your plant?
Plant One Instructor: They have improved since the beginning of our grant. However, I believe there is an awakening of sorts in the making. Recently, several employees were passed over for promotions in their departments because they did not meet the minimum education requirements (High School or GED) for employment. Promotion of others who have these requirements has awakened an interest in those who lack education to come forward and increase their skills. Currently, skills needs in the plant are increasing as workers need computer knowledge to report and retrieve data. Promotions now are posted with specific job skills requirements including the educational level requirement.

Plant Two Instructor: I hear few complaints from team leaders about basic skills deficiencies in the plant. At times there are isolated cases about skills deficiencies of older workers. These deficiencies are covered by the lead operator. Since the plant has been newly purchased by a foreign company, responsibilities have changed within the plant. Workers who previously had reported orally are now required to write reports. Workers are being required to accept more responsibility and to make on-the-spot decisions. However, middle managers seem hesitant to turn loose their stronghold on authority.

At your plant, are skills needs changing?
Plant One Instructor: Things are changing slowly over the last few years. One of the major changes that has taken place this year is the retirement of the Personnel Manager and the appointment of a new Plant Manager. The plant has a history of being a close-knit "family" organization. The new people are from out-of-state and do not know the employees well. Promotions now are based on education and skills rather on knowing the person for a long period of time. The new personnel is initiating change and they see it as enforcing policy that has been in place for years.

Plant Two Instructor: Things are not changing much. Upper management talks about teamwork, individual responsibility, quality improvement, but the framework to implement the changes is not in place.

Is the company supporting you in your efforts to remediate?
Plant One Instructor: Yes, currently the Personnel Manager is pursuing alternate grant activities in order to continue and expand the program.

Plant Two Instructor: In specific, isolated cases. Mostly, my efforts are seen as a little extra something that workers can get if they want it and have the time to spare.

What is the most common request you get from workers for remediation?
Plant One Instructor: Math and Computer Training - this was frustrating because of the grant restrictions. Computers are being introduced throughout the plant and workers are having to interface with computers more than they ever wanted. There is some initial fear of technology with undereducated workers and this can be overcome with proper training in the operation of a computer. We don't need to make programmers out of workers, just get them use to some of the basic functions they will need to use on computers.

Plant Two Instructor: Math, computers, stress management

Have you been frustrated by the confinements of the grant?
Plant One Instructor: Yes, we need freer access to use of the computer. Computer skills are quickly becoming basic skills in today's technology-based world.

Plant Two Instructor: The grant should have required computer knowledge rather than not allowing it. I was frustrated by the requirement not to include job training. Training could have been combined with basic skills and made such classes a viable part of the training program at the plant.

Project Director: I was also frustrated by the requirement not to include lifeskills and GED activities as part of the grant. These activities would have proven useful to employees who are unable to attend classes at adult education centers because of their work schedules. GED and high school completion are seen as essential in promotions. Courses such as time management and self-esteem are essential to success in the workplace.

What do you think are the most important requirements for a workplace program?
Plant One Instructor: Commitment from the top down to the bottom. Management must not only talk the talk, they have to walk the walk.

Plant Two Instructor: Clear goals from the company, complete and accurate needs assessment, worker awareness of importance of program to company and company's success.

What types of formats and time frames do you recommend for class sessions?
Plant One Instructor: I prefer the two hour class session because it allows flexibility and enough time to get work and activities done. The workshop format has been best received because in two to four hours, you are finished with a class. Next, I find the short course of ten to twenty hours good because the participants feel there is direction and they can see the end in sight. From the participants' view, classes of much longer length like "open study labs", seem to go on forever.

Plant Two Instructor: Whatever works for the students! Short classes that address specific areas or skills have been more successful at my plant.

Appendix

Needs Assessment

Example of a Supervisor Interview

Interview Notes: Lead Operator--Chemical Department, Inc.
Present for Interview: Elizabeth Ray, Lou Taylor, and Chris Walsh

Discussing Task Analysis for the Slurry Prep. Operator.

- performs the mixing and Hide Preparation for the slurry
- 2 operators per shift (18 trained in plant to perform job, includes relief operators)
- orally trained for job
  -no formal testing -just oral feedback
- most training is On-the job Training (OJT)
- no SPC (per se) used in Department
- documentation on paperwork required for ISO 9000 certification
- job is a continuous process
- person must also be able to operate a forklift

What do you see as weaknesses among the operators?

1. reading and understanding, especially in comprehension
2. math (there is a good bit of math required to perform job and complete sheets)
3. computer work
   -basic data entry -no word processing required for job
4. unfamiliar with Military Time
   -need to calculate time slurry enters storage vats +10 or +60 hours to run tests

What are the hiring requirements for the job?

-good common sense -High School Diploma
-some mechanical experience -ability to do physical work

What times would be good for classes?

-during days off
-work on rotating 11 and 3/4 hour shifts which eliminates before and after work classes

What are some of the reading materials that are required of a person in the job?

- Job Safety Analysis (JSA) must be read and signed off on
- -this goes over the procedures to do a job
- MSDS (Material Safety Date Sheets) located in Tom's office
- Mixing SOP (Standard Operating Procedures) a 42 page document
  -step-by-step guide developed for product improvement and ISO 9000
  -must be read and signed off on

Are there any math skills required of the position and where can they be found?

- there are a good bit of math skills required of the job:
  -basic math (add, subtract, multiply, and divide)
  -read gauges (some digital, others not)
  -Military Time calculations-materials stays in system for 6-8 days
  -knowledge of metric notation
  -Collagen Slurry Calculation and Mixing Sheet
  -TI (digital Thermometer)

Can you think of any topics or suggestions for class?

Not right now but I will get back to you.

Supervisor's Interview Questions and Responses

Name:_____ **Dept.:**_____ **Date:**____

1. Are you familiar with the NWLG? Do you have any questions concerning it? Are you aware that classes could be tailored for your specific department needs?

2. What type of skills do you feel that your employees could best benefit from over the next year? _____

3. Can you identify any areas or specific needs in your department that you feel could benefit from training?
   YES NO If yes, what are they? _____

4. Can you identify any instruction that could be developed for your department?
   YES NO If YES, what are they? _____

5. Do you feel that your department could come to class during working hours?
   YES NO Why or why not _____

6. What days and times are best for your workers? _____

7. What type of class would you prefer? _____
   a - Independent Study with videos, homework packets?
   b - Self-paced Independent Study both with instructor supervision
   c - Instructor-led Class - short focus or long term
   d - Combination of Instructor-led with Independent Learning
   e - Workshop (how long?) _____ *hours*
   f - other comments/ideas _____

8. Would you require employees to attend the training? YES NO

9. Do you read my monthly reports? YES NO
   Do you find the information in the reports useful? YES NO
   What information would you find more useful? _____

10. Additional Comments: _____

DO WHAT YOU HAVE ALWAYS DREAMED OF DOING - DO SOMETHING FOR YOURSELF!!!

EDUCATION CLASSES
by:
VISIONS II

Instructor: Lou Taylor
Counselor: Sue Crapps

WHAT'S IN THEM FOR **ME?**

- More knowledge
- More job satisfaction
- More chance of advancement
- More skills
- More pride in myself

WHAT CAN THE VISIONS II COUNSELOR **DO FOR ME?**

- Show me how to complete regular VISIONS II classes.
- Show me how to get special help with a tutor if I am having trouble with the classes (everything is done in privacy without others knowing about it)
- Show me how close I am to obtaining my G.E.D.
- Show me how to get my G.E.D.
- Show me how to get my high school diploma.
- Show me how to study other things, like computers, that aren't offered in these classes.
- Show me how to pay for other classes (there is available help).
- Show me how to work with the Instructor, Lou, to get the most out of classes.

WHAT ARE OTHER RESOURCES THAT CAN HELP **ME?**

- Orangeburg-Calhoun Technical College.
- Adult Education
- Santee Literacy Council
- Orangeburg Literacy Council
- Private one-on-one tutor
- Computer Programs, such as "Math Keys"

How's Your Math?

We have located a math instructor who is available to teach a short math course during the summer. The course can be written to include the math you want or need. If you are interested in this class, please fill in the form below and route it to Susan c/o HR, or drop it by the Visions 2 office.

Name_____

Dept _____ Unit_____

Check the kinds of math you would like to have taught:

____ Fractions, Decimals, Percents

____ Graphs, Tables

____ Solving Word Problems

____ Algebra

____ Geometry

____ Trigonometry

____ Other (explain, please)

_____

_____

Team Member Survey
Personal Interview
May 1996

Name _____ Department _____ Unit_____

1. Do you send E-mail on the VAX? _____ What is your screen name?_____

2. If you were in charge of training for your department, what classes would you offer?
General education (such as math or report writing):

Technical skills (such as troubleshooting):

3. Have there been changes in your job over the last few years that require higher skills?____
Are there new skills and knowledge that would help you on your job now?

In your personal life?

4. Have you participated in any of the classes we have offered at Teepak?_____
If yes, are there any other classes you would like to take?

If no, are there reasons you have not taken classes offered by the VISIONS program?
(Check all that apply)

__ Didn't know about classes
__ Don't need classes offered
__ Times not convenient
__ Child care problems
__ Transportation problems
__ Don't want Company to know
__ Too much time involved
__ Can't make long-term commitment
__ _____
__ _____

5. I'm going to read down a list of classes we can offer. Tell me if you are interested by answering "yes", "no" or "maybe" for each one.

__ Math Review
__ Reading Comprehension
__ Speed Reading
__ Writing
__ Letters and Memos
__ GED
__ Basic Chemistry
__ Understanding the company savings plans and benefits better
__ Introduction to Computers
__ Spreadsheets
__ Charts and Graphs
__ E-mail
__ Interpersonal Communication
__ College Classes
__ History of Devro-Teepak

6. What classes could we offer to get you to make the commitment to come to class?

_____
_____
_____
_____

7. Would you be interested in:

__ taking a test to determine your general education level?
__ completing a questionnaire to determine your personal learning style?
__ taking the Practice GED Test?
__ talking to VISIONS staff about other educational opportunities?

If yes, When would you like to do that? (Remember that Wednesday, Thursday, and Friday mornings are booked up for the next 4-5 weeks.)

_____
_____
_____
_____

8. What class format would suit you best?

__ Organized class that meets 4-6 times over a three month period
__ Workshops that last about 4 hours each
__ Take home workbook or laptop computer
__ Learning lab at the plant
__ Teacher-led small group classes

9. Is there anything else about training and education at Teepak that you would like to tell me and the other VISIONS staff members?

_____
_____
_____
_____

Interviewer _____ Date _____

Follow-up actions needed:

VISIONS 2 UP-DATE

By Susan Ferguson

Visions 2 staff members, Chris Walsh, Sue Crapps, and I, have done the impossible! Well, almost. During May, we set out to interview every team member at Sandy Run. And we have done just that, except for a few team members were on vacation. Make-up interviews are being scheduled with them.

The purpose of the interviews was to find out how we could serve you better. We asked what classes you want and how you want classes scheduled. Here's what you told us you want or need and what we can offer to you:

Topic	Class Content	What Visions 2 Can Offer
Academic Skills	Math, Reading Comprehension, Speed Reading, Basic Chemistry, penmanship	**Computer programs**: basic math, algebra, geometry, and trig, basic chemistry, and language skills. **Workbooks:** math at most levels, building reading skills, speed reading. **Workshops:** Speed reading, penmanship.
Computer classes	Typing, Email, word processing, Windows, charts and graphs	**Computer programs**: all of the requested content is available in the VAX Training room.
Interpersonal Communication	Dealing effectively with others, handling stress, anger, conflict	**Workshops or short classes:** Workplace Communication. Learning Styles/Thinking Styles, Dealing With Conflict, Handling Stress
College Classes	Degree classes, as well as preparation for the entrance exam or placement test	**Satellite Dish:** Access to any classes offered through SCETV. (Schedule available from SusanF). **Classes:** ***Jump Start*** – emphasis on math and writing skills needed to score well on technical college placement test.
Company related classes	History of Devro-Teepak, Understanding Company Benefits and Savings Plans	**Workshops:** Company Benefits and History of Devro-Teepak are being developed
Classes open to spouses and adult children.	GED preparation, computer skills.	**Computer programs:** VAX training room access by appointment. **Workbooks, GED Practice testing** available by contacting SusanF.
Assignments that can be done at home.	Various content.	**Computer programs:** laptop computers available in production departments. **Workbooks and customized assignments** on various topics available from SusanF.

To sign up for class or to get more information, contact Susan Ferguson at extension 371 (SUSANF on the Vax) or drop by the Visions 2 office next door to the Vax Training Room.

Interview Results

One hundred and seventy-four (174) employees were interviewed during May, 1996. Below are the reasons given for not taking classes (answers are duplicated).

Reasons for not taking classes offered by Visions program:

Reasons	Number
Didn't know about classes	9
Don't need classes offered	10
Times not convenient (distance to travel, shift interferred)	38
Child care problems (family obligation, time w/family, school children)	26
Transportation problems	1
Don't want Company to know (or other people)	2
Too much time involved (overtime, other jobs, personal time, burn-out)	52
Can't make long-term commitment	32
Not interested (hates taking classes, near retirement)	7

Preference of Courses:

Course Preferred	Percentage Interested
Introduction to Computers	74
Math Review	64
Company Benefits	52
Computer Spreadsheets	52
E-mail	52
Computer Charts and Graphs	47
Interpersonal Communications	45
Reading Comprehenson	44
Writing	43
History of Devro-Teepak, Inc.	37
Letters and Memos	35
Basic Chemistry	34
College Classes	32
Speed Reading	32
G E D	6

Seventy-one percent (71%) of those interviewed would like to be evaluated by taking the Learning Styles Inventory to discover their personal learning style and fifty-seven percent (57%) would like to take the Wonderlic Skills Basic Test to determine their individual general education level.

In answer to the question "Are there new skills and knowledge that would help you on your jobs now?", most responded with computer training and math.

When asked if they were in charge of training for their department, what general education classes would they offer, thirty-two percent (32%) would like a math class, twenty-five percent (25%) would like a computer class, twenty-one percent (21%) would like to have a communication/teamwork class, and fifteen percent (15%) would like classes in handwriting/reading/spelling/English. Other classes they would like offered are basic chemistry, stress management, report writing, and basic skills. Several answers for technical skills classes were given including computers, communications, analytical writing, safety, cross-training, measurement, quality and procedures.

From: Company Newletter June 1997

Electricity Class Begins

The Basic Electricity Review Class will begin on May 29. We are very fortunate to have the class being taught by Johnnie Wright, County Council Representative and a retired Charleston Naval Shipyard employee. Mr. Wright started at the shipyard as an Apprentice Electrician and retired as a Production Control Manager. David Metts, Head of Electronics at OCTC, will be assisting with the class.

Classes are held on Thursdays at 12:45 and 3:15, and on Fridays at 3:15. The class consists of five (5) 2-hour sessions for a total of 10 hours class instruction.

It is not too late to join - if you are interested in attending and are not currently registered, call Lou at 2741 for details.

Business Writing Workshops

Business Writing Workshops will be held throughout the summer on the following topics:

Creating Your Message
June 9, June 23 and July 14
Editing with Punctuation & Grammar
June 11, June 25, and July 16

The workshop leader will be Georgianna McGee, Head of the English Department at OCTC. These workshops will be at 12:45 and 3:15 on Mondays and Wednesdays listed above. If you would like to attend any of the sessions, call Lou to reserve your place at ext. 2741.

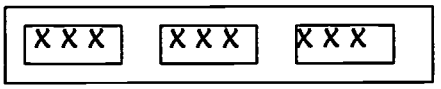
Mind Benders

from: Scratch Your Brain Where It Itches

1. Make this statement true by moving only one digit. 101 - 102 = 1
2. Mo said, "I saw the most peculiar pine tree today! Every part of that tree involved the number 3! There were 3 main trunks, 3 main limbs, 3 smaller branches on each limb, and on each of those there were 3 birds and 3 acorns!" Mo quickly calculated and told his friend Jo the total number of acorns. Can you?

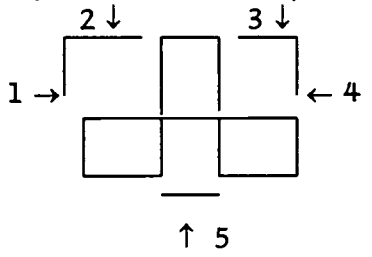
Answers to April Mind Benders

1. Can a farmer put his nine ostriches in 4 pens so that there is an odd number of ostriches in each pen and so that each pen has at least one ostrich?
   The farmer will have to construct 3 smaller pens inside of 1 large pen. Each of the small pens will have 3 ostriches in them, so the large pen would have all 9.



2. Two cars travel between two towns that are 200 miles apart. Car "A" averages 50 mph one way and 40 mph on the return trip. Car "B" averages 45 mph both ways. Do the two cars travel the total distance in the same amount of time? NO
   A takes 200/50 = 4 hours + 200/40 = 5 hours for a total of 9 hours. B takes 400/45 = 8.8 hours or about 8 hours and 53 minutes for the round trip.

3. Use seventeen (17) toothpicks to construct this figure. Remove 5 toothpicks and leave 3 squares.



Submitted by Lou Taylor

Curriculum Development

CHEMICAL DEPARTMENT BASIC SKILLS MATRIX

SKILL	Delime, Hide Prep, Slurry Prep, Mixing, HiC	Chem Prep	Chem Recovery, Ecology
Math:			
Addition and Subtraction			
Multiplication and Division			
Fractions, Decimals and Percentages			
Algebra			
Geometry			

SKILL	Delime, Hide Prep, Slurry Prep, Mixing, HiC	Chem Prep	Chem Recovery, Ecology
Ranges, Averages, Standard Deviation, Randomness			
Measurement in English and Metric Units--Volume, Length, and Temperature			
Calculation of Lapsed Time in Military Style			
Use of Calculator			
Reading Comprehension			
SOPs and JSAs			
Other Safety Materials			

SKILL	Delime, Hide Prep, Slurry Prep, Mixing, HiC	Chem Prep	Chem Recovery, Ecology
Job Related Forms and Manuals			
Reading and Interpreting Charts, Graphs, Diagrams, and Schematics			
Reading Dials, Gauges, and Scales			
VAX Messages and Team Manager's Log Book			
Writing and Related Skills			
VAX Messages			
Keyboarding, Proof-reading Documents and Computer Screens			

SKILL	Delime, Hide Prep, Slurry Prep, Mixing, HiC	Chem Prep	Chem Recovery, Ecology
Chemistry			
Understand pH, Acid-Base Rxns, Titration, and Concentration			
Physical Science			
Pump Theory			
Fluid Dynamics			
Problem-Solving			
Troubleshooting, Decision Making, Selecting Alternative Actions			

EXAMPLE OF

FORM FILLED OUT BY SUPERVISOR

PROCESS DEPARTMENT BASIC SKILLS MATRIX

SKILL	Extrusion, Wet End, Dry End, and Relief Operators	Control Operator, Lead Operator
Math:		
Addition and Subtraction	Extrusion wetend & Relief operator number of cuts & extra cuts	Controls operator measuring of tanks solutions acid. Water. Tanning. Glue. Glute die. measurements
Multiplication and Division		
Fractions, Decimals and Percentages		Control operator Charting Computers & Labs Data
Algebra		
Geometry		

_L	Extrusion, Wet End, Dry End, and Relief Operators	Control Operator, Lead Operator
Ranges, Averages, Standard Deviation, Randomness		
Measurement in English and Metric Units--Volume, Length, and Temperature	Extrusion operator + dryend. measure size of coseing in 64th	Control operator measure temperture in tanks also level, volume amount, mls. gals. solution. in tanks.
Calculation of Lapsed Time in Military Style		
Use of Calculator		Control operator Calculated inches, gals. mls. ect. in tanks
Reading Comprehension		
SOPs and JSAs	Extrusion, wet, dryend Relief Everything that in the Job description.	Control, Lead operator All Job description.
Other Safety Materials	Extrusion wet dry Relief Lead. Training Classes SAFETY meeting Proper equipment.	Control operator, lead. Relief, Working with Chemicals SAFETY meeting training proper equipment to handle Job Fuctions

SKILL	Extrusion, Wet End, Dry End, and Relief Operators	Control Operator, Lead Operator
Job Related Forms and Manuals	Extrusion operator line Startup Sheets wet and logs dry Flats.	Contrails operators lead operator. extrusion, Tanks Analysis Sheets take over summ, Safety Check list sheets Safety check list fork lift filter change
Reading and Interpreting Charts, Graphs, Diagrams, and Schematics	wet end Charts dry Flats	Controls operators Graphs, + Charting on tanks Standards (changes) meaning Analysis Deviations Changes
Reading Dials, Gauges, and Scales	Dryend uses gauges to measure size in 64 with Gauges. Extrusion uses Dial to Control TSF. uses to measure size 9/50 in 64th on carseing	Controls operator uses Dials to Measure Contents of Solutions in tanks, to Control amounts
VAX Messages and Team Manager's Log Book		
Writing and Related Skills		
VAX Messages	Lead operator uses the vax system to recieve and send messages to other vax uses	Control operator uses vax to enter their tanks sampler number in vax system to recieves messages from other vax uses & send to others.
Keyboarding, Proof-reading Documents and Computer Screens		Control operator uses key board to key in their number recieve from labs. and sending message else where to vax uses.

BEST COPY AVAILABLE

KILL	Extrusion, Wet End, Dry End, and Relief Operators	Control Operator, Lead Operator
Chemistry		
Understand pH, Acid-Base Rxns, Titration, and Concentration		Control operator uses Acid to make up & control tanks Concentration also same with pH control test standard measurement Chemical Contents
Physical Science		
Pump Theory		
Fluid Dynamics		
Problem Solving		
Troubleshooting, Decision Making, Selecting Alternative Actions	wet, dry, Extrusion Relief, lead, operator when problem arises on different parts of Job functions they have to reacts at impulse burning in complex making cuts running out lines, starting up lines Etc	Control operator consistes of keeping tanks in controls finding, & troubleshooting equipment + fixing problem. to keep tanks in standard. making quick decisions.

Form used to develop course outline

Curriculum Description

Name of Curriculum	
Brief Description of Course	
Instructional Goals	
How Topic Chosen	
Target Population	
Skills Addressed	
Teaching Approach: Processes and Activities	
Teaching Context: Class size, time frame, location, level of instruction	
Materials Used	
Assessments Used (If developed especially for the course, please attach)	
Published Resources Used in Development of Curriculum	

Curriculum Description

Name of Curriculum	Workplace Communication 2 (CMN2)
Brief Description of Course	Course consists of mini-lessons in understanding self and others better through development of an understanding of learning and communication differences of individuals.
Instructional Goals	To help participants improve their communication in their department by building an understanding of learning and communication differences of individuals.
How Topic Chosen	The team members in the Plant Technical Department requested this class and assisted in the selection of topics for the lessons.
Target Population	Course is targeted to team members who work in close proximity to one another. It is designed to assist them in utilizing effective communication skills within this diverse group and throughout the plant.
Skills Addressed	Learning Styles, Communication Styles, Thinking Styles, Left-Right Brain analysis and how these affect the way we communicate with others.
Teaching Approach: Processes and Activities	Teaching strategies include: individual meetings with students to discuss communication problems that have occurred in the group; group sessions on how the new knowledge gained through the test instruments might help resolve or avoid communication problems.
Teaching Context: Class size, time frame, location, level of instruction	Four one-hour sessions. All members of department participate regardless of skill level. Classes held at the plant on a flexible schedule to fit within the demands of the department's workload..
Materials Used	Visions2 Curriculum "Charting Unexplored Territory."
Assessments Used (If developed especially for the course, please attach)	
Published Resources Used in Development of Curriculum	

Evaluation

Level One Evaluation

STUDENT END OF COURSE EVALUATION

Company's Name_____Today's Date_____

Instructor's Name_____

Course Name _____

Thank you for participating in this training program. Please help make this course even better by sharing your ideas with us.

1. How would you rate this course?
   [ ] Excellent [ ] Good [ ] Fair [ ] Poor

2. The materials used in the course were
   [ ] Very good [ ] Good [ ] O.K. [ ] Poor

3. Were the goals and objectives of this course met? [ ] Yes [ ] No

4. The course was . . .
   [ ] Very interesting [ ] Interesting [ ] Sometimes interesting [ ] Boring

5. I understood the material the instructor was teaching
   [ ] All of the time [ ] Most of the time [ ] Sometimes [ ] Never

6. The instructor was effective in presenting the material
   [ ] All of the time [ ] Most of the time [ ] Sometimes [ ] Never

7. I was encouraged to participate in class
   [ ] All of the time [ ] Most of the time [ ] Sometimes [ ] Never

8. Do you feel that this course is helping you do your job better? [ ] Yes [ ] No

   If yes, please list examples _____

9. Do you feel that this course is helping you in your personal life? [ ] Yes [ ] No

   If yes, please list examples _____

Student evaluation
page 2

10. Because of this course, do any of the following apply to you?
[ ] I feel more confident doing paperwork required by my job.
[ ] I have bought a home computer or other equipment.
[ ] I feel more confident helping my children with their homework.
[ ] Other. Please list.

_____
_____
_____
_____

11. What did you like about this course? _____
_____
_____

12. If you could change anything about this course, what would it be?
_____
_____
_____

13. What course/courses would you like to see offered through the VISIONS 2 program . . .
_____
_____
_____
_____

THANK YOU FOR YOUR PARTICIPATION

EMPLOYER SATISFACTION SURVEY

Orangeburg-Calhoun Technical College
Federal Training Programs

Company _____

Program Description _____

Dates of Program _____

Project Director _____

Instructor/Instructors _____

In order to better serve your training and employment needs and to improve our service, we are asking you to respond to the following survey statements and questions. Please grade us on those things for which we have impact i.e., quality of instruction rather than plant-wide problems which affect instruction.

How would you rate:

	Excellent	Above Average	Average	Below Average	Poor	Not Applicable
1. Contact with College staff.	5	4	3	2	1	N/A
2. Response by staff to company needs.	5	4	3	2	1	N/A
3. Employee response/feedback as to effectiveness of classes.	5	4	3	2	1	N/A
4. Were the objectives of the class met?	5	4	3	2	1	N/A
5. Overall satisfaction of the educational class:	5	4	3	2	1	N/A

What improvement(s) would you suggest to enhance Orangeburg-Calhoun Technical College's quality of service? _____

_____

_____

_____

This form completed by _____. Date _____

Please return to: Orangeburg-Calhoun Technical College
3250 St. Matthews Road
Orangeburg, S. C. 29118-2899
Attention: _____

Chemistry for the Cement Industry, Part II
Pre-Test

Name: _____ **Date:** _____

Directions: *Match "a" or "b" with the correct description on the left. Put your answer in the blank.*

_____1. Bonding by sharing electron pairs between atoms.

a. ionic bonding

_____2. Bonding by transferring electrons from one atom to another.

b. covalent bonding

_____3. Bonding when a metal combines with a nonmetal.

_____4. Bonding when two metals combine.

Directions: *Place the letter of the correct answer in the blank.*

_____5. Gases change to liquids because their molecules
a. slow down and stop
b. attract each other
c. react chemically with each other
d. break up into smaller particles

_____6. Substances with higher melting points have molecules that:
a. are small
b. are bonded covalently
c. have higher attractions between molecules
d. are easily split

_____7. All molecules are:
a. round
b. large
c. always far apart
d. always moving

_____8. Ionically bonded compounds usually are:
a. high melting
b. low boiling
c. low melting

d. liquids at room temperature

Pre-test, Chemistry for the Cement Industry part II, page 2

_____9. The element which is the backbone on most rocks and minerals is:
a. Nitrogen
b. Oxygen
c. Hydrogen
d. Carbon

_____10. A suspension usually
a. is clear
b. is cloudy
c. will not settle
d. is hard to separate into its components

Directions: *Answer the following questions.*

11. Name the raw materials used to make cement. _____
_____
_____
_____

12. What fuels are used to heat the kiln? _____
_____
_____

13. The compound CaCO3 is found in which raw material? _____

14. Where did the limestone in the quarry come from? _____
_____
_____

15. What does "calcining" mean? _____
_____
_____

16. Why is gypsum added to finished cement? _____
_____
_____
_____

17. Why is chemical analysis important in cement manufacture? _____

_____

_____

Pre Test, Basic Chemistry for the Cement Industry, page 3

18. What is the newer definition for organic compounds? _____

_____

_____

_____

19. Hydrocarbons are made up of _____

20. Burning organic wastes at Holnam benefits Holnam, Safety Kleen and the public because _____

_____

_____

21. What happens to metals in the waste materials being burned in the kiln? ____

_____

_____

_____

_____

CAREER 2000 - Using the Computer At Work, II
Pre-class Inventory 1996

Name: _____ Date: _____

Perform the following tasks:

	YES	*NO*
1. Have you ever used a computer?	_____	_____
- If "NO", skip to question/comment section		
- How and for what? _____		
_____		
2. Turn on the computer.	_____	_____
3. Turn on the monitor.	_____	_____
4. Do you know what an icon is? (Define)	_____	_____
_____		
_____		
5. Find the "Typing Tutor 6" icon and open the program.	_____	_____
- can they double click the mouse button	_____	_____
- do they know which mouse button to use	_____	_____
6. Now that you are in "Typing Tutor 6", do you know the procedure to open a new document?	_____	_____
7. Can you open an existing file?		
- open your file	_____	_____
- use icon or file menu	_____	_____
- Locate and open "YOUR" file.	_____	_____
- Open a regular lesson.	_____	_____
- Tasks were completed without errors.	_____	_____
10. Exit the program?	_____	_____
- File (highlight) and exit	_____	_____
- Save the changes (YES)	_____	_____
- Tasks were completed without errors.	_____	_____

Comments: _____

_____

_____

_____

_____

_____

_____

_____

_____

_____

❑ If answer NO to question #1 - then ask:

A) Would you like to learn about the computer?

B) Do you have any apprehensions about using a computer?

- What are they?

C) Are you interested in using the computer at work?

D) Do you see yourself using a computer at work?

- How do you see yourself using the computer?
- Why or why not?

Recommendation: _____

_____

Using Technology on the Job: Skills Survey for _____

	Pre-Class Skills Survey					Post-Class Skills Survey				
	I am an Expert	I Need More Practice	I Need Help	I've Never Tried This	Does Not Apply to me	I am an Expert	I Need More Practice	I Need Help	I've Never Tried This	Does Not Apply to me
Keyboarding Skills										
Mouse Skills										
Working with Windows										
Reading Email										
Sending and Replying to Email										
Reading Calendar Manager Notices										
Using Calendar Manager to Set up a Meeting										
Using VAX WordPerfect to Create Documents										
Using VAX WordPerfect to Look up SOP's and JSA's										
Using MainSaver to Write Work orders										
Using MainSaver to Look up Information										
Using a PC to Create Documents										
Using a PC to Prepare Spreadsheets										
	Initials/Date _____ / _____					Initials/Date _____ / _____				

Specific areas in which I have improved as a result of this class:

Workshop Evaluation Follow-up

You attended one or more of the workshops held as part of the VISIONS Program. Please take a few moments and complete the form below to help us do a better job next time around.

Name of workshop(s) you attended: _____

_____

_____

_____

_____

_____

_____

In your opinion, after completing the workshop(s), how would you rate the effects of the workshop(s) on you personally or on the job.

Do you feel that what you learned has helped you in the performance of your job?

5	4	3	2	1
Greatly Increased	Somewhat Increased	Stayed The Same	Somewhat Decreased	Greatly Decreased

Do you feel that your ability to get along with co-workers and supervisors has changed as a result of the workshops?

5	4	3	2	1
Greatly Increased	Somewhat Increased	Stayed The Same	Somewhat Decreased	Greatly Decreased

Do you feel that your experiences in the workshop(s) will help you on the job?

5	4	3	2	1
Greatly Increased	Somewhat Increased	Stayed The Same	Somewhat Decreased	Greatly Decreased

Since participating in the workshops, do you feel that your job has become:

5	4	3	2	1
Much Easier	Somewhat Easier	Same As Before	Somewhat Difficult	Much More Difficult

Please give an example:_____

_____

In the future when you are asked to attend similar workshops/classes, what would you recommend to improve the way the program is run?_____

_____

Do you feel that your participation in the workshop(s) will help you to advance within the company?_____

Of the workshops you attended, which do you feel was the most beneficial to you?_____

_____

Based on your experience with the workshop(s), would you recommend any or all of the workshops to your co-workers? **YES** **NO**

Why or why not?_____

_____

MANAGERS' EVALUATION OF PROGRAM EFFECTS ON THEIR DEPARTMENTS

Manager's Name:_____ Dept.:_____
Today's Date:_____ Total employees in dept._____
*How many employees in your department participated in the program? _____

In your opinion, now that the initial course has been completed, how would you rate its effects on participants that you supervise? Circle the number that shows how you feel.

PRODUCTION:

5	4	3	2	1
Greatly increased	Somewhat increased	Stayed the same	Somewhat decreased	Greatly decreased

QUALITY:

5	4	3	2	1
Greatly improved	Somewhat improved	Stayed the same	A few more errors	Many more errors

TRANSFERABILITY:
After completing the program, when new technical equipment or training comes to your department, do you think your employees will be able to handle it

Better **The same** **Worse**

ATTITUDE:
Regarding the employees in your department who participated in the program, how much improvement in attitudes towards themselves, their jobs, or the company did you observe? (for example: greater cooperation, team-building, etc.)

5	4	3	2	1
A lot	Some	Same amount as before program	Little	None

Since your employees participated in the program, do you feel that your job as a supervisor has become:

5	4	3	2	1
Much easier	Somewhat easier	Same as before	Somewhat more difficult	Much more difficult

Please give an example:_____

*If your company plans to continue to have employees participate in similar programs in the future, what would you recommend to improve the way the program is run?

*Based on the effect that the program has had on the employees from your department who participated, would you recommend additional employees to the program?_____
Why or why not?_____

*Of the employees in your department who participated in the program, have any shown progress in potential for advancement?_____

SUPERVISOR PRE-PROGRAM EMPLOYEE RATING

Devro-Teepak, Inc.

Name of employee you are rating

Please evaluate this employee in the following areas. Circle the number that shows how you feel.

JOB ATTITUDE:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

PRODUCTIVITY:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

QUALITY OF WORK:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

ATTENDANCE:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

JOB KNOWLEDGE:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

COMMENTS: _____

Today's Date

Supervisor's Signature

Revised 1/26/95

Phillipi, Jorie, Supervisor Rating of Pre/Post Program Participants, Literacy at Work, Simon and Shuster,.1991, modified.

SUPERVISOR POST-PROGRAM EMPLOYEE RATING

Devro-Teepak, Inc.

_____
Name of employee you are rating

Please evaluate this employee in the following areas. Circle the number that shows how you feel.

JOB ATTITUDE:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

PRODUCTIVITY:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

QUALITY OF WORK:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

ATTENDANCE:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

JOB KNOWLEDGE:

Excellent 6	Good 5	Above Ave. 4	Average 3	Below Ave. 2	Poor 1

COMMENTS: _____

_____

_____

_____ _____

Today's Date Supervisor's Signature Revised 1/26/95

Phillipi, Jorie, Supervisor Rating of Pre/Post Program Participants, Literacy at Work, Simon and Shuster, 1991, modified.

STUDENT EXIT INTERVIEW SURVEY

Circle all those items listed that you feel are important in keeping you out of skills enhancement classes, in other words, contributed to your dropping out of classes.

Not enough time.

Home responsibilities

Job responsibilities

No child care

No transportation

No place to study or practice

Friends or family don't like the idea

The company offered no incentives for participation

The company did not recognize those who attended classes

The teachers did not know the material well

The program was not explained well to me

Amount of time required to complete program

Courses aren't scheduled when I can attend

No information about offerings

Strict attendance requirements

Courses I want don't seem to be available

Too much red tape in getting enrolled

Don't meet requirements to begin program

No way to get credit or a degree

Not able to use the skills taught on my job

Not able to use the skills taught in my personal life (children's homework, personal reading, form filing, etc.)

Afraid that I'm too old to begin

Low grades in past, not confident of my ability

Not enough energy and stamina

Don't enjoy studying

Tired of school, tired of classrooms

Don't know what to learn or what it would lead to

Hesitate to seem too ambitious

Did not want other employees aware of my educational skills

Comments_____

_____

_____

_____

Learning Styles Research

Learning Styles Inventories:
What Can They Tell Us About Developing Workplace Literacy Programs?

A research project to determine if front-line workers have a predominant learning and communication style; and, if so, is it different from the styles of managers?

Research Conducted by:
VISIONS2, National Workplace Grant
Orangeburg-Calhoun Technical College
3250 St. Matthews Road
Orangeburg, SC 29115

Chris L. Walsh, Project Director
(803) 535-1237, FAX (803) 535-1238, E-mail: walshc@org.tec.sc.us.
Lou Taylor, Instructor at Holnam, Inc.
Susan E. Ferguson, Instructor at Devro-Teepak, Inc.

Learning Styles Inventories

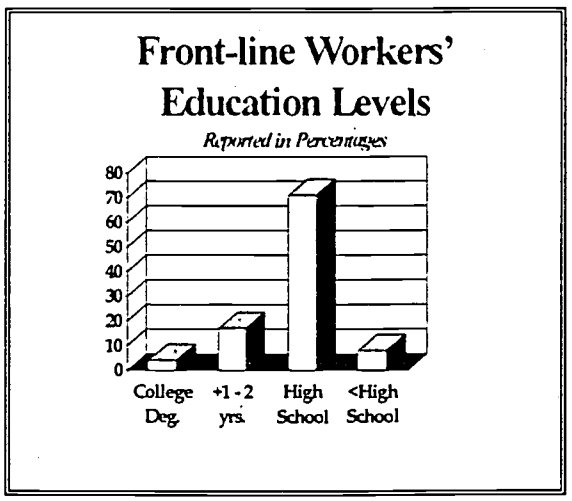
What Can They Tell Us About Developing Workplace Literacy Programs?

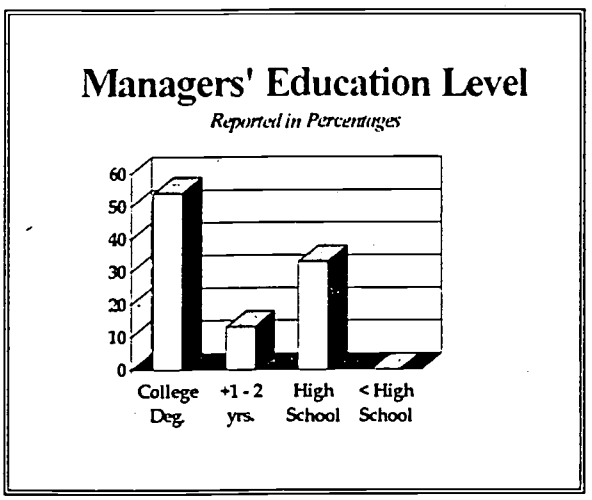
What: A study to determine if front-line workers have a predominant learning and communications style. The study involved determining the learning and communication styles of workers at two industrial sites served by a national workplace literacy grant. The grant staff also wanted to know if learning styles of front-line workers differed from those of supervisors, most of whom had attained post-secondary degrees.

Why: To determine if certain learning styles are predominant in the workplace, so that the appropriate learning strategies for those styles can be utilized in workplace learning classes, to improve workplace communication at the plant sites, and to assist in recruiting efforts for classes.

Administration: This study was conducted on-site by the workplace literacy staff from the local technical college which had received a US Department of Education National Workplace Literacy Grant. The study involved giving the C.I.T.E. (a learning styles inventory developed by the Center for Innovative Teaching Techniques, Wichita Public Schools, Wichita, Kansas).

Population: One hundred and ninety-five (195) employees were given the survey. Of this group, 74% were hourly workers, 26% managers, 77% male, 23% female, 62% non-minority & 38% minority. The educational levels of the front-line workers and supervisors/managers are represented in the following graphs.





Participants in the study were solicited from ongoing classes being conducted at the plant site by the national workplace grant staff, from work groups/departments who wanted to improve communication, from management teams, and from other employees who expressed an interest in knowing more about themselves.

Research: *Learning styles* can be defined as characteristic cognitive, affective, and psychological behaviors that serve as relatively stable indicators of how learners perceive, interact with and respond to the learning environment (Keefe, 1979). The *Learning Styles Network Newsletter* (Winter, 1980) describes learning style as the manner in which many different elements from five basic stimuli affect a person's ability to absorb and retain. The five broad categories are: Environmental, Emotional, Psychological, Physical, and Sociological. Physical stimuli--auditory, visual, and kinesthetic-- have to do with instructional preferences. In the general population, 30% are visual, 25% are auditory, and 15% are kinesthetic. The remaining 30% are of mixed modality (Barbe and Milone, 1991). As we age, our modalities can change from kinesthetic to visual to auditory (Keefe, 1987). The American educational system has long relied on a model of human intelligence that recognizes almost exclusively linguistic and

logical/mathematical capacities. Instructional methodology is usually teacher-centered, focused on transmitting information, with a heavy reliance on standardized testing. (Presentation from *Integrated Learning: Multiple Gateways for Lifetime Learning*). In research conducted by Hanson Silver and Associates on curriculum, it was discovered that certain learning styles were clearly favored over others. For example, in most educational settings, students were required to work independently on different cognitive tasks; new concepts and rules were introduced verbally in linear sequence; the main medium of instruction was written or spoken words, and the evaluation of student achievement was also verbal and written. Certainly, school instruction does not favor the kinesthetic student who may be a group learner (*Research Monograph #5. Journal and Research Articles on Learning Styles and Teaching Strategies*, Hanson Silver Strong and Associates). The perceptual styles of poor readers were tactile-kinesthetic (Murray, 1980). Rita and Ken Dunn confirm that tactile-kinesthetics face the most learning difficulties in schools. Ninety-five percent of these learners are male and are usually considered hyperactive (*The Learning Revolution*, Dryden and Vos, 1994).

Hypothesis: Hourly workers will have learning styles that differ from those of managers. The primary learning style of workers will be AVK (auditory/visual/kinesthetic) while that of the managers will be visual/linguistic.

Background Information: During the course of a National Literacy Grant, the instructors and project director became interested in the communication and learning styles of the front-line workers they were serving. Workers served were those who were attending workshops or classes, who had consulted with the instructors for help with a basic skills problem at work, who wanted information on their educational levels, and who were interested in pursuing higher education or enrolling in basic literacy classes. During discussions with workers, the grant staff found that many of the workers were self-critical about their basic skills, expressing frustration with their earlier school years. Often they blamed themselves, rather than the instruction they had received, as the reason for their failure. This group mentioned disliking school and many dropped out. Those who stayed in school did so just to attain a diploma, and thus did not benefit from the educational process. Many of them had gone straight from the school house door to the factory floor and had trained on the job for their positions. From the viewpoint of the instructors, the use of a learning styles survey would help the instructors choose a learning approach that met the individual's style preference and strengths and not be a repetition of an instructional approach that did not work during their school years. The learning styles survey could also be used as a recruiting tool for classes, suggesting to workers that the reason they had not done well in school could have been due to instructional strategies that did not match their learning styles. After many years of hearing front-line workers complain about their early school years, the project director wanted to know if perhaps the learning styles used in the K-12 years emphasized linguistic strengths and workers were Audio/Visual/Kinesthetic. Since management and most of the supervisors (other than first-line or promoted through the ranks) had obtained college degrees, it was hypothesized that they would be visual or linguistic learners.

The purpose for pursuing the research was fourfold:

1. ***to serve as a recruitment tool***
   - -dispel fear of learning
   - -promote self-confidence
   - -learn more about oneself as a learner

2. ***to improve communication in the workplace***
   - -awareness of different communication styles
     - * -workers to supervisors
     - * -supervisors to workers

3. ***to plan for classes***
   - -instructional strategies
   - -content of curriculum

4. *to increase instructors' success*
   -make instructors aware of their personal learning modalities and how that influences their teaching styles
   -encourage instructors to vary instructional approaches in their classes

Procedures used to collect information: Students in the classes and workshops were strongly encouraged to take the C.I.T.E. In order to increase understanding of the individual worker and to improve communications between work teams, some departments required their workers to take the survey. The C.I.T.E. measured whether students were Visual, Linguistic, Auditory, or a combination of Auditory/Visual/Kinesthetic (AVK). Their communication style (oral or written) and their social learning style (individual or group). Other workers in the plant were given the C.I.T.E. as part of workshops on communication, teamwork, and conflict resolution. Supervisors and some workers were given the survey at team meetings with follow-up provided by the on-site instructor.

Description of the instrument: The C.I.T.E. is a learning styles survey developed by the Center for Innovative Teaching Techniques, Wichita Public Schools, Wichita, Kansas, and was used with its permission. The grant staff felt that some of the questions needed to be rephrased, as they were intended for school children and did not reflect the atmosphere of the workplace. The question content was not changed, only the wording in order to reflect work-related content. The C.I.T.E. is concerned with physical stimuli as described by Dunn and Dunn in their research. Physical Stimuli contain modality preferences--auditory, visual, or kinesthetic, which are used to determine instructional preferences. Definitions of the learning styles identified by the survey are as follows:

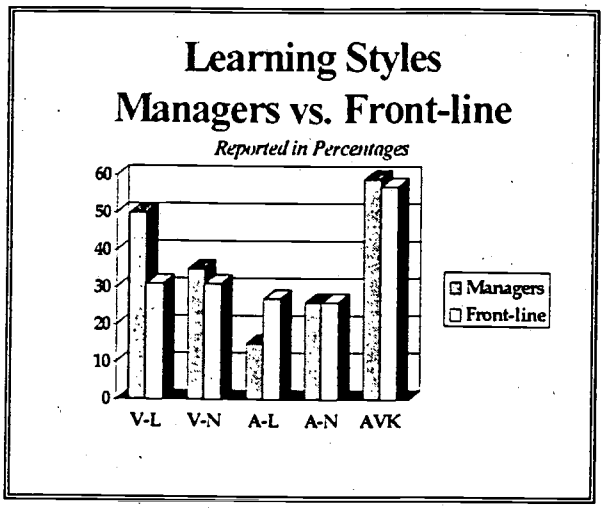
- ***Visual***-tends to respond to new information in a visual or pictorial fashion. Learns best through pictures, filmstrips, graphs, drawings, books, magazines, or demonstrations.
  - Visual Linguistic (V-L) students learn best from seeing words in print.
  - Visual Numeric (V-N) students must see numbers in order to work with them.
- ***Auditory***-responds to new information in an auditory or listening fashion. Learns best through use of tapes, lectures, discussions, records, oral directions, and explanations.
  - Auditory Linguistic (A-L) students learn best from hearing the spoken word.
  - Auditory Numeric (A-N) students learn best from hearing numbers and oral explanations.
- ***AVK combination***-ability to acquire meaning through the senses of touch and movement. Used with auditory and visual senses--learns best by manipulation of material. Doers would rather do something first and read about it later (Dunn and Dunn, 1993).

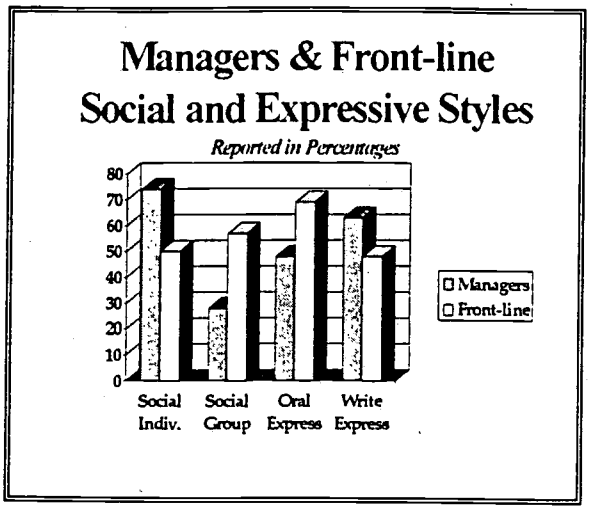
Follow-up to the survey: Workers taking the survey received copies of their score reports either in person or by mail. The score reporting was followed by explanation during classes or workshops, personal counseling sessions, or in learning styles workshops conducted after the survey was given.

The results: Fifty-three percent (53%) of hourly workers were auditory/visual/kinesthetic, which is double that of the general population as described by Barbe and Milone in their research. Forty-five percent (45%) have additional modality strengths. However, fifty-eight percent (58%) of supervisors and managers were also AVK. Sixty nine percent (69%) of the Managers/supervisors had two or more modality strengths. Managers were twice as likely as front-line workers to be visual linguistic, which research has shown to be the dominant teaching style used in K-12 schooling. Although the managers and supervisors preferred kinesthetic learning, they did respond to visual and auditory stimuli and could also learn through those options. Many of the managers/supervisors had degrees in chemical and electrical engineering--both areas which require extensive hands-on or kinesthetic activities. Perhaps they had chosen AVK occupations which required them to use those hands-on skills in an industrial setting. In addition:

- While managers tended to be individual (73%) learners, hourly workers were group learners(58%).
- Managers tended to be written expressive(62%) while front-line workers were oral-expressive(68%).

The following graphs illustrate the differences between the learning, communication, and social styles of the front-line worker versus the manager:





(*Explanation of Learning Styles Abbreviations:* V-L = Visual Linguistic, V-N = Visual Numerical, A-L = Auditory Linguistic, A-N = Auditory Numerical, AVK = Auditory Visual Linguistic)

How useful are the results? Knowing that front-line workers are highly AVK, group learners, and oral expressive is highly useful information to workplace education providers and industry trainers, as well as to educators in general. The research points out how essential it is to be aware of students' differences when preparing educational materials. Although a majority of front-line workers are AVK (54%), oral (70%), and group (57%), classes need to include instructional activities for **all** learning styles. Learners' failures may have more to do with how they are taught, than with their perceived learning deficiencies. Being more aware of students' learning styles changed the way our staff developed the curriculum. In developing a basic electricity class for workers, we emphasized hands-on activities as a way to understand electrical theory. Rather than having the students study theory first, they learned by performing experiments under the careful eye of the instructor and relating theories learned to how electricity was used in the plant.

Students must become cognizant that they need to work on those modalities in which they are weaker. If the job requires them to write detailed reports and analyze graphs and charts, they are encouraged to use their strengths and preference of group learning to increase those visual linguistic skills.

Discussion of different learning styles generated interest in our workplace basic skills classes and brought more learners to our instructors for educational counseling. In fact, at one workplace site, 109 workers contacted the instructor for educational counseling. At their request, learning styles inventories were given to workers to take home and use with family members. Learning styles workshops were also responsible for increasing workers' communication between members of their work teams as well as with their supervisors. Supervisors and front-line workers frequently commented on better understanding their fellow workers. They showed an understanding of why they had previously had problems communicating at work.

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Products created by the grant staff:

- the C.I.T.E. for workplace use (adapted by the grant staff)
- revised scoring sheet and grid
- a Group Profile Sheet for use with large or small groups
- a workshop on Learning Styles

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Learning Styles Inventory

Instructions:

Read each statement carefully and decide which of the four responses agrees with how you feel about the statement. Circle the number of the response on the answer column.

Sample Statement:

"I would rather do instructional work in the morning than in the afternoon."

In the answer column are four possible responses ranging from "Most like Me" to "Least Like Me". Decide which response best describes the way you feel about the statement and circle that number in the column. Respond to the sample statement here by circling the response that best describes your feelings.

	Most Like Me			Least Like Me
1.	4	3	2	1

Explanation of Responses

If you are the sort of person that rises early and enjoys working before noon, you would probably respond by circling the 4.

If you start slowly and usually begin to work later in the day, you probably would respond by circling the 1.

If you are somewhere in between, then your response would be a 2 or 3 depending on where you think it would fit.

You cannot make a mistake because there are no right and wrong answers, only the way you feel about the statement. There are 45 statements to which you will be asked to respond.

Mark your answer on the sheet the same way you did for the sample. You may have all the time that you want, so please respond to every statement.

Now, if there are no questions, go to the top of the statement sheet and begin. Be sure you respond only once to each statement, but be sure you respond to every statement.

Name: _____ Company Name: _____

Position: _____ Time on job: _____ Years _____ Months

# of school years completed: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

Diploma: Yes ❑ No ❑ GED Yes ❑ No ❑

Degree: _____

Learning Styles Inventory

		Most Like Me			Least Like Me
1.	I remember what I have read better then what I have heard.	4	3	2	1
2.	I learn better if someone reads a book to me than if I read silently to myself	4	3	2	1
3.	When I make things for my studies, I remember what I have learned better.	4	3	2	1
4.	I get more work done when I work alone.	4	3	2	1
5.	Written assignments are easy for me to do.	4	3	2	1
6.	I understand a math problem that is written down better than one I hear.	4	3	2	1
7.	When I do math problems in my head, I say numbers to myself.	4	3	2	1
8.	If I need help in the subject, I will ask a classmate for help.	4	3	2	1
9.	When I answer questions, I can say the answer better that I can write it.	4	3	2	1
10.	I don't mind doing written assignments.	4	3	2	1
11.	I would rather read a story, than listen to it being read.	4	3	2	1
12.	I remember things I hear better than things I read.	4	3	2	1
13.	Saying the multiplication tables over and over helped me remember them better than writing them over and over.	4	3	2	1
14.	I like to work by myself.	4	3	2	1
15.	I would rather show and explain how a thing works than write how it works.	4	3	2	1
16.	When I hear someone say a number, I really don't understand it until I see it written down.	4	3	2	1
17.	I find it easier to remember what I have heard than what I have read.	4	3	2	1
18.	Writing a spelling word several times helps me remember it better.	4	3	2	1
19.	I learn best when I study alone.	4	3	2	1
20.	I like to work in a group because I learn from others in my group.	4	3	2	1
21.	When I have a choice between listening or reading, I usually read.	4	3	2	1
22.	Written math problems are easier for me to do than oral ones.	4	3	2	1
23.	When I'm told to do pages of my homework, I can remember them without writing them down.	4	3	2	1
24.	I get more done when I work with someone.	4	3	2	1
25.	I feel like I talk smarter than I write.	4	3	2	1

Learning Styles Inventory	Most Like Me			Least Like Me
26. I do well in classes where most of the information has to be read.	4	3	2	1
27. I like to do things like simple repairs or crafts with my hands.	4	3	2	1
28. I study best when no one is around to talk or listen to.	4	3	2	1
29. If classwork were oral, I would do it all.	4	3	2	1
30. The things I write on paper sound better when I say them.	4	3	2	1
31. Seeing a number makes more sense to me than hearing a number.	4	3	2	1
32. When I have a written math problem to do, I say it to myself to understand it better.	4	3	2	1
33. I like to make things with my hands.	4	3	2	1
34. I can learn more about a subject if I am with a small group of students.	4	3	2	1
35. I like tests that call for sentence completion or written answers.	4	3	2	1
36. I learn better by reading than by listening.	4	3	2	1
37. I understand more from a class discussion than from reading about a subject.	4	3	2	1
38. It is easier when I say the numbers of a problem to myself as I work it out.	4	3	2	1
39. I like to study with other people.	4	3	2	1
40. I would rather tell a story than write it.	4	3	2	1
41. Seeing the price of something written down is easier for me to understand than having someone tell me the price.	4	3	2	1
42. I do well on tests if they are about things I hear in class.	4	3	2	1
43. I understand what I have learned better when I am involved in making something for the subject.	4	3	2	1
44. I can't think as well when I work with someone else as when I work alone.	4	3	2	1
45. The things I write on paper sound better than when I say them.	4	3	2	1

Thank You for time time and consideration!
Happy Learning!

Learning Styles Inventory -Scoring Sheet

Name: _____ Date: _____

Scoring: Now transfer your answers from the answer sheet to the appropriate box on this chart. Example: if your answer to question #1 was "4" (most like me), put the number "4" in the box marked [1]. Do the same for all your answers. Add the numbers in each column for a **column total** and multiply by 2 to get your **total score**.

Survey	Visual		Auditory			Social Learning		Expressive Style	
Questions	Language	Number	Language	Number	A/V/K	Individual	Group	Oral	Written
[1 - 5]	[1]		[2]		[3]	[4]			[5]
[6 - 10]		[6]		[7]			[8]	[9]	[10]
[11 - 15]	[11]		[12]	[13]		[14]		[15]	
[16 - 20]		[16]	[17]		[18]	[19]	[20]		
[21 - 25]	[21]	[22]		[23]			[24]	[25]	
[26 - 30]	[26]				[27]	[28]		[29]	[30]
[31 - 35]		[31]		[32]	[33]		[34]		[35]
[36 - 40]	[36]		[37]	[38]			[39]	[40]	
[41 -45]		[41]	[42]		[43]	[44]			[45]
Column Total									
	x2	x2	x2	x2	x2	x2	x2	x2	x2
Total Score									

Scoring Matrix designed by VISIONS2 Instructors

Learning Styles Inventory - Individual Profile

To complete this graph, record the number of your total score in each category and develop a bar graph by shading in the bar up to your total score.

	Minor								Major							
	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
Visual Language																
Visual Numerical																
Auditory Language																
Auditory Numerical																
A/V/K (combination)																
Social Individual																
Social Group																
Oral Expressive																
Written Expressive																

Group Profile

Participant	Learning Style			Implications for Instruction and Study	Implications for Interacting with Others
	Major	Social	Expression		

Resource List

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