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ABSTRACT

Project WORKSMART was a Nashville, Tennessee-based workplace literacy project to provide an exemplary multidimensional workplace literacy program while simultaneously demonstrating products and practices that promote lifelong learning that can be customized and replicated in diverse work environments. The project was a partnership between NashvilleREAD and three business partners: a distribution and repair center, a large urban hospital, and a convalescent center. Five principles underpinned the project: involvement, accessibility, appropriateness, comprehensiveness, and replication. During the project, NashvilleREAD worked with site-based councils to design site-specific workplace literacy training to help employees functioning below a high school level develop the skills and levels of learning needed to maintain their current job and become promotable. Because the hospital had already begun developing a basic skills program for its employees, NashvilleREAD's primary role at the hospital was to help the hospital refine its training methodology. At the distribution and repair center, NashvilleREAD helped design a program that emphasized team building and keeping current with technology. The training program provided at the convalescent center was focused on helping candidates pass a certified nurse technician exam. An external evaluation identified three issues: lack of computers for participants; geographical distance between sites, causing communication problems; and restraints on training time caused by learners' work schedules. Overall, Project WORKSMART fulfilled all its stated objectives successfully. (MN)

Project WORKSMART
A Final Report

Contents

I. Introduction

We realized from the start that Project WORKSMART would look differently at each of our three sites, but I don't think that we had any idea of the complexity of the differences at each site. What started out to be the common threads of the three sites quickly became uncommon, each thread gained its own meaning and interpretation. A learning organization can be defined as an organization that realizes its survival depends upon the growth of knowledge, skills, and abilities in its employees, and, realizing this, promotes this knowledge, skills, and abilities in all its employees. Project WORKSMART's intervention has resulted in the movement of all three organizations towards becoming learning organizations.

Saint Thomas Hospital, an organization whose mission is to help others, had already begun to develop a basic skills program for their employees called Learning for Life before the project began. Project WORKSMART helped them develop and refine their methodology. Today, Saint Thomas Hospital has a full-time staff devoted to working with employees with low basic skill levels. NORTEL's emphasis is on team building and working together along with staying current with technology. NORTEL has viewed a great portion of Project WORKSMART as being a technology project, and has built a state of the art computer laboratory as a result of the project. Glen Oaks Convalescent Center previously viewed training as merely a means to an end, namely the ability of the candidate to pass the certified nurse technician exam. As a result of Project WORKSMART, Glen Oaks now views training in a different light. Prior to Project

WORKSMART improper procedural actions would have resulted in a disciplinary, punitive response. Now these improper actions are understood to be a result of not understanding. The response is more training.

Three executives, one from each partner, tell how the project operates at their facility. Pallie Jones, the Executive Officer of Glen Oaks Convalescent Center, has said, "The WORKSMART program has given our training a whole new look. It's much more positive . . . like a two way street. We're investing in our employees' future in a way that makes sense to them. In return, they give us a higher degree of loyalty, commitment, and productivity. Improved on-the-job performance translates directly to improved customer satisfaction."

Sam Coleman, Vice President of Human Resources, Saint Thomas Hospital, said, "We needed a way to help our workforce meet the demands of a changing health care industry – one where jobs require increased proficiency in reading, communications, and decision making, and the ability to be cross-trained. WORKSMART provided the venue we needed."

"For us, the WORKSMART program has resulted in both increased commitment, and increased proficiency in the more advanced essential workplace skills. The skill integration into training, the improved used of technology, as well as the meeting of employer and employee goals are all moving us forward to become a learning community." said Burgess Oliver, Assistant Vice President, North American Repair, NORTEL.

II. The Partners

We selected three worksites to be our partners in this project. These were NORTEL's Nashville Distribution and Repair Center (NRDC), Saint Thomas Hospital, and Glen Oaks Convalescent Center. NORTEL represented the manufacturing industry. They are a large international telecommunications company. NRDC was also quickly moving toward a learning organization. After problems threatened to close the plant in 1989, NRDC shifted the management paradigm to one of continuous improvement. The company has established the development of its human resources as a strategic business objective. Employee involvement is fundamental to the success of the facility. All employees are members of work teams. Each team is empowered to identify and implement improvements for the work process. Education and training are crucial to this emphasis on employee involvement.

Saint Thomas Hospital, a large, urban health care facility, is one of 42 hospitals run by the Daughter of Charity National Health System, the largest non-profit health care system in the United States. The hospital had begun a basic skill enhancement program in 1991. Learning for Life has two goals: (1) to provide learning opportunities that enable staff to function personally and professionally at a higher level of performance, thereby increasing promotion potential and salary advancement, and (2) to enhance learning capabilities of staff to all for possible job changes and future job redesign.

Glen Oaks Convalescent Center is an independently owned convalescent facility located in rural Tennessee. The center is typical of nursing homes and convalescent/rehabilitation centers throughout the state. It generates under three million dollars annually, thereby qualifying as a small business. Glen Oaks faces a shortage in skilled labor. State law requires that the Center provide 100 hours of training for all new certified nurse technician (CNT) employees. CNTs then must pass a state licensure test within the first four months of employment. In 1995, when Project WORKSMART began, approximately 48% of the new CNTs failed this test the first time. Forty-five percent of the adult population in Bedford County, where Gen Oaks is located, have not graduated from high school.

NORTEL and Glen Oaks are for-profit organizations; Saint Thomas Hospital is a non-profit organization. NORTEL and Saint Thomas Hospital are both located in urban areas, whereas Glen Oaks is in a rural location. Collectively, the three partners provided a diversity of size, location, and affiliation that would be important in order to demonstrate practices and processes that could be customized to the work environment and still be replicable in a variety of settings.

Each worksite was to furnish classroom space and release time for WORKSMART activities, including classes. Release time for those employees who serve on the Site-Based Councils and on the Advisory Board was also another requirement. All sites did release employees for the Site-Based Councils and for some of the Advisory Boards. All sites did provide classroom space. NORTEL and Saint Thomas Hospital both established and provided computer/learning laboratories. Both of the learning labs have become an

integral part of training and the organization. Glen Oaks set up a mini-lab with a computer furnished by NashvilleREAD. Although Glen Oaks indicated that they would establish a computer lab on their own, it does not appear that has happened.

III. Goals and Objectives

The goal of Project WORKSMART was to **provide an exemplary multi-dimensional workplace literacy program while at the same time demonstrating products and practices that promote lifelong learning and that can be customized and replicated in diverse work environments.** The thought behind this goal is the belief that, in order to make a difference, workplace learning efforts had to be comprehensive in nature, promote high employee involvement, keep pace with technology and current business practices, and enable workers to respond to current and future work environment changes through the development of life-long learning skills. Also, the products, processes, and practices used in this workplace learning effort had to provide an integrated and customized approach as well as lending themselves to cost-effective replication. Inherent in this goal are five principles that formed the groundwork for the project: **involvement, accessibility, appropriateness, comprehensiveness, and replication.**

Six measurable objectives were developed to support the project's goals and underlying principles. Objective One addressed project governance and employee involvement; Objective Two directed the expansion of literacy investigations into job profiles and task analyses. Objective Three focused on identification of the targeted audience. Objectives Four and Five outlined educational activities and enhancements to on-going training to promote life-long learning for employees. Objective Six centered around the use of

existing community-based resources wherever possible. These six objectives as stated in the Project WORKSMART proposal are:

1. Maintaining high employee involvement in program planning, implementation, and evaluation through the use of worker focus groups, Site-Based Councils on Workplace Skills, and a Project Advisory Board.

2. Determining actual workplace literacy requirements for current and future employment through job task analysis within targeted job areas.

3. Targeting 670-700 workers for participation in the project's three component approach and developing individual education plans (PEPs) for each worker.

4. Preparing targeted workers for current and future employment and training through a three component comprehensive approach to the development of basic and life-long learning skills.

5. Integrating basic skill enhancement into on-going training at worksites.

6. Utilizing community-based resources already in place to expand, support, and enhance this workplace literacy project.

The Objectives:

Objective One: **Maintaining high employee involvement in program planning, implementation, and evaluation through the use of worker focus groups, Site-Based Councils on Workplace Skills, and a Project Advisory Board.**

The Project WORKSMART staff was actively involved in the project from the very beginning. We were at the three sites, recruiting employees not only to be participants but to be part of our governing board. We knew that, if this program was to succeed, we had to have employee involvement; this had to be the employees' program, not the Project WORKSMART staff's program. This accounts for some of the differences of how Project WORKSMART was implemented at the sites. Each company had/has its own culture, its own way of "doing business." By taking the role of facilitator, and letting the sites provide leadership and direction for WORKSMART, we wound up with three very different interpretations of the project. This also helped show us that Project WORKSMART was replicable in diverse work environments.

Site-based Councils (SBC) were established at each site. Targeted employees, as well as the site instructional coordinator, were members of the SBC. Their task was to assist in the definition of the needs statement. We had a pretty good idea of what that was, but the "hands-on" employees added a dimension that we might have overlooked. In some of the cases, what we thought was our "reason for being" was not at all; it was something different. The SBC helped highlight that. A case in point was Glen Oaks Convalescent

Center. We entered that site believing that the Certified Nurse Technician candidates were not passing the certification examination solely because of low basic skills. We learned, with the assistance of the CNT's, that the low first time success rate was due to two factors: low basic skills and the lack of decision making/problem solving skills.

As people changed jobs, membership in the SBC also changed and as Councils populations changed, so did the direction of the project within the realm of workplace learning and basic skills. The project helped ensure the project stayed grounded in reality.

Even though it was the original intent to keep the SBC operational for the entire length of the grant, the SBC's appeared to dissolve sometime in the second year. Hindsight tells us that the primary purpose of the SBC was to help get the project off the ground and to establish the project within the workplace. The SBC was very successful in that respect; at each site Project WORKSMART was known by the employees and viewed as a safe resource for assistance. Employee input and direction continued to be a part of Project WORKSMART after the SBC's dissolved. It appears as though the formal SBC became a corps of informal advisors to the project. The formal SBC's met monthly, and there are minutes from their meetings in archive. The informal corps actually met more often. It was these groups that assisted in the transition from a NashvilleREAD project to a site project. These groups also surfaced needs that could be addressed by Project WORKSMART. One example was the development of Learning Packets that were used by Glen Oaks to provide the re-training required when employees made operational errors.

An Advisory Board was also organized early in the project. This board remained intact through out the grant period, although it underwent changes. The board was comprised of the Program Director, the Program Manager, the Curriculum Specialist, one member of management from each site and one employee from each site. The Advisory Board met quarterly to discuss the progress of the project as well as to provide direction for the resolution of any problems. The Board developed a Work Plan that served as a guide for the project.

Focus groups were used throughout the project. Focus groups of employees in a specific job provided the input and validation for the plots of SmartRadio, the multimedia, interactive, adult learning computer series. Other focus groups helped us define the jobs during job profiles and job task analyses.

Objective Two: **Determining actual workplace literacy requirements for current and future employment through job task analysis within targeted job areas.**

The purpose of Project WORKSMART was to increase job skills. In order to learn what and which skills we needed to focus on, both job profiles and job task analyses were completed. Our methodology for performing the job profiles was through ACT's WorkKeys. WorkKeys has been adopted in Tennessee as one of the major indicators in school-to-work. The Program Director already was a certified WorkKeys profiler when the project began. The Program Manager and the Curriculum Specialist completed the certification

process during the grant period. Having three certified job profilers increased the flexibility of the staff and enabled the staff to do a more thorough job of profiling.

A WorkKeys job profile provided information as to the level of the basic skill that was needed to successfully perform the job. Focus groups of subject matter experts (employees who are actually doing the job) worked together to develop a job description and identify the basic skills that are needed in each item of the job description. This same focus group then determined the level (complexity) of the skill needed in the job performance. WorkKeys assessments are given to the employees in the job to determine their skill levels. Work-context curriculum is developed for those employees whose skill levels are beneath the minimum required for the job as well as for new employees or employees who might wish to transfer/move up to that position. Work-specific vocabularies, as well as work-specific mathematics and reasoning problems all became part of the functional context curriculum. For the most part, traditional text books were not used in this project. Our learning materials, our curriculum, came from actual documents and procedures from the workplace.

We completed job profiles at each of the sites. At Glen Oaks, we profiled the Certified Nurse Technician. This was the "job" the project was to address. At NORTEL, we profiled the assembly worker, and, at Saint Thomas Hospital, we looked at housekeeping, the service attendant, and several food service positions. The Glen Oaks position (CNT) was relatively stable; the Convalescent Center's main concern was to hire, train, and retain qualified, certified people. NORTEL, while on the cutting edge of how industries function,

had, as its main concern, just that – survival in a changing industrial world. Saint Thomas was a different story, though. Not only was survival in a changing world an issue, so was the health care industry itself. Times were changing quickly for the hospital. The single-tasked housekeeping job of yesterday was being replaced by the multi-tasked service attendant. Not only were the traditional basic skills needed in this environment, but also required were the higher level basic skills such as problem solving, decision making, and critical thinking. While NORTEL had already gone a long way toward preparing for future employment , it was at Saint Thomas Hospital that the future was the most quickly arriving. Saint Thomas Hospital found that housekeepers (many with basic skill levels beneath the minimum required) needed to be moved into the multi-tasked service attendant slots. Project WORKSMART helped provide the know-how and the means to assist in the transition.

Objective Three: **Targeting 670-700 workers for participation in the project's three component approach and developing individual education plans (PEPs) for each worker.**

The targeted populations had been defined prior to the grant period. Even with this knowledge, start up was very slow at each of the three sites. Part of the reason was simply that we were not known and it took employees a while before they learned of Project WORKSMART. Another reason was that it took us some time to organize and plan our approach to the employees. Once this plan was put into effect, our numbers improved. Having enough participants in WORKSMART was never an issue. Once the value of the

program was known, employees wanted to participate. Management was very helpful in the recruitment of participants by ensuring the approach to the learning was positive, not punitive. Figure 1 shows how enrollment by partner by year. As shown here, we met and surpassed our goal.

Almost twice as many women participated in Project WORKSMART than men. The average age of the participant was 38, although the range was from 17 to 72. 56% of the enrollees were white, 37% were African-American, and the balance (7%) were non-native English speakers.

Enrollees By Site By Year

	Glen Oaks	Saint Thomas Hospital	NORTEL	Total
YEAR				
1	34	101	123	258
2	37	149	160	346
3	61	149	59	269
Total	132	399	342	873

Figure 1

The issue of completing a PEP came up early in the grant period. We designed the first PEP without any input from the employees. By the time the grant was concluding, we had perfected the PEP by making it simple to complete as well as meaningful to the participant. PEPs were completed by all participants and are on file.

Some other statistics about WORKSMART and its accomplishments include:

- Provided 12,171 hours of educational time to participants
- 64% of participants showed improvement in basic skills, communication, and/or problem solving skills
- 69% of those seeking a GED accomplished their goal
- 36% of participants accomplished other goals

Objective Four: Preparing targeted workers for current and future employment and training through a three component comprehensive approach to the development of basic and life-long learning skills.

1. Using state-of-the-art technology-based learning programs to increase basic skill levels in reading, oral, and written communication, mathematics, and problem solving.

SmartRadio is the technology-based adult learning software developed by Project WORKSMART. SmartRadio first became available in October, 1995. It is based on an award winning program developed at Vanderbilt University to help special education children gain better reading and communication skills. Grounded in this extensive cognitive learning theory and research, these same theories became the driving force for an adult, work-based reading and communication skills software, SmartRadio. The design of SmartRadio includes principles such as "no floor, no ceiling" and "a common anchor." The learning environment is adaptable to adults at all skill levels and in any type of work. The complexity of the required skills is coupled with scaffolding for those with lower basic skills.

Research on anchored instruction (Bransford, Sherwood, Hasselbring, Kinzer, & Williams, 1990; Cognition and Technology Group at Vanderbilt, 1990, 1992) stresses the value of

embedding instruction in narratives that all can discuss and share. Because learners come with wide and varied backgrounds, knowledge, and skills, the anchor provides some common ground. The video portion of the anchor can help even the playing field by visually displaying information in each scene.

SmartRadio anchor stories are based in the workplace. Employees assisted in the development of these stories through interviews and focus groups. After the story is scripted, it was returned to the workplace for validation by the employees. Built into each episode are decision making and problem solving skills. There is also a strong work ethic in each story. Going to work and doing the best job possible is important. The entry level employee is the "hero" in many of the episodes.

We developed two versions of SmartRadio. The first one was in an OS/2 platform. Eight episodes were completed on this platform. After the first year, and after some preliminary studies had been completed, the decision was made to change the development to a WIN95/MAC platform. A WIN95/MAC platform made the software accessible to many more customers than OS/2. Our metaphor, the setting for the adult learning series, was a 1940ish radio station, WSMRT. The learner was an apprentice disc jockey who had specific chores at the station. When we changed platforms from OS/2 to WIN95/MAC, we refined our metaphor by adding new art work which resulted in a new, more sophisticated look for the learner as well as enhancing the reading modules.

The largest change is in the reading passages themselves. The reading passages in the OS/2 platform began at a Level I and escalated the reading level as the participant moved to the next passage. The WIN95/MAC platform has three levels of reading. The combined score of the number of times a participant "asks for help" and the score of the pre-assessment locate the participant into either a level 1, 2, or 3 reading of the passages. The instructor/coordinator always has the ability to override the system.

The second largest change between the OS/2 system and the WIN95/MAC system is the Teacher Management System – the way data is collected. The first data collection system collected all kinds of data. Every time someone hit a key the information was stored. The result of this was a data dump. It was what Russ Ackoff (*Democratic Corporation*, 1994) calls "data"; it was a long way away from even being information. After much time and organization, the data became information that could lead to knowledge. The later versions of the software do some of this initial sorting. The data is still available but one can get more meaningful information from the instructors' management kit reports and analyses.

The approach of SmartRadio is a whole language approach encasing vocabulary in readable adult stories that addressed multiple learning styles. The participants heard, saw, and read the stories, practiced words out loud, judged their own pronunciation, and tested their own comprehension.

The SmartRadio pilot was conducted at our worksites. Targeted participants were entry level employees and employees identified by management as having low levels of essential basic skills. Included in this group were non-native English speakers and GED candidates as well as adult basic education students. We looked at two factors: time on the system and pre/post test scores. Additionally, anecdotal information from the participants, the instructors, and co-workers were also captured.

Pre/Post Scores: 13% of the participants' scores decreased in the post test, 34% remained the same, and 53% of the scores increased (Figure 2). The scores that showed a decrease dropped by one point from the pretest score. We believe that this drop is a result of the participant better understanding the question in the post test. The answer given in the pre test was a lucky guess. The average increase from pretest to posttest was 2.5 points with a range of +1 to +5.

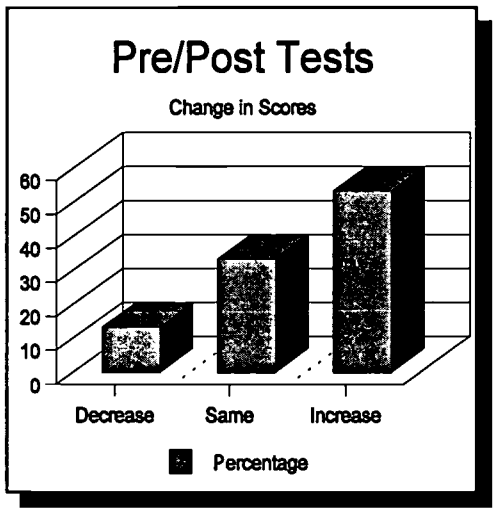

Figure 2

Figure 3 shows the distribution of score changes for the population. The median score is +1 and the mode is 0. Half of the population demonstrated increased skills at the time of the post test even though the most common change score was "no change".

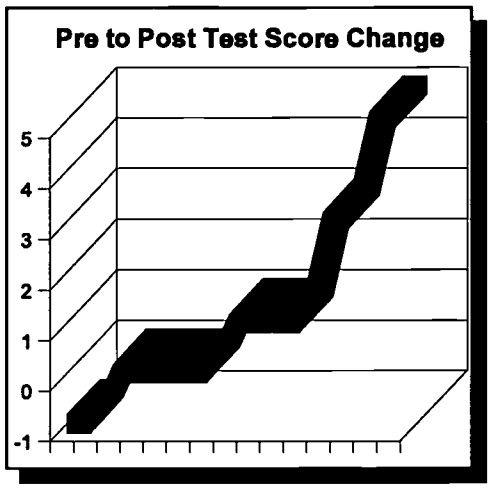

Figure 3

Time spent on an episode varies from 73 minutes to over 900 minutes. Many participants spend time in 30 minute units. This translates from 2 to 18 times spent on the system. The amount of audio support and the number of words selected determine the length of time required to complete an episode. Often times a learner will come into the lab and begin by spending only a few minutes on SmartRadio. As he becomes "hooked" on learning, the time spent and the frequency of attending increases. One person started at 15 minute intervals once a week. This increased to 30 minute intervals once a week. Not long after that (one month) the intervals increased to 30 minutes twice a week. An instructor comments,

> Since working on SmartRadio on their own, I have seen an increase in their desire to learn. I believe this stems from the immediate successes possible in working the program.

We learned that, because of the self-pacing design as well as the repetition allowed (even encouraged) of SmartRadio, this software was an excellent tool for ESL participants. This was not part of the original design, but once the success became known, we continued the development with this in mind. An instructor comments:

> SmartRadio grew in popularity among the non-native speakers. The program helped develop vocabulary and give the participants help in expressing themselves. The immediate successes encouraged them to continue and the challenge of doing the exercise correctly offered a competition with themselves which kept them coming back for more.

There are eighteen episodes of SmartRadio reading: eight episodes in the OS/2 format and 10 episodes in the WIN95/MAC platform. We deviated from the original plan of developing job specific anchor stories to a more generic work-specific type of plot. This gave us greater flexibility in the areas we covered and also enhanced replicability to business environments other than the project partner. For example, **Mangled Menu**, an episode on food service in a hospital, is also applicable to data entry and food service in restaurants. The same thing is true about **Mr. Minh**. Mr. Minh is about hotel housekeeping, but the "job" is very close to housekeeping in a hospital or nursing home. Mr. Minh is an ESL employee, and his "problems" are similar to all ESL employees, regardless of the job. **Material Witness** is about scheduling and employee empowerment

in a manufacturing plant, but the topics of scheduling and employee empowerment can be applied in most jobs.

Math and writing workbooks have been developed for each of the eighteen episodes. Activities in the math and writing workbooks are centered around the episode's anchor story. The two pencil and paper workbooks help round out the series.

The willingness to learn because of successful learning is an important quality of SmartRadio. While the instructors and some learners become frustrated with the initial speed of the video, they are able to continue and still learn. The video often becomes the catalyst for additional conversations to understand what is going on. An ESL learner says, "SmartRadio helps me build my vocabulary so that I can speak and read English better." Others admit, "I am able to recognize many new words since I have been working with SmartRadio," and "SmartRadio helps me speak in complete sentences."

A higher self-esteem and greater self confidence also is visible, even to those who have only indirect contact with the learner. One supervisor remarked that the person who cleaned her office was now having conversations with her. Previously it was a simple hello and a head nod. An instructor noted, "In some students, I have observed a confidence to speak up with co-workers." This same instructor has also commented,

> One student was willing to think about applying for a job that requires a bit of reading which was not possible previously and also to take on a team role (chart writing) which she felt incapable of handling earlier in the year.

Each site developed some kind of technology lab and in each case, the lab was a major step. At Glen Oaks, NashvilleREAD loaned the lab a computer. This one computer lab offered participants the chance to, at the minimum, familiarize themselves with computers. Unfortunately, Glen Oaks was unable to replace the computer with one of their own when the grant ended. Saint Thomas Hospital volunteers donated equipment for the computer lab, which was located in the hospital library. Saint Thomas Hospital has now expanded the computer lab and has two full time instructors working with employees with low basic skill levels. NORTEL viewed Project WORKSMART as a means for enhancing technology skills of their employees. This organization has built a permanent facility for their computer lab. The NORTEL learning, computer lab is an outgrowth of WORKSMART.

2. **Providing a foundations learning skills course for all employees in order to develop life-long learning skills necessary to meet the challenges in training and cross training, self-directed work teams and changes in the work environment.**

Project WORKSMART had as its focus all of the basic skills; this encompassed more than the traditional basic skills of reading, writing, and arithmetic. Learning to learn has been identified as one of the most important skills a potential employee can have by the SCANS (Secretary's Commission on Achieving Necessary Skills, 1991) report. Learning to learn also includes skills such as decision making, problem solving, and critical thinking. This focus enabled participants to maximize their learning and to develop the ability to transfer that learning from the classroom to the job and from one job to another job. Learning skills

have become foundation skills. LearnSmart, our name for the IDEAL course, was developed to be practical and user-friendly while developing and/or enhancing these skills.

We thought if we could help people become better learners, as well as lifelong learners, we could help both the individuals and the organizations in which they work. By encouraging flexibility, teamwork, and decision making within the work environment, the organization would be able to develop innovative approaches to new situations brought about by constant change. Change has put all of us into a continuous problem solving mode. Learning to problem solve is basic to this course, which is built on the IDEAL problem solving model developed by John D. Bransford and Barry S. Stein.

IDEAL, orginally developed in 1984, offers a systematic approach to current problems and offers us way of looking for new opportunities for future growth. Part of IDEAL serves as an on-going paradigm shift, keeping us one step ahead of change. In 1995, Bransford and a select group of writers in the organizational development field, working with NashvilleREAD, developed, revised and updated IDEAL to be more applicable to the workplace. Suggestions for applying the IDEAL framework are anchored in Bransford and Stein's extensive research in cognitive psychology and organizational theory. The units and their exercises are designed to improve the abilities of employees to:

- identify and solve important problems
- learn new information
- increase creativity
- communicate effectively
- work (and learn) together as a team.

IDEAL was piloted at all three worksites as well as in a welfare-to-work class. Management and line workers participated in the course. Pre and post tests were given to all of the participants. Figure 4 is an aggregate view of the data.

	Average Score	Range of Scores
PreTest	6.30	4.50-8.10
PostTest	7.25	5.50-9.00
Gain	2.25	0.60-4.30

Figure 4

Gains in knowledge also appeared in different ways. As indicated earlier, at Glen Oaks Convalescent Center, when mistakes on the job were made, training had been viewed as a punitive measure. Following the learning to learn module, the idea of training became more positive. Training needs requests and retraining packets were developed. Employees started to view change and improvement as a normal part of their job.

Some comments on LearnSmart:

- "LearnSmart is very creative and innovative. I love the emphasis on teams and problem solving."
- "The exercises allowed us to work together in teams which was fun and they provided an opportunity to get a variety of ideas."
- "The course helped me learn some of my weak points in order for me to work on developing them."

- "It helped me understand team roles."
- "I realized the potential for learning exists."
- "The ability to learn is possible."

The original intention of the grant was to have IDEAL/LearnSmart offered to all targeted employees. This did not happen at all sites. We did manage to have most of the incoming CNT's at Glen Oaks Convalescent Center go through parts of the course, and a management group at Saint Thomas Hospital did complete the course. One reason that more persons at these two sites did not complete the course was a delay in product availability. Production, including the modification from IDEAL to a more workplace user friendly approach took several months longer than anticipated.

At NORTEL, the expectation was that all employees would go through the program. However, key staff at NORTEL decided during project implementation that it would not be worthwhile to offer the course to the entire NORTEL population since many of them had previously completed another "learning to learn" course. It was decided then to offer the course only to new hires. Because of employee scheduling, that did not happen. The course was offered once only.

3. **Delivering a comprehensive integrative approach to training.**

Part Three of this objective enabled us to round out what we were offering to make a more holistic program. Learning to learn and the traditional skills were covered by LearnSmart and SmartRadio. Mini-courses were developed to fill in any gaps. Examples of some of the mini-courses are:

- using common sense
- problems on the job
- getting along with others
- starting out right
- staying motivated
- teamwork

Records show that the workers felt they gained confidence and self-esteem from the mini-courses. They were more willing to voice their opinions and thoughts in meetings. They perceived themselves becoming more proactive since they felt they belonged.

The needs of the ESL population came to the forefront at both Saint Thomas Hospital and NORTEL and, at both sites, the WORKSMART instructional coordinator filled the gap. SmartRadio played an important role as did work-context ESL classes. Procedure

manuals, company newsletters, and benefit information became the textbooks for these ESL classes.

Objective Five: **Integrating basic skill enhancement into on-going training at work sites.**

1. **Integrating basic skill instruction into required nurse technician training.**

Thinking that the cause of failure of the state required CNT test was low level basic skills, Project WORKSMART planned to integrate the basic skills into the CNT training. Performance reports told us a different story. Most applicants were passing the written part of the exam, but were failing the clinical portion. Applicants were having trouble with the problem solving/decision making portion of the test. The instruction coordinator at Glen Oaks changed the emphasis to problem solving and communication. Oral communication basic skills and demonstration/presentation skills infused into the CNT training resulted in better attendance and a higher pass rate.

2. **Integrating basic skill training into the employee orientation programs in the Housekeeping and Dietary Departments of Saint Thomas Hospital.**

Housekeeping was one of the first areas Project WORKSMART addressed at Saint Thomas Hospital. Even prior to the completion of job profiling and skill level assessment was completed, WORKSMART staff had begun to integrate basic skills into the orientation program. Vocabulary was pulled and a pre-course was developed. This same technique

was incorporated into other existing training, thus making it easier for all employees to gain from the training.

Assessments showed that 34 people had skills that were below the level required to do the job well. The integration of basic skills into existing training as well as new approaches to training became very important as that fact became known. Assessments began to impact more than basic skills. Not only were employees being assessed, but the levels of the training and hospital publications were also being looked at. Readability became very important. For example, the ***BEAT***, the hospital newsletter, was re-written at a level where more employees could read it.

Saint Thomas Hospital took this project and the help it could give the employees very seriously. Employees needing help with basic skills were identified and enrolled into WORKSMART. Numbers began to increase. Program awareness began to happen; more referrals were made.

At the same time this was happening, two other factors had an influence on WORKSMART. The first was major change in the health care industry. Part of this change indicated that jobs had to be streamlined; instead of being single-task jobs, they were now becoming multi-tasked jobs. This meant the worker also had to change. This person needed solid decision making and problem solving skills. The employee who did not have the basic skills to do the single-task job of housekeeper was now being asked to perform at a higher level requiring even more basic skills. Without Project WORKSMART, many

of these employees would have been lost. WORKSMART enabled these folks to gain the necessary skills to move into these positions. This was an eye-opener for most of us – people actually facing losing their jobs because they did not have the skills. WORKSMART added the service attendant as another job classification to target. This made sense since the service attendant position grew out of the housekeeping job.

The other factor that helped push WORKSMART to the front was the fact that Saint Thomas Hospital was preparing for the JHACO, a national accreditation and assessment required by hospitals to stay operational. Part of the JHACO assessment is to randomly as employees about policy and procedures. To prepare for JHACO, the Nutrition and Food Service (NFS) Department decided to assess all employees in that department. The NFS management understood that if basic skill levels would negatively impact the ability of employees to understand the policies and procedures. As a result of the assessment, the administrative staff learned that not only did they have line employees with low level basic skills, but some supervision as well. Working with the NashvilleREAD staff, NFS put together a program that is both preventative and remedial. That program has become part of Saint Thomas Hospital's training in NFS. It remains intact even though the grant has ended. Sam Coleman, Vice President, Human Resources, put it this way,

> My own personal experience is that the WORKSMART project has been invaluable in helping us realize the issues we face about workplace literacy. . . . the WORKSMART project has been a valuable resource to management staff as we have worked to address the issues of workplace literacy.

3. Integrating basic skill development into on-going training programs at Northern Telecom's NRDC.

NORTEL began at a different level of literacy than the other two sites. NashvilleREAD was called in because the company thought it had a literacy problem. An assessment showed that literacy was not a major issue -- the average reading level in the facility was around 9.0. What was lacking or rusty in some employees were the other basic skills: teamwork, decision making, problem solving, presentation making. NORTEL was changing the way it did business; it was moving from a top-down organization to one that was more participatory. These "new" skills were very important to the new environment.

Training was already a part of the way of life at NORTEL; all employees were required to complete 40 hours of training each year. A goal of NORTEL was to establish the NORTEL University, much like the Motorola University. Cumberland University was already coming on site to offer courses, and the training department was busy developing new classes and a schedule. WORKSMART was going to be a part of that.

Even though the workforce tested at a 9.0 reading level, there were still employees who did not have a high school diploma or a GED. To move up in the organization, one needed at least a high school diploma/GED. The openness of the new environment meant it was okay to admit not having the diploma/GED as long as one was willing to prepare to get one. Thus was the beginning of GED classes. GED classes were conducted through the

Metro Nashville Public School System. Today, NORTEL has a GED cap and gown graduation for those employees and their families who have passed the GED.

The other population that needed help with basic skills were the ESL employees. Part of the function of the instructional coordinator was to help make training for the ESL employees more meaningful.

While it is true that basic skills was not integrated into existing courses, all new courses developed at NORTEL did incorporated basic skill training. One such course was Peer Evaluation. Every six months team members, peers, evaluated the other team members. For the ESL employees, this was a very difficult task.

To help ESL employees with this task, a pre-course to the peer evaluation workshop was offered. Time was spent reviewing and defining competencies and defining and pronouncing critical vocabulary. Also, as part of this pre-course, employees practiced creating sample feedback comments.

When the same workshop was repeated six months later, the instruction coordinator observed:

- ✓ the comfort level of the employees in working with the form was higher than the previous workshop
- ✓ the employees' questions indicated a far better understanding of the overall task

- ✓ interest level in creating sample feedback comments was much higher
- ✓ the groups demonstrated through better comprehension of the competencies what feedback is helpful to individuals.

Another interesting thing happened at NORTEL when an awareness developed about the importance of readability. Management decided to look at how information was being communicated to employees, particularly at quarterly off-site company status meetings. At these meetings, teams share information about productivity, error, and other statistics as well as important activities within the team. Management uses these meetings to update employees about items that are currently affecting business. These meetings are NORTEL's way of keeping employees involved. The Vice President makes a presentation at these meetings using overhead transparencies and handouts. Because of the readability issue, he reviewed the level of his presentation. He determined that a large number of the employees were having difficulty understanding. He adjusted both the format and the level so that all employees could benefit from his presentation.

Objective Six: **Utilizing community-based resources already in place to expand, support, and enhance this workplace literacy project.**

Part of the NashvilleREAD strategy has always been not to duplicate existing services, but to effectively use them. A Literacy Resource Guide was developed by the agency and

given to the partners as a resource for referrals. Referrals included those for vision and hearing problems, traditional GED preparation, and job-specific training.

Sharing resources occurred within the project as well. For example, the WORKSMART Advisory Board provided business partners the opportunity to identify similar concerns. In a number of instances they realized these concerns could be addressed better together than individually. Saint Thomas and NORTEL held joint training. Saint Thomas Hospital also hosted a series of workplace teleconferences and invited other companies who were concerned with workplace learning to attend.

IV. Issues

Project WORKSMART faced a number of delays in its development process. None of the items threatened the success of the project, but they did delay implementation.

Staff/Turnover:

Glen Oaks was the only partner site to have the same instructional coordinator for the duration of the project. Instructional coordinators at Saint Thomas Hospital changed four times; at NORTEL, there were three different instructors. Both sites were without an instructor for a period of time on at least one occasion.

The instructor is the person with whom the employees had the most contact – the person with whom employees felt most comfortable determining basic education needs and responses to those needs. Each time an instructor changed, the process, in many ways, had to start over again. During times without instructors, Project WORKSMART staff filled in the gaps at Saint Thomas Hospital, and NORTEL personnel covered at that facility. The last instructional coordinator at NORTEL did not appear to have gained acceptance from the NORTEL project staff. This impacted the final stage of the

project there and showed the importance of compatibility with the environment.

Product Development and Delivery:

The timeliness of product development and delivery was a major concern for the project. Both IDEAL/LearnSmart and SmartRadio were not delivered on time primarily because of delays in product development. Two thirds of the instructional program was designed around these two products. Not having them available seriously impacted timely implementation.

Continuing efforts to ensure that products met the needs of employees and were compatible with the work environment were the main cause of the delays. For example, the original idea behind SmartRadio was to modify a prototype developed by Vanderbilt University/Peabody College. Pilot testing and staff review resulted in a decision to design a new model of SmartRadio using some of the original principles. Story lines had to be developed; scripts and work content also had to be written. Eight episodes in year one, six in year two, and four in year three were all delivered in the proper year, but at the end of the year. The last four episodes were not completed and delivered to the worksites until the end of the grant. This

delayed and limited some of our field testing on the product, but resulted in a stronger, more useful product.

A similar thing happened with IDEAL. IDEAL's creator agreed to modify his "learning to learn" theoretical concepts into a practical training package for business and industry. This process took longer than anticipated. When the modification was finally delivered, project staff felt more work needed to be done if the course was to be useful to employees in today's and in future work environments. Project staff assumed responsibility for the redesign in addition to on-going responsibilities. The redesign was major and took much longer than anticipated.

Training for this course (a train-the-trainer approach) did not occur until the end of the second grant year. Even though this product's delivery was late, there was sufficient time for field testing and the course could have been used as we had originally planned if the partners had wished to do so. Saint Thomas used it very successfully with supervisory staff, but has not used it with line staff in any department because of high patient load coupled with difficulty placing line staff "off the clock" for the time required to take this course. NORTEL

piloted the course with one team. NORTEL staff made the decision to limit the use of IDEAL/LearnSmart to new hires because the staff had participated in another "learning to learn" course offered at the company a few years prior.

Distance Between Sites: The distance between Nashville and Shelbyville where Glen Oaks is located sometimes interfered in communications. The distance also made the instructor feel like an outsider, not part of the WORKSMART team. We tried to compensate for this through the use of the telephone and staff meetings, but that feeling of isolation and separation was always there. The result of this isolation was that the WORKSMART instructor sometimes felt more closely tied to Glen Oaks than to NashvilleREAD.

Communication problems were also perceived at NORTEL, but for a different reason. It appeared the relationship between the last instructor hired and key training staff at NORTEL was not as positive as we would have hoped. We did not initially realize the situation existed. When we did, a meeting was requested [and held] between NORTEL staff and NashvilleREAD staff without the instructor present. At that meeting, the NORTEL staff indicated that situation was not as

difficult as we had perceived. Steps were developed and agreed upon to improve the situation. A follow-up meeting with the instructor and her supervisor at NORTEL and her key contact at NashvilleREAD was held to review the situation and the improvement steps that would be taken.

Subsequent follow-up discussions with NORTEL staff indicated that, from their perspective, the situation had been resolved and things were moving forward as expected. The instructor, however, continued to indicate she was having some difficulty. Since it was late in the project and since we had been assured that things were satisfactory from the NORTEL side, we worked with the instructor to help her adjust and work within the environment at NORTEL.

However, as one project staff member commented, "It was only after the project ended that the full impact of on-site misinformation and mis-communication surfaced."

We learned from these incidents that monthly goal-focused check ups are necessary to ensure that expectations are being met by all partners and parties.

V. Legacy

Project WORKSMART's legacy can be viewed from several different angles:

- what our project partners learned and what they can continue to use
- what we learned and can use in future projects
- our products

What our project partners learned and what they can continue to use:

The legacy at Saint Thomas Hospital can be seen in the expanded and growing Learning for Life program. During the project, management gained a clearer understanding of employee competencies in relation to the job they held, enlarged their literacy definition, and became more sensitive to the needs of their employees. WORKSMART also provided the hospital with a way to match training with skill level and build the skill level to the level required to perform the job. The mini-courses designed to supplement Nutrition and Food Service courses are still being used and more mini-courses are being developed. The awareness of the importance of readability for all employees continues to be displayed in the hospital's printed information. This readability awareness and importance has been carried to written patient information also. The greater emphasis on assisting employees with limited English proficiency, as well as methodology to assist them, has come from Project WORKSMART. ESL classes are now work-context classes.

The hospital, with the assistance of their volunteers, were able to establish a computer/learning laboratory. SmartRadio, the interactive, multimedia adult learning software, continues to be offered to those employees with low reading skills and ESL workers. Saint Thomas Hospital's level of commitment to both the reality and the ideals of the project was always high. The hospital has a vision and a plan to continue WORKSMART's ideals and practices throughout the organization.

NORTEL was moving toward becoming a learning organization with an emphasis on participatory management. They viewed the project as a strategy to support movement toward that goal. One definition of a learning organization is an organization with empowered members learning to learn so as to continue to embrace and incorporate change.

Project WORKSMART was a way for NORTEL to continue their movement toward the goal of a fully implemented learning organization and, at the same time integrate computer literacy and employee leadership into the process. WORKSMART provided strategies that helped the company move closer to that goal. One strategy involved readability and presentation skills. Because of Project WORKSMART, new courses that have been designed and offered to employees take into account the basic skill level of the intended audience. These courses included topics like Peer Evaluation, Roles in a Team, and other essential workplace skills. Supervisory and other employees have modified staff presentations including charts and overheads so that employees at all levels can understand and transfer information that is presented to them. One of the best anecdotal

evidence of this is a personal testimony from the person who served as Plant Manager during the project about his actions in modifying presentations at quarterly all-employee meetings. NORTEL also took advantage of PROJECT WORKSMART to obtain referrals for educational activities

During the project all partners gained a greater appreciation for the importance and benefits of providing foundation skill training for all employees. Like staff at Saint Thomas Hospital, NORTEL staff embraced the need for special assistance for employees with limited English proficiency. NORTEL initiated workplace ESL classes, on company time, for these employees. ESL employees were also taught via SmartRadio.

Additionally, during the project NORTEL built, equipped and opened an on-site employee-directed comprehensive computer/learning laboratory. This lab is a direct result of Project WORKSMART.

We can look at the legacy left at Glen Oaks Convalescent Center in three ways. The first one was the development of a better way to train new Certified Nurse Technicians. In addition to adding basic skills to the classroom portion of the CNT training, decision making, problem solving, and presentation skills were taught as part of the clinical section of the course. These essential workplace skills were added to the basic training when it was shown that candidates were not passing the clinical portion of the state licensing test. While we do not know exactly how many people were failing the first time because of the clinical portion, we do know that in the later part of the grant's third year, 100% of the

candidates were passing the entire test the first time. The essential workplace skills are now a part of Glen Oaks' CNT training.

The second legacy is a better way to retrain and improve the employed CNT staff. On-the job work errors used to result in demerits and write-ups in personnel files for the person making the error. Project WORKSMART helped Glen Oaks move from these more punitive measures in response to on the job work errors to that of learning opportunity, using these same work errors. Management feels the change from punitive action to that of a learning opportunity has made employees more committed to their jobs and to Glen Oaks.

The third legacy is the learning packets. WORKSMART and Glen Oaks staff teamed to develop learning review packets that continue to be used in basic education CNT classes and as a method for independent review by the CNT staff.

What we learned:

We learned that off site management becomes more difficult as the distance between the sites increases. Even with telephones, fax machines, and e-mail, communication becomes an issue. The staff person working at the distant site can feel isolated and without direction. Support for that person does not seem to come as readily or quickly as it does for a staff person whose assignment is closer. The distant site staff person can lose sight of the direction and not keep in sync with the rest of the project. We learned to

compensate for this through frequent staff meetings and site visits; we also learned that monthly goals and accomplishment reports help keep everyone on track.

Maintaining a consistent staff that is compatible with the culture of the organization they are working in is not as easy as it seems. Staff turnover is a problem whenever it occurs. But when there are frequent staff changes in a short period of time such as three years, the effects on the project can be almost disastrous. We learned that while there was not much we could do about turnover, we could try harder to ensure a "proper fit" with the partner company. We also hoped, that if the fit was right and both parties were happy with the arrangement, the new staff person would be less tempted to leave. One way we tried to accomplish this was by having the partners be part of the interview team. This way all three parties, Project WORKSMART, the company, and the potential staff person, had to be satisfied with the arrangement.

We learned that it is very difficult to estimate development time for new products. Even with an idea of what the product will look like when it is completed, the development can take much longer than planned. Product development is a complex task; even when the development is complete, the product is not necessarily ready. Testing still has to occur and testing can (and does) send the product back to the drawing board. This was one of the hardest areas in the project to overcome. Much of the project was based on using the two products, IDEAL/LearnSmart and SmartRadio. When the time line for these two were extended, we had to find other ways of implementing the project without destroying

the need for the products under development. This caused frustration levels to rise. Product delivery, even late product delivery, relieved some of this tension.

At the beginning of Project WORKSMART, a staff person used the phrase, "It depends," as a means of describing the project. We didn't have any idea at that time how accurate that phrase would be. The real world is often quite different than what one imagines it would be. Such was the case with Project WORKSMART. We knew that the project would look different in each worksite; we had planned for that to happen by trying to select a cross section of business types. Our three partners represented large and small businesses, service and manufacturing, rural and urban, and for-profit and not-for-profit. What we hadn't planned for was the different directions the project took. Hindsight and working experience now tells us if there had been more partners, the project would have gone in even more directions. It was this kind of experience that led to some of the changes we made in our products. An example of this is that SmartRadio became less job specific and mor more work specific. This change resulted in greater applicability of the product in all work environments.

A major project goal was the development of cost effective, adaptable, and replicable products. NashvilleREAD staff came to understand that to be cost effective, there has to be multiple use of any product. The product should not be so specific that it only attracts and benefits one audience. Both products and processes should be transferable and should enable the worker relate understandings to a number of areas within the organization and to changes that may occur in the employee's job, in the company and in

the industry. The worker should see relevance beyond the specific task. This knowledge caused us to adjust our direction from job-specific to work-specific products and processes. Because we have done this, our products are useful in many different work environments.

The products are also useful in welfare to work and Adult Basic Education programs as a means to prepare workers. New potential workers need to learn decision making and problem solving skills. They need to be able to apply these skills as well as basic academic skills in different situations. The products give the learner the opportunity to see and use essential workplace skills in a variety of situations.

The Products:

SmartRadio, the interactive, multimedia adult learning software developed for the project, has become less job specific and more work specific. An episode about scheduling is just as relevant to manufacturing employees as it is to health care or hospitality employees. Another episode about warehousing and inventory control relates not only to manufacturing but to storage and inventory in all work settings. SmartRadio has been introduced in NashvilleREAD's welfare to work classes as well as Family Literacy classes. It is also in use in Kentucky as part of an Adult Basic Education course. We have displayed and demonstrated the software at workplace, family literacy, and adult education conferences in Charlotte, Corpus Christi, Milwaukee, Detroit, Baltimore, and Louisville as well as Nashville. The WORKSMART/SmartRadio demonstration CD has been distributed

to both educators and human resource personnel throughout the country. Interest is continuing to rise about the software.

IDEAL/LearnSmart, developed for the workplace, is also proving to be a valuable tool in welfare to work and adult education programs. This course was introduced to Tennessee adult educators and is available in many Tennessee counties. Twenty-five adult education/ welfare to work teachers in this state are certified to facilitate an IDEAL course. Both SmartRadio and IDEAL continue to be used in workplaces and in adult education classes. The third product is a "how-to" manual developed from our experiences integrating basic skills into existing training. This is a handbook that walks a trainer through the techniques and steps necessary to develop a training program that all employees, especially those whose basic skill levels are low, can learn from.

The three products, SmartRadio, IDEAL/LearnSmart, and the integration of basic skills into existing training, make WORKSMART both portable and replicable. The design of each has given us the ability to move the program to other worksites and to job readiness instruction in adult basic education and welfare to work programs. Our legacy is our products and processes have a "shelf life" that goes way beyond the grant termination.

VI. Summary

Project WORKSMART's goal was to **provide an exemplary multi-dimensional workplace literacy program while at the same time demonstrating products and practices that promote lifelong learning and that can be customized and replicated in diverse work environments.** In spite of challenges and setbacks, WORKSMART accomplished its goal.

Our worksites provided the diverse environments we needed to test our programs and products. Although the results were not exactly as we imaged them three years ago, there was significant change in employees and their work abilities and habits because of WORKSMART's intervention at each site. Each site did grow as a result of the project. All of the objectives were met; some even exceeded. Glen Oaks rethought their approach to training and retraining and moved from a punitive experience to more of a learning opportunity. NORTEL learned how to ensure all employees understood what was being told and learned the importance of addressing essential workplace skills in developing new courses. Saint Thomas Hospital learned how to incorporate basic skills in their training classes, allowing all employees to gain from the classes. For example, at Saint Thomas Hospital, of the 54 service attendants who have participated in Project WORKSMART, 24% (or 13) have been promoted and another 61% (or 33) have shown improvement in their

work ability/habits as indicated by their supervisors. Both Saint Thomas and NORTEL learned how to address more effectively the concerns of ESL workers.

As indicated in previous sections, the products, SmartRadio and IDEAL/LearnSmart, have already been proven as useful tools, not only in workplaces, but in adult education and welfare-to-work programs, helping move adults to work.

A staff member from one of the partner sites expressed her feelings about the project:

> Project WORKSMART has been wonderful for our organization. It has given us a way to help those who otherwise would have been overlooked in our system completely. It helps us also to think about how we are communicating with our customers in print. The need for literacy is greater and goes deeper than any of us ever dreamed. We have scratched the surface but know that where we have started the process is working.

Project WORKSMART

Introduction

Project WORKSMART was a Nashville-based workplace literacy proposal selected by the United States Department of Education to participate in the National Workplace Literacy Program. This project was ended October 31, 1997, with all paperwork and reviews completed January 31, 1998. This evaluation report includes a review of the performance of this project against its stated objectives, the participation of its work site partners, and the project's evolution as adaptations were made for contextual changes and challenges.

The goal of Project WORKSMART was:

> To provide an exemplary multi-dimensional workplace literacy program while at the same time demonstrating products and practices which promote life-long learning and that can be customized and replicated in diverse work environments.

Nestled within this goal were five concepts that became the undergirding of this project. These five concepts were *involvement, accessibility, appropriateness, comprehensiveness, and replication.*

The first concept of involvement was the beginning crucial point. Each work site must have grassroots participation throughout the project, from the learning projects to the work site councils. The second concept of accessibility likewise became important in that all project activities and facilities be located, scheduled, staffed, and equipped in such a way that all employees involved could readily participate. This included arranging classes at times when the employees could easily attend, and making the location logistically reasonable.

In addition to involvement and accessibility, the third concept of appropriateness required that learning materials be measured for biases and learning styles, and that employee jobs be analyzed as to the tasks required. This being done appropriately would help to ensure high employee involvement. Instructors designing and presenting materials and activities in learnable ways for all participants regardless of culture, language, or learning style would enhance appropriateness.

The fourth concept of comprehensiveness meant that the project would need to use multiple approaches in helping the learners improve their workplace skills. This would mean that a comprehensive approach was necessary in order to develop a comprehensive learner. This should include teaching a learner how to learn and how to manage the stress of completing multiple tasks of the job.

The final concept was that of replication. This had two facets. The first was to the student. The student needed to accomplish the learning in the classroom setting and then

be able to practice that learning on his/her job and in his/her personal life. If the learner changed jobs then the basic skills learned should be transferable. The second facet of this concept of replication was to other job sites. While this project was tailored to three particular job sites and the employees directly involved, the components designed for this project should be replicable in other job sites with some modifications

With these five concepts in mind measurable objectives were developed to make the goal accessible. The objectives were designed to cover all aspects of the goal and its concepts, including governance, high employee involvement, task and job profile analyses, assessment of employee needs, educational activities, and replication of program(s).

Project Partners

In addition to the objectives, three work sites were identified. These sites were Northern Telecom (NORTEL), Saint Thomas Hospital, and Glen Oaks Convalescent Home. NORTEL was included as the manufacturing representative in this project, and because they were currently emphasizing employee training. Saint Thomas Hospital was included as a primary health care representative, and because they have been committed to the life-long learning concept for all employees. Glen Oaks Convalescent Center was included as the small business representative, and because they had a strong desire to improve the learning level of their employees. NORTEL and Glen Oaks are for-profit organizations. Saint Thomas Hospital is a non-profit organization. NORTEL and Saint Thomas are both located in urban areas. Glen Oaks is located in a rural area. Collectively, the three work sites provided a diversity of size, location, and affiliation that would be important in order to demonstrate practices and processes that could be customized to the work environment and individualized to the worker, and yet could be replicated in a variety of settings.

Following the establishment of objectives and work sites, human resources (and other resources) were identified. NashvilleREAD established as their function to provide the leadership throughout the project to facilitate the operations being done in accordance with all federal regulations and standards of quality and excellence. Since this was a literacy project, it was only natural for NashvilleREAD to provide this leadership. NashvilleREAD has been a major force and leader in Middle Tennessee in providing literacy programs (family, workplace and volunteer) and has often been a partner and/or supporter of various literacy projects. NashvilleREAD has often planned collaborative efforts to bring literacy professionals, business community, learners, volunteers, and funding agencies together to implement innovative literacy projects. Project WORKSMART was a typical collaborative effort for NashvilleREAD. Their primary responsibilities were to manage the design and delivery of the project, to recruit, train, support, and supervise project staff, to provide technical assistance to business partners and vendors, to act as a facilitator for the Advisory Board and the Site-based Literacy Councils, and to ensure appropriate documentation was being done.

Each work site was to furnish classroom space and release time for those employees who serve on the site's Council on Workplace Skills and on the Advisory Board. In addition to these minimal contributions, Saint Thomas provided tutors/mentors and guidance/counseling from its Education Department. They provided computer equipment needed to operate the learning lab, and field-tested the multimedia learning modules. NORTEL also provided financial support for literacy screenings of employees, tuition reimbursement, and employee training on company time. NORTEL likewise, purchased computer equipment needed to operate a learning lab. Glen Oaks agreed to establish a small technology-based learning laboratory.

Curriculum

The essence of this project was to help employees who functioned below a high school level develop skills and levels of learning in order to 1) maintain their current job, and 2) be promotable. The curriculum utilized was designed to fit the needs of entry level workers at each job site. In some instances existing curriculum at the work sites was redesigned. Computer software was designed as part of the grant and as an integral part of the curriculum. "Smart Radio" was developed to address the need for work-specific instructional software for those employees at less developed levels of basic skills, specifically, reading and communication. "Train Smart" was a process developed to help the employee integrate basic skills needed to complete current training. It was designed to bridge gaps that are not filled by traditional training programs, and to provide training that was user friendly for underskilled workers. A third component was "Learn Smart" which was a modular course teaching employees how to best learn on the job with each other. The curriculum was developed according to the identified skills deemed as necessary competencies (SCANS - Secretary's Commission on Achieving Necessary Skills).

Objectives

The six objectives by which the Project WORKSMART has been evaluated are as follows:

1. Maintaining high employee involvement in program planning, implementation, and evaluation through the use of worker focus groups, Site-Based Councils on Workplace Skills, and a Project Advisory Board.
2. Determining actual workplace literacy requirements for current and future employment through job task analysis within targeted job areas.
3. Targeting 670-700 workers for participation in the project's three component approach and developing individual education plans (Pep's) for each worker.
4. Preparing targeted workers for current and future employment and training through a three component comprehensive approach to the development of basic and life-long learning skills.
5. Integrating basic skill enhancement into on-going training at worksites.
6. Utilizing community-based resources already in place to expand, support and enhance this workplace literacy project.

The documentation for this project was maintained throughout and has been archived. This documentation demonstrated that a variety of individuals from each worksite were involved in all phases of the project from the beginning and throughout the time period.

Issues

Each work site had issues that caused some problems and/or impeded the forward progress of the grant objectives. These impediments did not cause the goals to not be achieved, but in some cases, slowed the process.

1. Technology

Glen Oaks Convalescent Home did not have computers to utilize in the teaching/learning environment. NashvilleREAD loaned them a computer to use until the Center could furnish its own. Glen Oaks was unable to do this during the period of the grant. NashvilleREAD reclaimed their computer at the ending time. Although Glen Oaks personnel stated that having computers was their long-range objective they had no formal plan by which to acquire them (interview, 1/13/98).

The lack of multiple computers slowed the process of learners coming to the learning center on their own time. The instructor made herself available for teaching/learning segments when needed, but the valuable use of additional self-learning time was not as available as it could have been with multiple computer stations. However, the instructor managed to work within the parameters of the grant to accomplish the WORKSMART goal.

2. Communication

The geographical distance between NashvilleREAD and Glen Oaks Convalescent Home was somewhat of a problem throughout the time period. Each did much to compensate for this. Communication was generated through telephone calls and correspondence in order to counterbalance the fewer site visits.

A second communication problem was with NORTEL. Although this work site accomplished much, they often sought help from outside the partnership. The personnel expressed appreciation for NashvilleREAD and their help; however, they utilized other sources to provide GED and ESL classes at their site.

3. Training Time

NORTEL had the most ideal circumstances for training time. If the need arose, they could close down the assembly line for a short duration and give training during the regular work hours. After all, repairing telephones can wait when the training will ultimately make the process better. However, at Saint Thomas Hospital and Glen Oaks

Convalescent Home the work process could not be stopped or even delayed. The learners at these sites were not dealing with a manufactured product; rather, they were dealing with people who could not wait. They were learning tasks such as, changing beds correctly, sometimes with the patient remaining in the bed, moving patients correctly, and filling food trays with the correct types of foods. Training time needed to occur at times when learners could be excused from their work responsibilities or when learners were not "on the clock." Typically, the learners utilized "off the clock" time. Glen Oaks could not hire new personnel until they could prove (by test) basic capabilities. To compensate for this, they would offer the training and teaching; then when the learner had been trained and hired for a minimum time the learner would receive a monetary bonus. This encouraged the learner to come in on his/her own time.

Saint Thomas Hospital gave some of the training during the learner's regular work hours when the supervisor requested this. The learner gave some of his/her off-duty hours to the training and learning and received a stipend for this. This incentive seemed to work well. Many of the learners, especially the ESL learners were willing and anxious to put in many additional hours whenever they could find time to do so.

Some of the restraints on training time were dealing with multiple levels of ESL, adjusting to the workers' schedules, and administering a program to workers with limited backgrounds, perhaps, even disabilities.

Evaluation by Grant Objective

Objective 1 Maintaining high employee involvement in program planning, implementation and evaluation through the use of worker focus groups, site-based Councils on Workplace Skills and a project Advisory Board.

From the inception of this workplace literacy project, as outlined in the proposal the project director, the adult education coordinator, the program manager, the curriculum specialist, and workplace education staff from NashvilleREAD were actively involved in a "hands-on" manner. This was so noted in the External Evaluation, November 15, 1995, submitted by David F. McCargar, Ph.D. There was extensive documentation through minutes of meetings, memorandums, and the like. Each Center established a Council on Workplace Skills involving workers from that Center to provide a two-way forum regarding the Project, to give guidance and input. These Councils were to serve as the "eyes and ears" of the employee population. NORTEL's Council was composed of members from all areas of the work environment since all were participating in this Project. This Council existed for approximately one and one-half years. At the other two sites, members were to be chosen from the designated areas of participation in the Project. The membership of each site-based Council could change due to work changes and priorities; however, the Councils were to continue meeting with members receiving work release time to participate. Records seemed to indicate that Saint Thomas' Council existed for approximately one year. No records were found to verify the existence of a Council at Glen Oaks.

Each Center, likewise, designated personnel who would serve as a part of the Advisory Board for this project. These designated people were an administrative person from each work site and a worker from each site. They met monthly with NashvilleREAD personnel to discuss progress and problems. Documentation of agendas for these meetings with notations following was evident throughout the collected paperwork.

The purpose of this project was to increase job performance skills. Jobs at each work site were skill-specific so a job description/task analysis was completed. The results showed that the worker needed to read and comprehend the instructions, and often complete multi-task jobs according to an established standard. For Nortel, the workers needed to repair telephones effectively and efficiently. For Glen Oaks, the workers needed to change beds, move patients, and serve food according to written procedures; and for Saint Thomas Hospital, the workers needed to comprehend the task of assembling food trays according to patients' stated dietary needs. The composite of the results of literacy assessment at each work site was that the populations enrolled in the program needed to learn the following skills:

- Learning how to learn
- Multi-skill management
- Job stress management
- Time management

In addition to these generic skills, many of the workers needed to improve their reading skills and their language skills, e.g., reading and speaking English and job-specific skills. Courses then were designed to help the learner develop necessary skills. Courses included such topics as problem solving, test taking, communicating, teamwork, and reading critically.

Despite the problem with development and continuance of Site-based Councils, there was considerable dialog with learners and potential learners. The instructors, along with management at each work site, discussed with the workers all ideas pertinent to having a successful venture. This resulted in learning packages being developed and/or refined to meet the needs of the designated population. One example of this would be at the Glen Oaks Convalescent Home where they discovered that the workers needed basic skills, but in those skills they needed the abilities to communicate orally while giving a demonstration. This two-fold skill was necessary for successful completion of a state-mandated test.

A second example of learning packages being refined was at NORTEL. NORTEL began with the assumption that they had a literacy problem. After testing and working with the modules they discovered that the problem was not so much a literacy problem but a learning problem. Learning styles was then incorporated into the learning modules. The processes of drafting, reviewing, revising and refining done by the instructors and the NashvilleREAD personnel served this project well.

Objective 2: Determining actual workplace literacy requirements for current and future employment through job task analysis within targeted job areas.

Smart Radio, Train Smart, and Learn Smart were developed to take to any job site to work with any/all employees in the program. Each was designed with the flexibility to accommodate the learner's needs. For instance, Learn Smart had ten modules designed to be used in any sequence and adjustable within each module.

The NashvilleREAD project director or her designee went to each job site for the purpose of observing and analyzing the jobs of the workers to be involved in this teaching/learning process. Prior to the beginning of the grant the executive director of NashvilleREAD conducted an analysis of targeted jobs at each work site. Following the institution of the grant she and her designees analyzed and updated the prior needs assessment. Examples of jobs targeted were warehouse and repair operations. Afterwards a job description was written with a task analysis of what skills and knowledges each worker would need to successfully complete the job on a daily basis.

At NORTEL the analysis showed that the workers needed most to learn how to learn. In addition, they needed to learn about staying motivated, how to start out right, leadership skills, and computer skills. At Saint Thomas the analysis showed that many of the workers needed English or better English and reading skills. (For many, English was a second language.) They also needed to learn to function at a fast pace with a multi-faceted job. And at Glen Oaks Convalescent Home the workers needed to improve their basic reading skills, to learn how to stay motivated, to practice positive thinking, and to function well with a multi-faceted job. Modules were developed with basic skills embedded within.

The teachings within each module were structured to teach for the immediate work situation and to teach life skills in multiple areas. The workers needed to be equipped to be successful at their current jobs. This would give them self-assurance, and give the work site the assurance that jobs would be completed correctly and within the time allotment. Secondly, and equally important, would be that many of these skills would have transferable abilities. This importance is due to the fact that there is no assurance that jobs and job requirements will remain static. The learning how to learn process would be valuable regardless of the job being held. Likewise, stress management, multi-skill management, and other teachings would serve the learner well.

Objective 3: **Targeting 670-700 workers for participation in the project's three component approach and developing individual education plans (PEP's) for each worker.**

Each site seemed to have some difficulty getting started even though they had a targeted population in mind prior to the beginning of the grant. Once they put the plan into operation the number of participants grew. (See Table next page.)

NUMBER OF NEW ENROLLEES
PER PERIOD PER SITE

SITE	PERIOD #1	PERIOD #2	PERIOD #3	PERIOD #4	PERIOD #5	PERIOD #6	TOTAL
GLEN OAKS	27	7	19	18	38	23	132
ST. T. HOSP.	20	81	79	70	125	24	399
NORT.	33	90	88	72	59		342
TOTAL	80	178	186	160	222	47	873

(*) There are some indications that other enrollees may have been involved; however, there was not enough information to verify this.

Some demographic information about the enrollees was as follows:

- 56% were white, not of Hispanic origin
- 37% were black, not of Hispanic origin
- 7% were non-native English speaking participants. This included Hispanics, Asians, and others
- 64% were female
- 36% were male
- The average age was 38. The range of ages was from 17 to 72. The median age was 37.

The information in this Table indicates that the targeted numbers for participation were exceeded. Workers were eager to participate once they understood the value for them as individuals, both at the work site and in their personal lives also. The management at each work site worked diligently to ensure that the approach to training was positive – to help workers improve their skill and knowledge levels. They wanted to dissipate any thoughts or feelings from the workers that this training was punitive in nature – no one was being reprimanded or receiving demerits.

Some of the accomplishments included the following:

- **Provided 12,171 hours of educational time to the clients**
- **Enrolled 95% of the clients in ABE (basic skills classes)**
- **Enrolled 2% of clients in GED programs**
- **15% of clients showed improvement in basic skills**
- **64% of clients improved their communication skills**
- **54% of clients demonstrated improvement in problem solving skills**
- **69% of those seeking a GED accomplished their goal**
- **36% of clients accomplished their goals**

Personal Education Plans (PEP's) were designed and completed for most workers who enrolled in the project at each site. There is much documentation in the archived files regarding who was enrolled in each segment of the project, and a pre- and post-evaluation and expectations completed by the learner. This documentation also related other topics for learning in which the enrollees expressed an interest.

There were some delays in the beginning with the development and release of the Smart Radio module. It needed to be piloted and revised in order for it to be effective. One of the problems was that it was too fast in the video clip. Other delays in the beginning were the securing of instructors at each work site and the acquiring of the appropriate multimedia equipment at each site. When these were in place the administrators and employees were once more drawn to the project.

Objective 4 **Preparing targeted workers for current and future employment and training Through a three component comprehensive approach to the development of Basic and life-long learning skills.**

1. Using state-of-the-art Technology-Based Learning Programs to Increase Basic Skill Levels in Reading, Oral and Written Communication, Mathematics and Problem Solving.

The technology-based interactive multi-media program was designed specifically for use with adult learners in the workplace setting where literacy skills have been diagnosed as Level I or II by the 1992 National Adult Literacy Survey. This program uses a voice recognition videodisk format to teach reading and oral communication skills in the context of vocabulary, story scenarios, and video simulations that reflect the environment of the worker.

The initial implementation of this multimedia component was conducted at Saint Thomas Hospital. The problems that occur in the beginning were corrected by changing the platform of delivery (from Macintosh to DOS/Windows) and subsequently changing the modules to work with this. These initial problems caused some delays in the delivery of the technology modules, which in turn caused other problems, e.g., some negativism in public relations, some waning enthusiasm on the part of management and employees.

The three work sites had the responsibility of establishing a learning laboratory on their premises. Technology-based learning stations were to be in place in each learning laboratory. Saint Thomas Hospital and NORTEL had no problems establishing learning laboratories equipped with computers and other appropriate technology. Glen Oaks Convalescent Center established a learning laboratory and equipped it with one computer loaned to them by NashvilleREAD.

The initial thrust of the project was to increase the reading skills of the employees enrolled. Smart Radio was the program designed to do this. Students working in this program were being taught in a "whole-language" approach. The whole language approach encased vocabulary in readable adult stories that the learner read (saw), heard,

and then repeated to the computer. They answered questions concerning the story to measure their comprehension level. Decision-making and problem solving skills were also built into each story or episode. This total approach to language skills helped the students to increase their basic reading levels.

Having this total approach to teaching language skills not only helped the students increase their basic reading levels, but the approach also helped management to better understand the lower skilled workers. Documentation from interviews showed that management often did not believe that reading was a job competency prior to the project beginning. Results from pre-testing in Food Services at Saint Thomas Hospital showed that 34 employees were below the required reading level. The advancements made in reading scores were so noted in archived documentation. Although Smart Radio was not designed to teach ESL (English as a Second Language), NORTEL and Saint Thomas Hospital noted in interviews and written documentation that it was found to be successful with these workers. Noted comments from employees following completion of Smart Radio course(s) were that they had immediate success in working the program, they had an increased desire to learn, and that they had more confidence to speak up with co-workers. Another result of this program and the understanding that came from it was with management. They were beginning to understand their responsibility in writing directions and orders. They had a responsibility to write these in easy to understand ways.

2. **Providing a foundation learning skills course for all employees in order to develop life-long learning skills necessary to meet the challenges in training and cross training, self-directed work teams and changes in the work environment.**

In addition to increasing literacy skills, this project had as a focus to develop learning to learn skills within the employees. This focus was designed to help each employee enrolled maximize his/her learning and to develop transferability. Basic skills learned in one setting needed to be seen as usable in the next setting, e.g., from the classroom to the job, from one job to another job. Included within these courses was problem solving exercises, simulations and vocabulary specific to the work environment and/or the work task.

Learn Smart was the modular course developed to teach employees how to best learn on the job with each other. Learning in organizations is defined as gaining both skills and information. Since change has become the normality in today's society it is imperative that learning to understand and manage within change become important both to the individual and to the organization. Learning skills have become foundation skills. Learn Smart was developed to be practical and user-friendly while developing and/or enhancing these skills. This module was tested and proven effective with both line and management. The evaluations from a pilot group of 15 people showed that most participants made significant gains in most areas.

One of the gains from using this program was noted by Glen Oaks Convalescent Center. Prior to this project, when mistakes were made on the job, training was viewed as a punitive measure. Following this learning to learn module, it was noted that training took on a more positive approach with a training needs request process being developed. Employees began to view change and improvement as a normal part of their job.

Another gain from using this program was noted by NORTEL. Following this module was the understanding that people learn in different ways, e.g., learning styles. Interviews noted that morale was better once this concept was understood.

Management, line workers and welfare-to-work participants completed the foundations course, Learn Smart. A total of 25 instructors became certified Learn Smart facilitators.

Saint Thomas Hospital noted gains in the three departments in which employees were participants in this program. The three departments were Housekeeping, Nutrition/Food Services, and Service Associate. (Service Associate Department was not an original part of the grant. It was formed in 1995 to take some of the responsibilities from each of the other two departments. Since it was so closely intertwined with the other departments employees from it were included.) All three departments have low-level entry positions and are subject to high turnover rates in employment. The following tables represent the data gleaned from each of these departments.

NUTRITION/FOOD SERVICES

#PARTICIPANTS	CONT. EMPLOYMENT	NO LONGER EMPLOYED	UNACCOUNTED FOR
112	49%	51%	59.6%

NUTRITION/FOOD SERVICES
57 PARTICIPANTS/NO LONGER EMPLOYED IN THIS DEPT.

RETIRED	TRANSFER	PROMOTED	RESIGNED	TERMINATE	RELOCATE
7%	10.5%	3.5%	12%	3.5%	3.5%

HOUSEKEEPING

# PARTICIPANTS	CONT. EMPLOYMENT	NO LONGER EMPLOYED
37	67.6%	32%

HOUSEKEEPING
12 NO LONGER EMPLOYED

TERMINATED	RETIRED	TRANSFERRED	?????
41.7%	25%	25%	8%

HOUSEKEEPING
25 CONTINUED EMPLOYMENT
IMPROVEMENTS NOTED

ENGLISH IMPROVED	READING IMPROVED	WRITING IMPROVED	MORE COMFORT IN SPEAK. ENGLISH	MORE CONFIDENT/ SELF-ASSURED	SUPERVIS-ING MATERIAL
36%	12%	4%	12%	8%	4%

SERVICE ASSOCIATE

# PARTICIPANTS	CURRENTLY EMPLOYED	NO LONGER EMPLOYED
94	57%	42.5%

SERVICE ASSOCIATE
54 CURRENTLY EMPLOYED

TRANSFERRED	PROMOTED	IMPROVED PERFORMANCE
13%	24%	61%

It should be noted that any participant who was currently working in either Nutrition/Food Services or Housekeeping who was placed in the Service Associate Department was considered as being promoted as these employees must be able to interact with hospital patients a portion of their working time. There were no statistics regarding the number of participants who were promoted in this manner.

3. **Delivering a comprehensive integrated approach to training.**

The on-site educator at each location was to assess the needs of the employees and to take recommendations from the site-based Council on Workplace Skills and to develop site based mini courses to address skill needs. The development and delivery of these courses were designed for the adult learner. To that extent, any instructor in these was required to have completed 16 hours training in workplace literacy practices and procedures, to use work-specific materials, and to attend monthly project staff meetings.

Examples of many mini courses were in the archived documentation. These included the following –

- Using common sense
- Problems on the job
- Getting along with others
- Starting out right
- Staying motivated
- Teamwork
- Leadership (versus management)
- Positive thinking
- Problem solving
- Test taking
- Reading critically

- Communication

Time sheets, work records, and goal sheets for each of these mini courses seemed to be complete. Students recorded many positive statements regarding these courses. Some of those positive statements were recorded on goal sheets; others were recorded in interviews. The workers stated that they gained self-confidence and self-esteem. They were more willing to voice opinions and thoughts in their meetings – they were willing to take risks. They thought they were becoming more proactive since they felt more like they "belonged." Other comments included "I was encouraged to learn more"; "This helped me to understand team roles"; and "I learned to better express myself."

Although there seemed to be a problem keeping the site-based Council on Workplace Skills going at each site there did not seem to be a problem with communicating with the employees regarding the types of courses needed. There was no written or verbal communication to be found in this area. In fact, the responses given from those involved in the courses indicated general satisfaction. The only area that was noted as not being as complete as needed was in mathematics. Employees and management both stated that more was needed.

OBJECTIVE 5: **Integrating basic skill enhancement into on-going training at worksites.**

1. ***Integrating basic skill instruction into required nurse technician training.***

At the Glen Oaks Convalescent Center prior to the project beginning the required 40-hour nurse technician course was successfully completed by only 52% of the new hires. This resulted in non-licensure and termination. The plan was to integrate basic skills into the WORK SMART program within the first year of the project resulting in a significant drop in the failure rate on the state examination in the second and third project years. Employee retention and attendance rates were to increase. The targeted personnel were tested in "reading for information" and "applied mathematics."

Semi-annual workplace literacy program performance reports were completed in a timely manner. The results of these reports showed several things. In the beginning the WORK SMART participants were passing the written portion but failing the clinical portion of the CNT (certified nurse technician) examination. (Documentation, 3/22/95) One year later (documentation, 4/9/96), the project instructors were continuing to develop an integration of basic skills into the WORK SMART project, but were unable to attain the success rate for which they were aiming.

However, as the project continued, help was provided to the trainer at Glen Oaks that enabled her to develop better curriculum and tools. Priority was given to problem solving and communication. Infusing the oral communication basic skills and demonstration skills into the CNT training resulted in better attendance and higher pass rate. Following WORK SMART modules most participants passed the CNT examination the first time it was taken.

2. *Integrating basic skill training into the employee orientation programs in the Housekeeping and Dietary Departments of Saint Thomas Hospital.*

Basic skills were to be integrated with new employee orientation programs in both departments, Housekeeping and Dietary, at Saint Thomas Hospital within the first year of the project. In the Housekeeping Department, the employee manual was to be modified to enable new employees to better understand the manual, its organization and its contents. The WORK SMART technology would provide an interesting technological format that would help participants acquire new knowledge relevant to job tasks. The management system of this program would also measure basic skill levels and progress.

Saint Thomas Hospital began a "Learn for Life" theme six years prior to the beginning of this project. When the WORK SMART project became available, the hospital administrator wanted to participate because the project enveloped basic skills within other modules of learning. The integration of learning seemed to be a better approach to the work site than just learning/improving basic skills.

Although Saint Thomas targeted Housekeeping and Dietary Departments they made the decision to begin with Housekeeping. Employees in both departments were tested. The results showed that 34 people in Housekeeping were below the required level. Two specific areas were targeted in this department – management and employees. For management, they needed to learn to communicate, especially in writing, to their employees. For the employees, they needed to learn basic skills in interpreting the written word in order to process food trays correctly and efficiently. For these tasks reading and writing comprehension were deemed more important than mathematical basic skills.

Assessment was done with Work Keys even though the administering and grading of these took a long time. Consideration was given to testing prior to hiring but this was not done since it would have eliminated a large portion of the work pool. It was determined to have participants enroll for one year and assess again at the end of that time. If current participants were unable to perform their job responsibilities at a necessary basic level within one year, they were given the opportunity to move down a level in their job.

The philosophy for infusing basic skills into the WORK SMART program evolved from the assessment of reading comprehension levels. As reading comprehension levels were being assessed so were the reading comprehension levels required to understand the Hospital documents. Originators of the various hospital documents agreed to lower the reading levels as needed. Since a large contingency of participants spoke and read English as their second language, the basic skills taught to this population had to include speaking, reading, writing and understanding English. The interactive video programs were especially helpful in this area. The participant could read and hear simultaneously the passage under study. This methodology was useful; however, the instructors were

dealing with multiple levels of ESL participants. Seventy-five percent of the participants utilized computer assisted instruction; the remaining 25% were instructed one-on-one or class or tutoring.

The process at Saint Thomas snowballed in that the Hospital became involved, those needing help were identified, and team-building skills were developed. As these things happened, the numbers increased. As the numbers increased other employees began to appreciate the work being done. Referrals increased. Readability awareness increased. Technical experts were identified to address literacy issues. As the participants increased their basic skills knowledge and levels they developed a sense of pride and self-esteem. Participants became eager to come to the learning center even when it was not a scheduled time. The Hospital began to pay stipends for coming at "non-work" times since release time from the job duties was difficult, if not impossible, to schedule.

3. *Integrating basic skill development into on-going training programs at Northern Telecom's NRDC.*

Prior to the beginning of this project, NORTEL required all employees to complete 40 hours of training annually. This training was a combination of required and optional courses. Employees had indicated that their opportunities for learning would be increased and enhanced if pre-learning of basic skills needed in courses would be provided. NORTEL made the decision to integrate basic skills into the Working course taking into account the reading level of employees and the diversity of the workforce. This inclusion of basic skills lengthened the course from two hours to eight and one-half hours.

Using the technology provided in this project allowed the participant to set his/her own level of expectation with built-in pre- and post-evaluations. Documentation from Focus Groups recorded that participants thought Smart Radio helped them with spelling, pronunciation and word definitions. WORK SMART helped with understanding work processes and team roles. Participants stated that they were encouraged to learn more, they were better able to express themselves, they were able to develop their reading and writing skills, and that all people learn differently. Teachers noted from observations that participants developed self-confidence and self-esteem, they developed appropriate risk-taking behaviors, and they became proactive.

NORTEL stated in interviews that NashvilleREAD "increased our focus on learning, especially, with the Learning Lab." Simultaneously, NashvilleREAD expressed concern that NORTEL did not consider them a viable partner in the realm of providing GED and ESL classes on site for employees. NORTEL seemed to go outside the partnership to obtain these services.

Although there was much talk regarding the infusion of basic skills into WORKSMART modules, little to no evidence from courses taken could be found. One reason for this may have been that NORTEL stated that the reading level at their site was ninth grade and above. Yet, they also stated that Smart Radio was not low enough (reading

comprehension level) for the ESL participants, and that they expected more phonics and word attack skills. There is incongruency in the statements and documentation. However, it appears that all programs promised by NashvilleREAD and the project were delivered, albeit Smart Radio was late.

Objective 6: **Utilizing community-based resources already in place to expand, support and Enhance this workplace literacy project.**

Project personnel surveyed government and community agencies, institutions of higher learning, vendors and other groups in the counties of the targeted work sites for this project. The result of this survey was a list of places to obtain services and support which would give of their resources to the work site partners. This would include, but not be restricted to, job-specific training and workplace training. The final product would be a community resource directory to be used locally, and to serve as a prototype for similar publications in other locations.

The positive consequences of this work were demonstrated in a variety of ways. One of these was the policy of referring project participants to GED and ESL programs in the area when indicated in their PEP's. A second demonstration was the use of VISTA volunteers to help with the testing, especially the testing which occurred at the beginning. A third demonstration was the linking of two work site partners, NORTEL and Saint Thomas as providers of information, training and teaching. Saint Thomas Hospital conducted a panel for the purpose of sharing ideas. Learning Disability testing services were also offered. NashvilleREAD offered referrals to management for educational activities. And finally, in the beginning of this project, Nancy Perkins, who had researched and written concerning "Learning to Learn", shared her knowledge at NORTEL with the project participants regarding learning styles.

Summary

The goal of this project was to provide a multi-dimensional workplace literacy program while simultaneously demonstrating products and practices that promote life-long learning and can be customized and replicated in diverse work environments. NashvilleREAD accomplished this goal. The products included SMART RADIO, LEARN SMART, and TRAIN SMART. There were multiple modules for each component. Each of the modules was developed with the concept of teaching some phase of adult literacy or job skills. Each teacher was trained in the philosophy and instructional strategies of teaching and working with the adult learner. The products and their modules were developed, for the most part, to be utilized with computers and current technology.

The purpose of the workplace literacy program was 1) to help participants develop the skills needed to perform their current job requirement and 2) to help participants develop skills that would be transferable. A secondary purpose was to develop a program that

would be replicable. There was much documentation from each work site recording support for the primary purpose. Management and employee participants alike stated/wrote that much was learned, from improving self-esteem to passing a required examination the first time. Each work site saw the need for the project's intent and became willing partners.

Each work site had its own entrance level and its own expectations of how this project would improve the work levels. Some of these expectations were met; others were not. Some were reasonable; some may not have been. Nonetheless, they were the expectations of the project participants. NORTEL had changed management and management styles just prior to the beginning of this project. Their new vision was to become a learning organization. They viewed this project as a means to help them move forward. They wanted some guidance from outside the organization. NORTEL seemed to view NashvilleREAD and this project as a way to build computer literacy, to obtain referrals for educational activities and to get a variety of specific learnings. NORTEL was beginning to move towards their own goal of participatory leadership. As the employees moved through the modules of this project they were better equipped to participate in management meetings. The newly acquired information from the project coupled with recognition from management boosted the self-confidence and self-esteem levels of the participants. Although NORTEL's vision did not always seem to include NashvilleREAD as a viable partner (sometimes going outside the partnership to seek services) they did accomplish the goals set forth in the project and benefited from the partnership.

Glen Oaks Convalescent Center, likewise, seemed to benefit from being a work site partner in this project. Prior to being a work site partner, Glen Oaks had had trouble hiring and maintaining qualified workers in the lower skilled/lower paying jobs. In fact, many times their competitors for this pool of workers were the fast food restaurants. The workers they could get did not want to complete a long training period or were unable to complete it successfully. They could not remain employed if the required examination was not passed. Glen Oaks was a willing and eager participant because they saw this project as a way to help them successfully train and maintain workers. The results were that most participants in the program successfully completed the examination the first time it was administered, saw this project as a means of learning more and keeping their job or even advancing in their job, and stated that they "felt better" and had more self-esteem. The difficulty, which Glen Oaks experienced, seemed to stem from their lack of a vision to develop a computer lab. During the time of this project they borrowed a computer from NashvilleREAD. There was no evidence that Glen Oaks made any overt efforts to purchase any computers for this project; in fact, they wanted to keep the computer loaned to them by NashvilleREAD. Although the administration was highly pleased (interview) with the project and its results, and although they want to establish a computer lab in the near future as a means of continuing this work they have no plan to actually do so. The physical distance between Glen Oaks and NashvilleREAD and the other work site partners created some problems. It seemed to be more difficult to establish and maintain open communication which, at times, resulted in

misunderstandings. However, Glen Oaks met their own expectations and, with the exception of computers, the expectations of the project. In their own way, they were able to move forward and accomplish a great deal. They are continuing with the education classes with the service learning packets and testing system.

Saint Thomas Hospital has always had as its mission to be an advocate for the poor. Because of this they viewed this project as a "natural fit." The testing and data garnered from their employees got their attention. Their hope was that this intervention process would prevent turnover and mistakes with employees. Although Saint Thomas has more employees than the other two work sites, and although many of them would benefit from being enrolled in the program, they decided to concentrate on small areas at a time and grow as they learned how to best manage and administer the program. The management was very supportive of expanding their established education program. The Work Smart project seemed to be the right thing at the right time. The hospital invested $150,000 to begin the project to establish a computer laboratory and other necessary equipment and personnel. They were able to meet all project expectations. Because of their level of commitment to the project and their level of commitment to the ideals of the project they were oftentimes concerned at the monumental task before them. However, the ESL learners were able to make quality progress and technical skills for literacy were improved, loyalty and morale were improved. Management was able to get a better handle on employee competencies and enlarge their literacy definition. They were also able to develop different tactics in dealing with employees. They became more sensitive to the needs of the employees. Saint Thomas was not only satisfied with the project during its tenure, but has a vision and objectives to continue the project's ideals and programs and to enlarge this education concept into other departments.

REPLICATION

The final portion of the goal of Project WORK SMART was to develop a program that could be customized and replicated in diverse work environments, particularly those which, because of size or location, experience the most difficulty in attracting and retaining a strong workforce. It seemed obvious that the learning packets within each module could, perhaps with small modifications, be utilized in most work environments.

In order to make this type of project successful in the future both NashvilleREAD staff and the external evaluator interviewed each work site. Many of those thoughts are included in this report.

One of the beginning problems was with the lack of continuity in teaching staff. In some instances it took some time to locate a teacher. In other instances, there was too much turnover. For this program to be successful there needs to be trained teachers (in adult literacy) and there needs to be continuity in employment of the teachers. While these

problems may be unavoidable, they create dysfunction in the program, in that there may be time without an instructor or, at minimum, time getting use to a new instructor. This creates gaps in programs – even quality ones.

Some of the programs were late in delivery, such as Smart Radio, and some of the programs had errors and/or malfunctions that had to be corrected. Once this was completed, the programs were able to run effectively. All start-up problems may not be able to be eliminated; however, all start-up problems have, at minimum, the effect of poor public relations. At maximum, they may cause some employees not to participate or management to not emphasize the importance of such programs.
In order to encourage other work sites to become involved in this type project key management persons need to be included in the beginning talks. Supervisors of intended participants should be involved to get their input and support. It is suggested that someone work with them to determine their level and understanding of basic skills. This open communication would help in determining and developing curriculum that is truly work related.

A concept, which would also help in developing appropriate curriculum, is that of pre-testing and job analysis. Understanding what the job requirements are in a very basic way and comparing that with where the participants' beginning levels are would determine the beginning teaching points.

In addition to these ideas, other things that become necessities are appropriate and adequate workspace, technology and financial commitment at all stages of the project. These become the ancillary items, which when not present, can sabotage the best intentions and efforts.

All skills needing to be taught should, as this project attempted to do, be taught in a comprehensive manner. That is, it should be taught utilizing varied teaching/learning styles so that all participants can learn to their utmost capacity.

Having many trained volunteers and support personnel help this type of project to be successful. Although this project experienced great success, having more volunteers and support personnel would have helped the teachers and NashvilleREAD staff to implement the program in a more efficient manner. It could have also helped in the storing of documentation in a more orderly fashion.

CONCLUSION

Although there were many challenges throughout the time of the project and some delays in delivery of programs and teachers, Project WORK SMART fulfilled all of its stated objectives successfully. Significant changes in employees and their work habits/abilities were noted at each work site because of the intervention of this project. Each work site worked diligently to meet its obligations. Even when a work site changed the parameters

of the conditions to meet their own agenda, the project was successful. Participants learned to think in a more critical fashion, to "pre-think" and to view other participants as members of "the team." Participants stated that they learned many useful things, they learned how to learn, and that they learned to celebrate their successes. The three work sites are to be commended for their participation and their successes. NashvilleREAD is to be commended for their abilities to initiate and successful complete such a project.

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