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**THE EDUCATIONAL NEEDS OF**

# **DISLOCATED WORKERS**

**IN MINNESOTA**

by

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## EXECUTIVE SUMMARY

This project studied the educational needs of dislocated workers in Minnesota. As these workers looked for new employment or retraining programs, did they feel they had sufficient reading and mathematics skills to make the transitions?

A representative group of 168 dislocated workers who had been employed in manufacturing, taconite mining, lumber, and farming industries were interviewed from June through September 1986 as plants closed. Views were elicited on both educational needs and factors which influence those needs. Follow-up interviews were conducted with 119 workers from six to nine months later to see if subsequent experience had changed workers' views.

### FINDINGS

These findings present a complex picture of the educational and training needs of dislocated workers in Minnesota.

#### Employment aspirations and enrollment in retraining

- o Most dislocated workers did not envision making radical changes in their occupation. When asked, "Ideally what job would you like to get?" most wanted something similar to the job they had just left.
- o Approximately 54 percent of the workers we interviewed intended to enroll in retraining--either long term (more than one year) or short term. A preference for long-term training was indicated by 71 percent of the farmers who were interested in retraining, 63 percent of the manufacturing workers, 75 percent of the taconite workers, and 55 percent of the lumber workers.
- o Strongly predictive of the intention to go into retraining were workers' perceptions that jobs in the future would require more reading, their stated interest in math brush up programs, and their willingness to attend basic skills programs.
- o The strongest disincentive to attending both basic skills classes and job retraining programs was age. Older workers were least inclined to seek retraining.
- o On follow-up, six months later, 35 percent had completed retraining courses and only 8 percent were in training at the time of the interviews. Time and money were the most frequent deterrents cited.

#### Use of basic skills on the job

- o Taconite workers and farmers saw reading and math as important in performing the jobs they held.
- o All of the groups we surveyed rated reading and math as above average in importance. Math was seen as slightly less important than reading.

- Groups of workers varied as to their perceptions of the importance of reading in future jobs. Lumber workers, the least likely to see reading and math as important in their previous work, tended to see future jobs as requiring more reading. Taconite workers and those in computer-related manufacturing, who rated reading high in their previous work, were less inclined to see more reading being required in future jobs. The more education a worker had, the more likely the worker was to see the importance of reading on the job. This should not be surprising because better educated workers tend to go into jobs where reading is relatively more important.
- Workers did not universally find that increased reading was required in their new jobs. Lumber workers, who read less on their old jobs, did find more reading required on their new jobs in assembly work or service jobs. However, relatively few found work. Taconite workers rated reading on their new jobs as less important and manufacturing workers in the metro area reported relatively little change.

#### The perceived need for brush up programs in reading and math

- Four of every five workers agreed that co-workers needed to brush up in basic skills and would benefit from programs in those areas. The high-tech manufacturing group differed from the others in that, better educated themselves, they saw less need for brush up programs and saw less need for co-workers to have such programs. All groups universally agreed that they themselves had the reading, math, and writing skills they needed to enter training.

#### Intended enrollment in reading and math programs

- Intention to attend reading and math programs varied among groups. Most likely to enroll were manufacturing workers who were offered a basic skills class on site. Least likely to attend were taconite workers who, as a group, did not see more reading being required in future jobs.

#### Age and the intention to seek retraining

- Older workers were most often displaced from jobs requiring little use of reading and writing. They tended to see more reading and math being required in the workplace. In addition, they were less likely to say that they had the reading skills they needed to be successful in retraining.
- There was a significant correlation between years of age and the perception of how severe the current employment situation was. Perhaps this pessimism prevented many older workers from participating in the basic skills programs including the one offered on our test site.

#### Perception of employment situation

- There were significant differences among the groups as to how they rated the seriousness of the dislocation crisis. Those in computer-related manufacturing in the metro area saw the crisis as less severe. The follow-up interviews confirmed that this group was most successful in getting jobs. Seventy-eight percent had found new jobs six months later. Taconite workers



in the northern part of the state saw the crisis as most severe. Their fears were founded. Six months later only 37 percent had found new jobs. Farmers rated the severity of the crisis high and saw less chance that things would improve for them in the future. Only 36 percent thought that they would emerge better off.

#### Advice to government, unions and private agencies

- o Views as to what the federal government, state government, the unions, and private industry should do about the current crisis fell into several major areas: protect workers' jobs and benefits, give advance warning of closings, extend unemployment benefits, improve helping agencies, increase the roll of private businesses in helping employees, retrain employees on the job, and get the unions to work together.

#### RECOMMENDATIONS

- o The findings point to a series of discrete problems that could be addressed without major adjustment in either policy, programs, or funding. In relation to basic skills and job training: basic skills training needs to be integrated with job retraining programs, a full time coordinator position needs to be created to help state and local agencies that work with dislocated workers coordinate their efforts, TVIs need to customize their programs for dislocated workers, and basic skills programs should stress math skills.
- o In relation to public policy: early notice of plant closings is needed, methods of ensuring financial stability to dislocated workers need to be considered, programs to aid those dislocated should continue to develop, and model programs could show the way for integrating job training and basic skills training.

## INTRODUCTION

The United States is undergoing considerable economic change. The trend to internationalism and rapid technological growth has led to a considerable loss of jobs in heavy manufacturing, steel, lumber, agriculture, and even the computer industry. Nationally, five million workers were displaced from 1981-1986 (U.S. Bureau of Labor Statistics 1985, p. 1). In Minnesota alone it is estimated that 89,000 jobs were lost in the years 1979-83 (*Minneapolis Star and Tribune* 1986).

## MANUFACTURING

In the year 2000 it is estimated that manufacturing will account for only 7 percent of jobs nationally; this is down from 28 percent in 1980. Locally the picture is no different. For example, from 1984 to 1985 the Twin Cities saw increases of more than 100 percent in unemployment compensation claims in the machine and benchwork trades. Approximately 940 manufacturing jobs were lost in the metropolitan area alone in 1985, and the list of plant closing continues to grow. In general, miscellaneous manufacturing in this state is expected to decline to 5.1 percent by the year 1990 (Minnesota State Planning Agency 1984).

## MINING AND LUMBER

Nationally the steel producing and lumber industries are in decline. In Minnesota, the Duluth area is recognized as one of the nation's hardest hit areas of unemployment. Duluth was rated 14th among cities with the highest unemployment figures in 1985, with an official unemployment rate of 13.9 percent (Bureau of Labor Statistics 1985). The unemployment rate for the fiscal year July 1985 through June 1986 was judged to be 12.9 percent, as compared with a state unemployment rate of 6.1 percent at the time the interviews were conducted. State agencies estimated the number of dislocated workers in the northeast region of the state to be 12,533 during the period 1984-86; this includes, for the most part, workers in taconite mining and processing and wood products industries (Minnesota State Planning Agency 1984, p. 1).

The plight of these workers is particularly acute because there are no other thriving industries in the same area to absorb the workers laid off by the shrinking steel and lumber industries.

## COMPUTER-RELATED MANUFACTURING

Minnesota is a major center for the computer industry. Several prominent computer companies (Control Data Corporation, UNISYS, Honeywell, and IBM) are housed here. Widespread restructuring of the mainframe computer industry has affected tens of thousands of jobs across the United States and thousands in the Twin Cities metropolitan area. UNISYS, Honeywell, Control Data Corporation, and IBM have all announced lay-offs totaling over 3,000, with more expected. The state estimates that there was a 12 percent loss in electrical manufacturing jobs and a 14.6 percent loss in computer-related jobs in 1985. Industries hardest hit were those that produce peripherals and semi-conductors (Minnesota Department of Jobs and Training 1987).

## AGRICULTURE

Farming organizations estimate that one-third of the nation's 680,000 family-sized farms are in financial difficulty. Nearly 300,000 have already been forced out of business in the last four years. In the first half of 1986, farm mediation cases reported by the University of Minnesota's Extension Service equalled almost 4,000 in creditor notices and 2,100 debtor requests.

In Minnesota the hardest hit regions are in the southwest and southeastern part of the state (Farm Credit Mediation Program 1987). The major producers in trouble are corn growers (where the price of corn is now less than \$2 a bushel), the soy bean industry, and dairying.

## THE NEW JOB MARKET: FUTURE PROSPECTS

Workers displaced from agriculture and traditional blue collar jobs face an entirely different job market than the one they entered on an average of twenty years ago. A report by the International Labour Organization and the U.S. Department of Labor notes that 21 million new jobs have been generated over the last ten years, 90 percent in small businesses with less than 500 people (Barbee 1986, p. 3). Only 10 percent of new businesses are "high tech," but each high-tech job creates five to fifteen others representing the whole spectrum of the service industry.

The new jobs that are created are not necessarily equivalent in pay or in required qualifications to the jobs that workers have left. A review of the new job market by Bluestone and Harrison shows that only 10 percent of the new jobs created between 1979 and 1985 were high wage (more than \$29,600) and that 43 percent paid less than \$7,400. Between 1963 and 1973 the inverse was true and 43 percent of new jobs were high wage (*New York Times* 1987).

Minnesota's economy reflects of this trend. New jobs are primarily service related and pay between \$6 and \$8 an hour compared with an average of \$12 an hour paid in displaced jobs.

## QUALIFICATIONS AND TRAINING

Lower paying jobs and jobs in the service economy do not necessarily demand lower basic skill levels or fewer educational qualifications. As Tom Sticht (a national expert on job-related literacy) notes, the jobs that are projected for greatest growth, such as industrial robot production worker, geriatric social worker, or energy technician, require at least a tenth to twelfth grade reading level (Sticht 1983).

A survey of jobs in the ten occupations in highest demand in Minnesota by the General Assistance Task Force of the Department of Human Services showed no more than 26 percent could be done by people with less than a sixth grade level in basic skills (Minnesota Department of Human Services 1986).

## THE PURPOSE OF THE STUDY

This year-long research project was funded by the Office of the Vice President for Academic Affairs and the Center for Urban and Regional Affairs at the University of Minnesota. The study was designed to get detailed information about dislocated workers. What types of jobs were these workers aiming for? Were they planning to retrain? What resources were required to facilitate these transitions? And what could unions, companies, government, and educational institutions do to aid them?

More specifically, we were interested in the nature of the basic skills training that workers needed. We were interested in determining whether workers in industries facing closedowns or widespread layoffs had the basic reading and mathematics skills they needed to learn new jobs or to successfully complete retraining programs. If they were lacking such skills, what were the factors that might influence workers' decisions regarding basic skills instruction and job retraining? Did they perceive a need for higher levels of basic skills in future jobs? What did they feel their own basic skills needs and those of others were? Was their perception of the seriousness of the job crisis predictive of their intention to seek training? Were demographic factors such as age, gender, and length of experience on the job influential in deciding whether to retrain?

In summary, this study was to obtain information on which to base policy recommendations with respect to worker retraining. We hoped to have some indications of the types of basic skills training needed, the support services workers required, and the most effective modes of delivery. Basic skills programs in the United States have consistently stressed the need for their programs but have consistently failed to attract participants (Sticht 1983). Does such a need really exist? If so, what is the most effective way to provide continuing education so that people who need help will get it?

The study targeted four key Minnesota industries: lumber, heavy manufacturing (including computer-related manufacturing), mining, and agriculture. We interviewed a representative randomly-selected sample of workers laid off from each industry. The group included workers from a lumber products plant in the northeast part of the state; manufacturing workers from a suburban location; production, clerical, and technical workers from a large metropolitan area computer corporation; taconite workers from the Iron Range; and farmers from the southeastern, southwestern, north-central, and west-central regions of the state.

A six-month follow up of a subsample was conducted to see if those originally interviewed had changed their views after a period of time. In addition, an intensive basic skills testing and evaluation project was conducted with one dislocated worker program in the metropolitan area.

## METHODOLOGY

As the first step, an advisory committee of key interested persons from state government agencies, the Minnesota AFL-CIO, the Farmer's Union, University of Minnesota's Minnesota Extension Service, and private industry was organized. This committee met regularly to give advice on the research content and process and to make key linkages in securing cooperation from the unions, government agencies, and employers involved (see Appendix A of this report).

### DEVELOPMENT OF THE QUESTIONNAIRE

An interview questionnaire was developed in consultation with the advisory committee. The questionnaire had three sections. The first section asked twenty-six questions about retraining, the perceived need for basic skills, interest in and the importance of basic skills, the need other workers had for basic skills brush-up, and the perception of the crisis. The second section collected relevant demographic data on participants. A third section asked for workers' perceptions as to what public and private sector agencies and the unions should do about the current job crisis. (See Appendix B for a copy of the questionnaire.)

### SAMPLING

#### Selection of the participants

The investigators, in consultation with the advisory committee, identified four industries of the state's economy where substantial numbers of the workforce had been laid off in the preceding six-month period (see Introduction). Five plants representing these industries were selected for study. Representativeness in terms of company size, area of the state, and high probability of future lay-offs were considered.

At least thirty individuals, or not less than 10 percent of the number laid off from each plant, were randomly selected for interviews. Demographic characteristics of the 168 people interviewed are given in Table 1. The sample consisted of the following groups:

#### Manufacturing

Our interview sample of thirty (one of whom was not interviewed) was taken from 275 general factory workers. They were displaced following the closedown of a suburban plant that manufactured large car and truck parts. Workers were members of the UAW. The union, with the help of the AFL-CIO, obtained a JTPA Title III grant to provide all workers with job counseling, job search, and basic skills help. The entire placement and training project was administered by the union.

Table 1. DESCRIPTION OF THE SAMPLE

	Lumber	Manu- factur- ing (1)	Manu- factur- ing (2)	Mining	Agri- culture	Total
Sex						
Male	35	24	8	41	26	134
Female	3	5	22	0	4	34
Race						
White	38	24	20	41	30	153
Black	0	4	8	0	0	12
Hispanic	0	1	1	0	0	2
Asian	0	0	1	0	0	1
Age (average)*	46	39	39	51	46	46
Range	28-59	26-59	27-61	32-65	32-59	26-65
Years education*	11.8	11.6	13	11.8	11.0	11.9
Range	6-16	8-13	10-18	7-17	8-16	6-18
Years tenure*	23	14	7	27	30	20
on job	1-43	5-41	1-22	7-31	9-42	1-43
Payment type						
Paid hourly	38	29	18	39	n/a	124
Salaried	0	0	12	2	n/a	14
Other family mem- bers work? (yes)	35%	60%	41%	33%	70%	46%
Location	NE rural	Metro suburban	Metro urban	NE rural	MN rural	
Union representation?	Yes	Yes	No	Yes	No	
n =	38	29	30	41	30	168

(1) Heavy manufacturing

(2) Computer-related manufacturing

\* A statistically significant difference exists between groups on this variable (significant at .01 or more).

### Computer-related Manufacturing

Our interview sample of thirty was taken from 300 production, clerical, and technical workers employed by a large computer corporation in the metro area. The workers were from different sites within the corporation and had been terminated due to a realignment in the company. The workers interviewed were non-union and typically held jobs that required no specific degrees or formal educational certification. The corporation had set up its own job search/outplacement center.

### Mining

We identified a taconite processing facility in a small town in northeast Minnesota. The employing corporation had been experiencing financial difficulties for some time, along with the rest of the steel industry, and had terminated workers in past years. This year the company was sold and all 400 remaining workers had received lay-off notices.

At the time of the interviews, workers were receiving job placement and training assistance from state agencies. Forty-one workers were interviewed at the United Steel Workers of America union hall.

### Lumber

We chose a unionized lumber products plant in a small town in northeast Minnesota. The plant employed 700 paper workers at the time it was sold. At the sale, approximately 300 workers were hired back on a nonunion basis at \$3 less per hour. Termination notice to the employees was sudden, in most cases less than two days. A JTPA grant provided workers with job search assistance. A General Equivalency Diploma (GED) and basic skills classes were offered through a local community education program. The interview sample consisted of thirty-eight individuals.

### Agriculture

Thirty former farmers, farm wives, or farmers who had recently made the decision to leave farming were included in the sample. They were from Brown, Fillmore, Nobles, Lyon, Kandiyohi, Ottertail, Pope, Douglas, Todd, Dodge, Winona, and Wabasha counties. Depending on the region of the state, the farmers raised corn, soy beans, hogs, and dairy cows.

## FOLLOW-UP INTERVIEWS

Initial reactions, especially those solicited immediately after the job loss, may change over time. To see if workers' perceptions did significantly change we talked again with a subsample of the original sample, using questions modified from the original questionnaire. These questions were designed to determine the basic skill requirements in subsequent training or employment, to chart hiring and wage patterns, and to elicit additional worker suggestions for public policy. Follow-up interviews were conducted over the phone approximately six months after the initial interviews.

Open-ended interviews were also conducted with dislocated workers project directors in order to establish a larger picture of placement and retraining for each worker group.

## TESTING FOR BASIC SKILLS: IMPLEMENTATION OF A BASIC SKILLS PROGRAM

While the project was in progress, we were given the opportunity to test workers' basic skills levels and to help set up a basic skills program at one of the interview sites. This followed the initial survey at that site.

Every worker entering the JTPA Title III dislocated worker program for employees laid off from the unionized manufacturing plant in our survey was given the Adult Basic Learning Examination (ABLE) Level 2 test. The purpose of the testing was to identify those individuals with skill levels below the eighth grade level in reading and math. These individuals were then given the opportunity to participate in a class that was offered on site twice a week and customized to their educational needs.

A random sample of low skill workers (below grade 8) who chose to participate in the basic skills class and a random sample of those with similarly low skill levels who did not participate were interviewed after a six month interval.

The purpose of these interviews was to gather more detailed information on worker reasons for taking part or not taking part in training and basic skills programs. The interviews were conducted by an individual not previously identified with the survey or the JTPA program. The interview questions are given in Appendix C.



## FINDINGS

### WHAT JOBS ARE DISLOCATED WORKERS SEEKING? AND WILL THEY ENROLL IN RETRAINING PROGRAMS?

Most dislocated workers did not envision making radical changes in their occupations. When asked "Ideally what job would you like to get?" most wanted something similar to the job they had just left. Most cited jobs where they already held some qualifications and few envisioned long term job training that would lead to an entirely new career path (Table 2).

Will dislocated workers enroll in job retraining programs and what influences that decision? Approximately 54 percent of all workers intended to enroll in retraining. Most likely to enroll were workers leaving manufacturing and least likely to enroll were farmers and taconite workers (Table 3).

This retraining was both long term (more than one year) and short term. A preliminary review of the preferred types of training shows that 71 percent of the farmers who were interested in retraining, 63 percent of the manufacturing workers, 75 percent of the taconite workers, and 55 percent of the lumber workers stated they intended to go into long term job training.

It should be noted that the number of workers with identified interests in retraining were in the minority, 41 percent.

Strongly predictive of the intention to go into retraining was the perception that jobs in the future would require more reading ( $r = .23$ ), a stated interest in math brush-up programs ( $r = .36$ ), and a willingness to attend these programs ( $r = .27$ ) (Table 4). The strongest disincentive to attending both basic skills and job training programs was age. The older a worker, the more disincentive ( $r = -.28$ ).

Did workers hold to their intention to retrain on follow-up six months later? Not surprisingly, fewer actually retrained than those who expressed an interest in it. Though 54 percent of the original sample had intended to retrain, about 35 percent in the follow-up sample actually went into retraining courses and only 8 percent were in training at the time of the follow-up interviews. Time and money were the most frequent deterrents cited to entering training programs, and particularly long term programs.

Being employed again did not seem to make a major difference in workers' decisions about entering retraining. For the two non-metro groups (lumber and mining) where unemployment was 67 percent and 63 percent respectively, 13 percent and 0 percent were in training. In the metro area, where 59 percent and 78 percent were re-employed, 12 percent and 9 percent were in training (see Table 5).

Table 2. IDEALLY, WHAT JOB WOULD YOU LIKE TO GET?\*

<u>Category 1 (Blue Collar)</u>	Percent	<u>Category 2 (Low Skill or Manual)</u>	Percent
Millwright	.7	Janitor	1.4
Assembly	6.5	Security guard	.7
Welder	3.6	Maintenance	7.9
Machinist	5.8	Construction	2.9
Machine operator	3.6	Manual labor	<u>2.2</u>
Heavy equipment	.7	Total	15.1
Fork lift	1.4		
Warehouse	2.9		
Boilerman	<u>2.2</u>		
Total	27.4		
<u>Category 3 (Service)</u>		<u>Category 4 (High Tech)</u>	
Driver	7.2	Electrical mechanic	.7
Dispatcher	<u>.7</u>	Engineer	2.2
Total	7.9	Car mechanic	1.4
		Instrumentation	<u>.7</u>
		Total	5.0
<u>Category 5 (Office Skills)</u>		<u>Category 6 (White Collar)</u>	
Service	1.4	Own business	4.3
Secretarial	1.4	Management	5.8
Stenographer	.7	Administration	<u>.7</u>
Sales	2.9	Total	10.8
Accountant	.7		
Purchasing	2.2		
Computer programmer	1.4		
Technical writer	<u>.7</u>		
Total	11.4		
<u>Category 7 (Social Service)</u>		<u>Category 8</u>	
Teacher	3.6	(No preference or retired)	10.9
Social worker	2.2		
Day care	<u>.7</u>		
Total	6.5		

\* Note: These categories are used for descriptive purposes only. They are based on program clusters used in vocational training.

Table 3. ATTITUDES TOWARD EDUCATION AND TRAINING  
(in percents)

	Lumber	Manu- factur- ing (1)	Manu- factur- ing (2)	Mining	Agri- culture	Total
Will training improve your chance of a job?	86	85	66	90	97	85
Will you enroll in training? (yes)	56	71	66	41	34	54
Where would you be most likely to attend?						
Area vo-tech	29	42	23	34	40	64
High school	21	0	15	50	23	21
Community college	2	4	34	3	29	14
What type of learning situation do you prefer?*						
One-on-one vs. <u>small group</u> vs. classroom	47	68	55	65	--	58
Lecture vs. <u>hands on</u>	72	82	79	97	--	83
Technology vs. <u>usual classroom</u>	47	55	69	55	--	88
<u>Teacher</u> vs. self taught	72	65	80	78	--	74

- (1) Heavy manufacturing  
(2) Computer-related manufacturing

\* Underlining indicates choice made in answering this question.

Table 4. WHAT INFLUENCES INTENTION TO SEEK TRAINING: CORRELATIONS  
(n = 138, farmers excluded)

---

I. Intention to retrain:

Do you think a job you would like to move into would require more or less reading skill than your previous job?

more reading (r = .23)\*

Would you be interested in a program to upgrade your skills in:

reading? (r = .11)

writing? (r = .09)

math? (r = .36)\*\*

If programs were offered in those areas of study, how likely is it that you would attend? (1-10 scale)

Intention to retrain correlates with likelihood of attending programs (r = .27)\*\*

Age

The older a worker, the less likely the worker was to retrain (r = .28)\*

II. Relationships between age, education, and training:

How important would you say reading was in your job?

Importance correlates with number of years of education (r = .24)\*  
and importance of writing in the job (r = .21)\*

Do you have the reading skills you need to be successful in retraining?

Reading skills correlate with years of education (r = .21)\*

In terms of the job situation, how bad is the current crisis?

Severity of the crisis correlates with increasing age (r = .35)\*\*

---

Note: As r approaches 1.00 correlations are perfect. At 0.0 there is no relationship.

\* Significant at the .05 level

\*\* Significant at the .001 level

Table 5. FOLLOW-UP QUESTIONS

	Lumber	Manu- factur- ing (1)	Manu- factur- ing (2)	Mining	Total
n =	15	51	23	30	119
Are you employed currently?	33%	59%	78%	37%	54%
If unemployed, are you in vocational training?	13%	12%	9%	0%	8%
Looking back over the time since the closing, would you have made a different decision about:					
school? (yes)	13%	37%	17%	7%	23%
work? (yes)	20%	6%	4%	0%	6%
training? (yes)	27%	16%	4%	3%	12%
If employed, is there more, less, or the same (reading, writing, math) on your job?					
more reading	33%	22%	30%	7%	21%
more writing	33%	16%	13%	7%	15%
more math	33%	12%	22%	7%	15%
If in training, is there more, less, or the same (reading, writing, math) than you expected?					
more reading	7%	6%	4%	--	4%
more writing	7%	4%	0%	--	2%
more math	7%	4%	4%	--	3%
How important is (reading, writing, math) on your new job?#					
reading	9.2	6.5	7.8	6.3	7.3
writing	9.2	4.9	6.2	4.9	6.0
math	9.4	5.2	5.8	5.2	5.7
Are you earning more or less than on your old job?					
earning more	0%	0%	30%	0%	5.9%

(1) Heavy manufacturing

(2) Computer-related manufacturing

# Rated on a scale of 1-10, where 10 is most important.

USE OF BASIC SKILLS: DO WORKERS USE READING AND MATH ON THE JOB? WILL FUTURE JOBS REQUIRE MORE?

Taconite workers and farmers saw reading and math as important in performing the jobs they held (see Table 6). When asked "How important would you say reading and math were in your previous job?" Workers overall rated reading and math as above average in importance. Math was seen as marginally less important than reading.

Table 6. USE AND IMPORTANCE OF ACADEMIC SKILLS

	Lumber	Manu- factur- ing (1)	Manu- factur- ing (2)	Mining	Agri- culture	Total
How important was reading on the job?#*++	5	6	8	8	8	7
How important was math on the job?#*	5	6	6	7	9	6
Will more reading be required in future jobs? (yes)*+	75%	65%	50%	47%	63%	60%
Use of academic skills:						
Do you like to read?	71%	58%	83%	58%	--	67%
Use math regularly?	27%	59%	50%	63%	--	50%
Use writing regularly?	28%	32%	56%	30%	--	36%

(1) Heavy manufacturing

(2) Computer-related manufacturing

# Rated on a scale of 1-10, where 10 is most important.

\* Significant differences exist between groups (significant at .05 or more).

+ Answers correlate with intention to seek training.

++ Answers correlate with years of education.

Groups did vary significantly in the degree of importance they attributed to reading and math in their previous jobs. Farmers rated the importance of reading and math highest. Lumber workers were least likely to rate reading and math as important.

Lumber workers, on the other hand, tended to most often see future jobs as requiring more reading. Taconite workers and those in computer-related manufacturing, who rated reading high in their previous work, were less inclined to see more reading as being required in future jobs.

The more education a worker had, the more likely it was that the worker saw to see the importance of reading on the job. This is not surprising because better educated workers generally go into jobs where reading is relatively more important.

On follow up, we had expected that workers would find increased reading and math required in their new jobs. This, however, was not the case. The lumber workers, who had read less on their old jobs, did find more reading required on their new jobs in assembly work or service jobs. However, relatively few found work. The taconite workers rated reading on their new jobs as less important, whereas the manufacturing workers in the metro area reported relatively little change (see Table 5).

#### Use of reading and math in everyday life

Although the majority of all nonfarm workers maintained that they liked to read (67 percent), only half said they used math regularly. Less than a third of lumber workers used math on a regular basis. Writing was used by only a little more than a third of the total sample (see Table 6).

#### THE PERCEIVED NEED FOR BRUSH-UP PROGRAMS IN READING AND MATH

Four of every five workers was interviewed agreed that other workers needed to brush-up in basic skills and would benefit from programs in those areas. The high tech manufacturing group differed from the others in that, better educated themselves, they saw less need for brush-up programs and were less optimistic about others benefiting from them (Table 7).

All groups agreed that they themselves had the reading, math, and writing skills they needed to go into training (Table 7).

#### Does the perceived need for basic skills match the actual tested reading and math skills?

All workers who signed up for a Title III dislocated worker program for former manufacturing workers in noncomputer-related manufacturing were routinely tested for reading and math ability (Table 8). Because the purpose was only to establish those who would benefit from skills help, a test designed for skills at the fourth through ninth grade levels was selected. It was assumed that those reading and using math above the ninth grade level would do well in most training programs.

Reading skill. In all, records of 117 participants were analyzed. Only three individuals read at below a fourth grade level. Only seven read below an eighth grade level. The majority (83 percent) read above a ninth grade level.

Math skill. In direct contrast, only two individuals had math skills above an eighth grade level. Five had skills below a fourth grade level, thirteen in all had skills below a fifth grade level. A total of thirty-nine individuals (33 percent) had skills below a sixth grade level.

Table 7. THE NEED FOR BASIC SKILLS PROGRAMS

	Lumber	Manu- factur- ing (1)	Manu- factur- ing (2)	Mining	Agri- culture	Total
Do others need brush-up? (yes)	92%	85%	60%	73%	90%	80%
Would others benefit from such a program? (yes)	94%	96%	63%	85%	98%	87%
To be successful in training:						
Do you have the reading skills you need? (yes)++	77%	78%	90%	90%	86%	85%
Do you have the math skills you need? (yes)	66%	56%	83%	70%	86%	73%
Do you have the writing skills you need? (yes)	77%	72%	83%	87%	70%	79%
Would you be interested in a:						
reading program? (yes)	31%	33%	33%	39%	58%	39%
math program? (yes)+	50%	69%	34%	39%	46%	47%
writing program? (yes)*	25%	29%	30%	36%	65%	37%
How likely are you to attend? (numbers listed here are means)#*+	6.6	7.6	4.7	4.1	6.5	6.0

(1) Heavy manufacturing

(2) Computer-related manufacturing

# Rated on a scale of 1-10, where 10 is definitely will attend.

\* Significant differences exist between groups (significant at .05 or more).

+ Answers correlate with intention to seek training.

++ Answers correlate with years of education.



Table 8. TESTS OF ACADEMIC SKILLS AND PROGRAM ATTENDANCE

	Low Skills Workers		Total Workers Choosing to Participate in Dislocated Worker Program
	Attending Basic Skills Program	Not Attending Basic Skills Program	
n =	15	15	117
Age (average)	37	41	37
Range	28-54	31-55	26-59
Sex	13% Female	20% Female	18% Female
Race	26% Minority	20% Minority	18% Minority
Years education	11.7	11.6	11.8
Reading score	-	-	55 (9th grade)+
Math score*	12 (5.6 grade)+	12.9 (5.6 grade)+	17 (6.6 grade)+
In a training program	40%	47%	-
More reading on job?	66%	80%	60%
Likely to attend a basic skills class#	10	4.8	

# Rated on a scale of 1-10, where 10 is definitely will attend.

\* ABLE Level 2 (A)

+ Averages

## WILL WORKERS ENROLL IN READING AND MATH PROGRAMS?

When conducting the original survey, we had asked the question "If programs were offered in basic skills, how likely is it that you would attend?" Answers varied among groups. Most likely to enroll were manufacturing workers who were offered a basic skills class on site. Least likely to attend were taconite workers who as a group did not see that more reading would be required in future jobs. Lumber workers, who as a group were most likely to see that more reading would be required in future jobs, also indicated a stronger willingness to participate in reading, writing, and math programs (Table 7).

### Participation of tested workers in basic skills programs

All workers enrolled in the dislocated worker program who had been tested in reading and mathematics were given the opportunity to enroll in basic skills brush-up classes. These classes were provided two afternoons a week on the site of the dislocated worker program. Low scores on basic skills tests did not ensure attendance in the program. Thirty-nine individuals had math scores that were below the sixth grade level; fewer than twenty attended basic skills classes.

To find out reasons for attending or not attending, a random group of fifteen attendees and fifteen nonattendees was selected from those who tested below grade 6 in math. They were interviewed by an individual not previously identified as being involved in the dislocated workers program.

Attendees did not differ from nonattendees in terms of years of education (see Table 8), race, or gender. They did differ in terms of age: nonattendees were, on the average, four years older.

Two-thirds of the attendees were convinced that more reading was required in jobs, but not nearly as many as those convinced in the nonattendees group (four of five).

In general, the low math skill group of attendees and nonattendees were alike in that proportionately fewer intended to go into retraining programs. (Less than half compared with randomly interviewed workers from the same plant.) (Table 8.)

The follow-up interviews with the statewide sample tended to confirm that generally fewer workers return to school than express an interest in basic skills programs.

## DOES AGE INFLUENCE THE INTENTION TO SEEK RETRAINING?

Of the workers we interviewed in our original sample, it was the older workers who were most often displaced from jobs that required lower levels of basic skills in reading and writing. They tended to see more reading and math being required in the workplace, as did the low basic skills workers in our tested group. In addition, they were less likely to say that they had the reading skills they needed to be successful in retraining.

There was a significant relationship between age and perception of how bad the current job crisis was ( $r = .35$ , Table 4). Older workers saw the job crisis as more

severe. Perhaps it was this pessimism that prevented many older workers from participating in the basic skills program on our test site and in retraining generally.

#### PERCEPTION OF THE CRISIS AND THE NEED TO RETRAIN

There were significant differences among the groups as to how they rated the seriousness of the dislocation crisis.

Those in computer-related manufacturing in the metro area saw the crisis as less severe (see Table 9). The follow-up interviews confirmed that this group was most successful in getting jobs. Seventy-eight percent had found new jobs six months later. Mining workers in the northern part of the state saw the crisis as most severe. Their fears were founded. Six months later only 37 percent had found new jobs. As mentioned above, age correlated significantly with the perception of severity of the crisis but was not related to the intention to seek training.

Farmers rated the severity of the crisis high and saw less chance that things would improve for them in the future. Only 36 percent thought they would emerge better off from the crisis.

Table 9. ATTITUDE TO THE CRISIS

	Lumber	Manu- factur- ing (1)	Manu- factur- ing (2)	Mining	Agri- culture	Total
How bad is the current situation?#*+	8.5	8.4	6.7	9.5	8.8	8.5
How likely is a call-back?##	1.8	.14	1.2	2.1	4.0	2.0
Willing to relocate? (yes)	32%	27%	23%	72%	66%	47%
Will things get better? (yes)	67%	67%	80%	62%	46%	64%
How will you come out? (better)	63%	77%	63%	53%	36%	58%

(1) Heavy manufacturing

(2) Computer-related manufacturing

# Rated on a scale of 1-10, where 10 is the worst.

## Rated on a scale of 1-10, where 10 is certain.

\* Significant differences exist between groups (significant at .05 or more).

+ Answers correlate significantly with age.

## LEARNING PREFERENCES

Most workers (64 percent) saw the vocational technical institutes as a logical place to retrain in job skills or basic skills (Table 3). However, those with more education, those in the computer-related manufacturing group (34 percent) and, to some extent, farmers (29 percent) were attracted to community colleges.

Mining workers in Minnesota saw the high school as a logical place for skills improvement (50 percent) mainly because of commuting distance.

Not surprisingly, there was a heavy preference for hands-on learning rather than a lecture approach (83 percent of all workers interviewed preferred hands on). Workers identified lack of knowledge or experience as reasons for preferring classroom over computer-aided instruction (88 percent).

Workers tended to feel they needed a teacher in order to learn (74 percent), expressing less of a preference for self-teaching materials.

## DISLOCATED WORKERS AS LEARNERS: OTHER FINDINGS

In the course of the interviews, a strong picture began to emerge of the dislocated workers as learners. For most of the workers, particularly lumber workers and taconite workers with long tenure on the job, any school experience was long ago. One taconite worker expressed the idea that workers were too old and too embarrassed to get the basic skills brush-up they needed.

Embarrassment was mentioned frequently by workers as the reason for people not enrolling in basic skills programs. One technology-related worker, when asked why people did not attend said "pride and ignorance." This factor may account for the willingness to state that basic skills education was needed by others, but not by themselves.

Many felt that education had not been a priority in their lives. They had disliked school the first time around. When asked what subjects in school they liked least, the majority stated that English gave them the least satisfaction of the subjects they had studied.

They told us that they left school as soon as they could to go into readily available and well-paid factory work. The majority of workers in this survey were older men who preferred physical labor to desk work, "I don't like desk work," said one lumber worker. "I can't do it."

Did subsequent experiences change peoples' minds? Not altogether. When asked in follow-up interviews if they would have made different choices about school, most said, "no" (77 percent). Most likely to change their minds were the low tech manufacturing group where 37 percent said they would have made different decisions about school. In contrast, only 7 percent of the taconite workers would have changed their minds (Table 5).

What will get people into programs? Many stressed individual motivation. The computer-related group that included more women and more highly educated individuals stressed this frequently.

Many also said a guaranteed job would get them to participate in programs. However, as noted in our previous report on the retraining program at American Crystal Sugar (Park and Storlie 1986), even when job tenure depended on successful retraining people still did not attend programs designed to brush-up reading skills. Workers need to see the direct relevance of what they study in basic skills programs to jobs and job retraining. This seems crucial for program success in basic skills classes.

All groups were willing to blame age and time factors as reasons for not wanting to attend programs. For the lumber workers, location and lack of any job possibilities also weighed heavily. There was not great enthusiasm for job retraining although workers saw it as necessary. Said one taconite worker, "Most say they don't want to retrain. They need a shove to go out and do it, but job training is better than a kick in the butt."

## SUMMARY

In summary, dislocated workers in the manufacturing, lumber, mining, and agriculture industries essentially wanted similar jobs to those they were leaving. Over half planned some type of job retraining and saw the vocational technical institute as the place to get that training. Over time, however, many fewer actually got training than expressed an interest in it.

Most workers perceived a need for brushing-up basic skills in order to retrain or be successful in the current job market. However, tested levels of reading and math skills for a major program in the metro area showed the need for brush-up was much greater in math than in reading. The average math score was at a sixth grade level while reading scores averaged at the ninth grade level.

Participation in basic skills programs was by no means a given, despite workers' perception of the need for them. Most workers felt that others needed brush-ups but that they had the basic skills they needed. The highest predictor of participation in basic skills programs was the intention to go into a training program. In the test program in the metro area less than half who needed basic skills instruction attended classes.

Age seemed a strong predictor of willingness to enter retraining. Older workers were displaced from jobs that required less reading and math. They saw the job crisis as more severe but were less likely to attend basic skills classes.

One final note: many of the workers we interviewed in the follow-up were earning less on their new jobs. For the rural non-metro sample this was true for 100 percent of the workers. In the metro area 48 percent were earning less.

WORKERS' PERCEPTIONS OF THE CRISIS:  
WHAT FEDERAL AND STATE GOVERNMENT, UNIONS, AND  
THE PRIVATE SECTOR SHOULD DO ABOUT IT

The final question in the interview was "What should the federal government, state government, the unions, and private industry do about the current crisis?" The replies fell into several major areas:

1. Protect workers' jobs. Solutions suggested were very much a response to the problems facing each group. Taconite workers wanted to curb imports. In all cases workers felt victimized by companies opting to use cheap foreign labor. Workers talked about improving the business climate, reducing taxes, and working for less if it meant retaining jobs. For most, however, the loss of jobs and wages was an almost unsolvable problem for which they had no easy answers.
2. Protect benefits. Workers victimized by bankruptcy and buyouts wanted federal and state intervention to guarantee lost retirement and health benefits. Since most of the workers in these groups were older, these issues were absolutely critical. For example, lumber workers had been with the company an average of twenty years. Early in their careers many had been exposed to both asbestos and formaldehyde. After the company was sold the previous union contract was abandoned and many workers were not rehired. Many in their 50s found themselves with serious health problems and no health insurance.
3. Give adequate warning. For all workers, adequate warning was seen as crucial. The unionized manufacturing workers felt a federal or state law was needed. Many found themselves with unemployment compensation running out. Retraining, especially long-term retraining, was considered a luxury when the more pressing need was to put food on the table.
4. Extend unemployment benefits. Most training programs designed to get workers into more stable long term employment take up to two years. Unemployment benefits last six months. Those we interviewed were for the most part older workers with mortgages and children in high school or college. They were proud and did not want welfare. To get welfare they had to be almost destitute. Most workers expressed extreme frustration about the time bind they found themselves in.
5. Improve the "helping agencies." Groups of workers expressed extreme frustration with the individuals they had encountered at Job Services and in the local welfare offices. Perhaps because these state workers were used to dealing only with particular types of clients, such as the chronically unemployed, they often appeared to be insensitive to the needs (and sensitivities) of older dislocated workers. For lumber workers, the bureaucracy and red tape associated with getting help was a major problem. Subsequent interviews with individuals running the dislocated worker programs also underscored the red tape problem.
6. Increase the role of private business. The non-union manufacturing group felt imports (with perhaps the exception of computer chips) should not be

curbed. They mainly supported free enterprise and stressed individual initiative as the desirable way of solving problems. However, many also felt the onus was on companies to help place laid off workers, warn them of lay-offs in adequate time, and give employees more say in decision making in respect to company policies such as moving the plant.

7. Retrain employees on the job. In the non-union manufacturing group, some were very bitter about the way middle managers had handled the layoff. In retrospect, some felt a seniority system would have protected them. The advice they gave to the company was to train middle managers better and give employees more say as to who gets laid off.

It was also felt by this group that the company had a responsibility to help employees learn transferable skills. The employees in the computer-related manufacturing group had been on the job less time than their union counterparts. Many had been hired as part of an affirmative action plan. Some had had the opportunity to learn new skills, but many had not. The training they did receive was often obsolete at the time of layoff.

8. Advice to the Unions. Most unionized workers felt their unions had done their best in difficult situations. Most frequently the comment was to pull together statewide. One worker suggested all manufacturing workers be represented by one union. Others wanted international unions.

In terms of specific advice, taconite workers were anxious that unions (not companies) control pension funds. Also, most felt unions should lobby actively for successor legislation that would guarantee previous employees a job with the new buyer if a company was sold.

## OVERALL RECOMMENDATIONS

### BASIC SKILLS AND JOB TRAINING

Reviewing the findings from the project pointed to a series of discrete problems that could be tackled without major changes in either policies, programs, or funding. These problems with possible solutions are listed below:

**Problem 1:** Workers perceive that there is a need for basic skills brush-up and they test low in mathematics but are unwilling to enter basic skills brush-up programs.

**Recommendation 1:** Job training and basic skills training must be integrated in Minnesota. This means all job training programs must provide the basic skills brush-up necessary to help those who are educationally less prepared to complete the job training programs successfully.

Integrating job training and basic skills training will make basic skills more attractive to workers who might not otherwise enter such programs.

It is vital that these programs be carefully customized so that only the specific math and reading skills needed in various job training programs are taught.

These integrated programs will pay off in terms of increased motivation and savings in time and effort since other research has shown this direct approach to teaching basic skills is more effective.

**Problem 2:** Workers need to know what training options are open to them as soon as possible and before their unemployment benefits are in danger of running out.

**Recommendation 2:** There must be a plan at the state and local levels for coordinating the efforts of agencies that serve the training needs of dislocated workers. The coordination should be the full-time responsibility of one individual and not an add-on to existing responsibilities.

Coordination of services provided by the vocational technical institutes (AVTI), community colleges, Job Services, and state and federal dislocated worker programs is vital.

Specifically, coordination teams should go out to sites where workers are laid off, or where a layoff is known to be coming. These teams should help organize customized vocational training, vocational counseling, job placement, application for dislocated worker funding, and other services available to laid-off workers. These services must include stress counseling.

The team would work to help sensitize local helping agencies to the needs of dislocated workers.

**Problem 3:** The majority of dislocated workers see the AVTIs as the logical place to retrain, yet older workers are hesitant to attend.



**Recommendation 3:** The AVTIs must plan customized programs for dislocated workers. These programs must be flexible in terms of scheduling and location. The AVTIs must continue to maximize their efforts to attract older workers into training. Responses by AVTIs have tended to be individual rather than coordinated. This has resulted in individual programs "reinventing the wheel."

**Problem 4:** The majority of workers have lost much of the math skills they learned in school.

**Recommendation 4:** Basic skills programs should stress teaching of math skills needed in jobs and retraining.

Most dislocated workers have not used math either on the job or in their everyday lives. Since most lack math skills (the average score in our study was at the sixth grade level), this is the area where teaching should focus. Reading help should be given as it becomes apparent it is needed and when workers feel comfortable in programs and are less likely to be embarrassed.

## PUBLIC POLICY IMPLICATIONS

**Problem 1:** Workers complain of insufficient notice of job loss so they can plan for job search or training.

**Recommendation 1:** The legislature should seriously reconsider requiring employers to give adequate notice of plant closures or sales. "Early intervention" to assist workers to retrain and find new jobs is both humane and cost effective.

**Problem 2:** Workers cannot afford to undertake long term training.

**Recommendation 2:** The legislature should seriously consider methods of ensuring the financial stability of dislocated workers while they retrain.

Methods must be found to protect pensions and health insurance.

Unemployment compensation could be restructured to allow two years for retraining.

A low-interest student/training loan fund for workers could be established into which contributions are made by employers (especially those who leave the state), unions, localities, and the state.

**Problem 3:** Workers, unions, and government employees see layoffs as endemic rather than symptomatic in the state's economy.

**Recommendation 3:** The legislature should increase funding and support for the dislocated worker program.

At the time of the interviews for this study the fiscal year funds for dislocated workers had been used up with six months yet to go in the year and no sign of the number of layoffs diminishing.

**Problem 4:** Current basic skills training options are not attracting dislocated workers in sufficient numbers.

**Recommendation 4:** The legislature should appropriate funding for model programs that integrate job training and basic skills training.

These programs should be both metro and rural and should include personnel familiar with both the training institutions and the dislocated worker situation.

#### THE NEED FOR FUTURE RESEARCH

This survey leaves a number of unanswered questions. We had assumed that both retraining and basic skills improvement programs would be needed by the majority of the workers. In fact not all workers go into jobs that demand better basic skills. More specific information is needed on the match between workers' skill levels and the demands of the job market.

More research is needed into the feasibility of restructuring training programs to allow marginally skilled readers to succeed in them. (A model for doing this has been developed by Sticht (1983) in San Diego, but the model needs to be tried in a number of settings.)

The so-called literacy gap between the level of basic skills in the work force and the escalating demands of the job market is not nearly as apparent to us after completing the study as it was before.

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APPENDIX B. SURVEY QUESTIONNAIRE

INTERVIEW QUESTIONS

CURA BASIC SKILLS PROJECT

Section One

1. (if unemployed) What kind(s) of job(s) do you feel qualified to handle?
2. (if unemployed) Ideally what kind of job would you like to get?
3. (if unemployed) what kind of job would you be willing to take?
4. Would you be willing to relocate?                    yes (1)   no (2)   unsure (3)
5. What jobs do you see as available to you now?
6. What do you think is the likelihood you'll be called back?  
1 2 3 4 5 6 7 8 9 10 (certain)
7. How important would you say reading was/is in your job at \_\_\_\_\_?  
1 2 3 4 5 6 7 8 9 10 (very important)  
How important is math?  
1 2 3 4 5 6 7 8 9 10 (very important)  
How important is writing?  
1 2 3 4 5 6 7 8 9 10 (very important)
8. Getting and moving into a new job isn't easy; it can sometimes involve quite a few different kinds of problems. One of those might be that workers need to brush-up on the reading, writing, and math skills they will need to retrain or learn a new job. Do you think this might be true given your experience?  
yes (1)            no (2)
9. Do you think a job you would like to move into would require more or less reading skill than your previous job?  
more (1)            less (2)
10. Do you plan to go into, or are you in, any type of training program?  
yes (1)----describe  
no (2)

11. Do you feel you have the reading, writing, and math skills you need to be successful in a training program?

reading	yes (1)	no (2)
writing	yes (1)	no (2)
math	yes (1)	no (2)

12. In general, do you think other people you work(ed) with might benefit from programs in reading, writing, or math?

yes (1)      no (2)      unsure (3)

13. Would you be interested in a program to upgrade your reading, writing and math skills?

reading	yes (1)	no (2)	unsure (3)
writing	yes (1)	no (2)	unsure (3)
math	yes (1)	no (2)	unsure (3)

14. If programs were offered in those areas of study, how likely is it that you would attend/enroll?

1 2 3 4 5 6 7 8 9 10 (would definitely attend)

15. Where would you or a worker like yourself be most likely to attend?

high school (1)                      community college (2)

AVTI (3)                      other: \_\_\_\_\_

16. What might make you more likely to enroll in a reading, writing or math program? That is, what kinds of incentives offered by your company, union, or an education provider would help you?

17. Do you think that participation in retraining skills programs improves workers' chances for reemployment in desirable jobs?

yes (1)      no (2)      unsure (3)

18. What type of learning situation do you think you do best in:

a) one-on-one vs. small group vs. classroom  
(1)                      (2)                      (3)

b) lecture vs. hands-on  
(1)                      (2)

c) technology vs. usual classroom  
(1)                      (2)

d) teacher vs. self-taught  
(1)                      (2)

19. Do you like to read?

yes (1)      no (2)      sometimes (3)

20. What types of reading do you do on a regular basis? Examples: newspapers, magazines, books, work-related reading?

21. Do you use math on a regular basis?

yes (1)      no (2)

If yes, what type(s)? Examples: work-related, use calculator, balance checkbook.

22. Do you use writing skills on a regular basis?

yes (1)      no (2)

If yes, what kind of writing? Examples: letters, applications, resumes, etc.

23. In any kind of previous education or training, what subjects did you like best?  
List:

24. In terms of the job situation, how bad is the current crisis?

1 2 3 4 5 6 7 8 9 10 (extremely bad)

25. Do you feel things will get better for you in the coming year?

26. How do you feel you will personally come out of this?

Section Two -- Demographic Data

1. Job title
2. Union name
3. Company name
4. Job tenure
5. Location of job
6. Salaried or hourly employee  
(1) (2)
7. Gender M (1) F (2)
8. Ethnic origin: white (1), black (2), Hispanic (3), Native American (4), or Asian (5).
9. Age
10. Years of education  
If post-secondary, what type? Community college (1), AVTI (2),  
four-year (3), or other training (4).  
Military experience? yes (1) no (2)
11. Previous work experience  
same job, length of time:  
similar job, length of time:  
similar job: tenure:  
other jobs: tenure:
12. Does anyone else in the family work? yes (1) no (2)  
Full- or part-time? full (1) part-time (2)
13. Did your parents do the same type of work that you did?  
If not, what were their occupations?



14. NEW JOB:

LOCATION:

15. JOB TRAINING PROGRAM:

FROM \_\_\_\_\_ TO \_\_\_\_\_

16. Was job placement a direct result of training?

yes (1)      no (2)      unsure (3)

Section Three -- Advice to Federal, State, and Local Agencies

What do you think \_\_\_\_\_ should do about these situations?

- a) federal
- b) state
- c) local government
- d) unions
- e) companies

Any other suggestions:

APPENDIX C.  
FOLLOW-UP QUESTIONNAIRE  
CURA BASIC SKILLS PROJECT

1. Are you employed currently? (yes/no)  
If yes, what is your new job? List \_\_\_\_\_  
Are you earning (more/less) than at your old job?
2. If unemployed, are you in a vocational training program? (yes/no)  
If yes, list \_\_\_\_\_
3. In looking back over the time since the closing would you have made different decisions about:  
school? \_\_\_\_\_  
work? \_\_\_\_\_  
training? \_\_\_\_\_
4. If employed, is there more/same/less reading  
" " " writing  
" " " math on your new job?
5. If in training, is there more/same/less reading  
" " " writing  
" " " math than you expected?
6. On a scale of 1-10, with 10 being the most important, how important is:  
reading  
1 2 3 4 5 6 7 8 9 10  
writing  
1 2 3 4 5 6 7 8 9 10  
math  
1 2 3 4 5 6 7 8 9 10 . . . . . on your new job?
7. Do you have any additional policy suggestions for:  
local government  
the union  
state or federal government? In respect to plant sales and closing?

FOLLOW UP QUESTIONS FOR LOW SKILL WORKERS  
ATTENDING A BASIC SKILLS PROGRAM

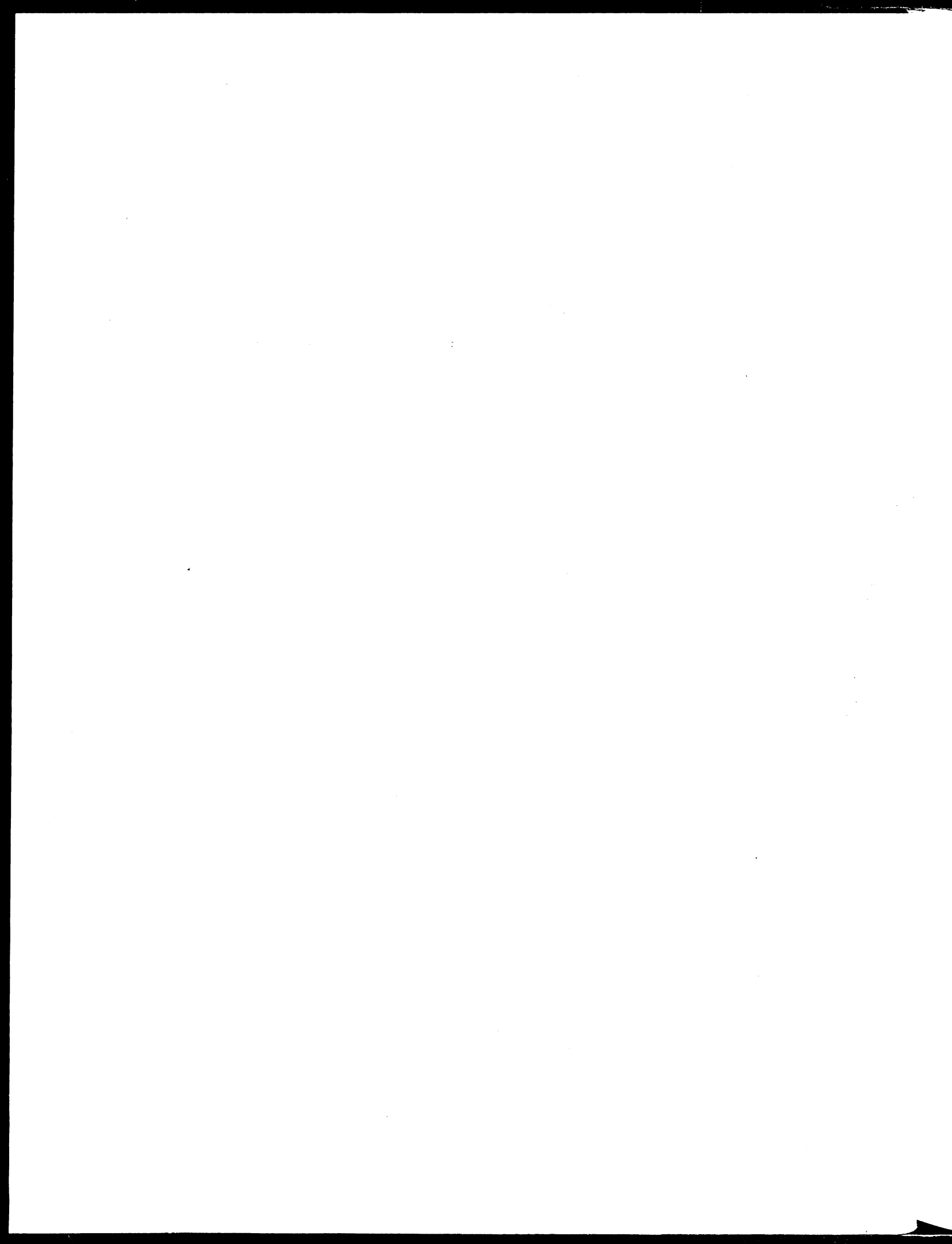
ID \_\_\_\_\_

1. How many hours did you attend? \_\_\_\_\_ (each session is 2 hours)  
dates \_\_\_\_\_ to \_\_\_\_\_
2. What did you work on?  
reading (list)  
math (list)
3. Are you enrolled in a vocational training program? yes/no
- 4a. If yes, did the basic skills class help you with the vocational program?  
yes/some/no How? (list)
- 4b. If employed, what is your current job? \_\_\_\_\_  
Did the basic skills class help you on the job? yes/some/no  
If yes, how? (list)
5. What were your general impressions of the basic skills program? (list)
6. A lot of people here didn't attend the basic skills program. Why do you think this was? (list)
7. What did you like most about the basic skills class? (list)
8. What did you like least about the basic skills class? (list)
9. What changes would you make in the basic skills class?  
time? teaching method?  
content? incentives to attend?
10. How would you rate the basic skills class on a scale of 1-10, with 10 being the best rating?  
1 2 3 4 5 6 7 8 9 10
11. How satisfied are you with your company's Outreach Project on a scale of 1-10, with 10 being most satisfied?  
1 2 3 4 5 6 7 8 9 10
12. Any other comments? (list)

QUESTIONS FOR LOW SKILL WORKERS NOT ATTENDING  
A BASIC SKILLS PROGRAM

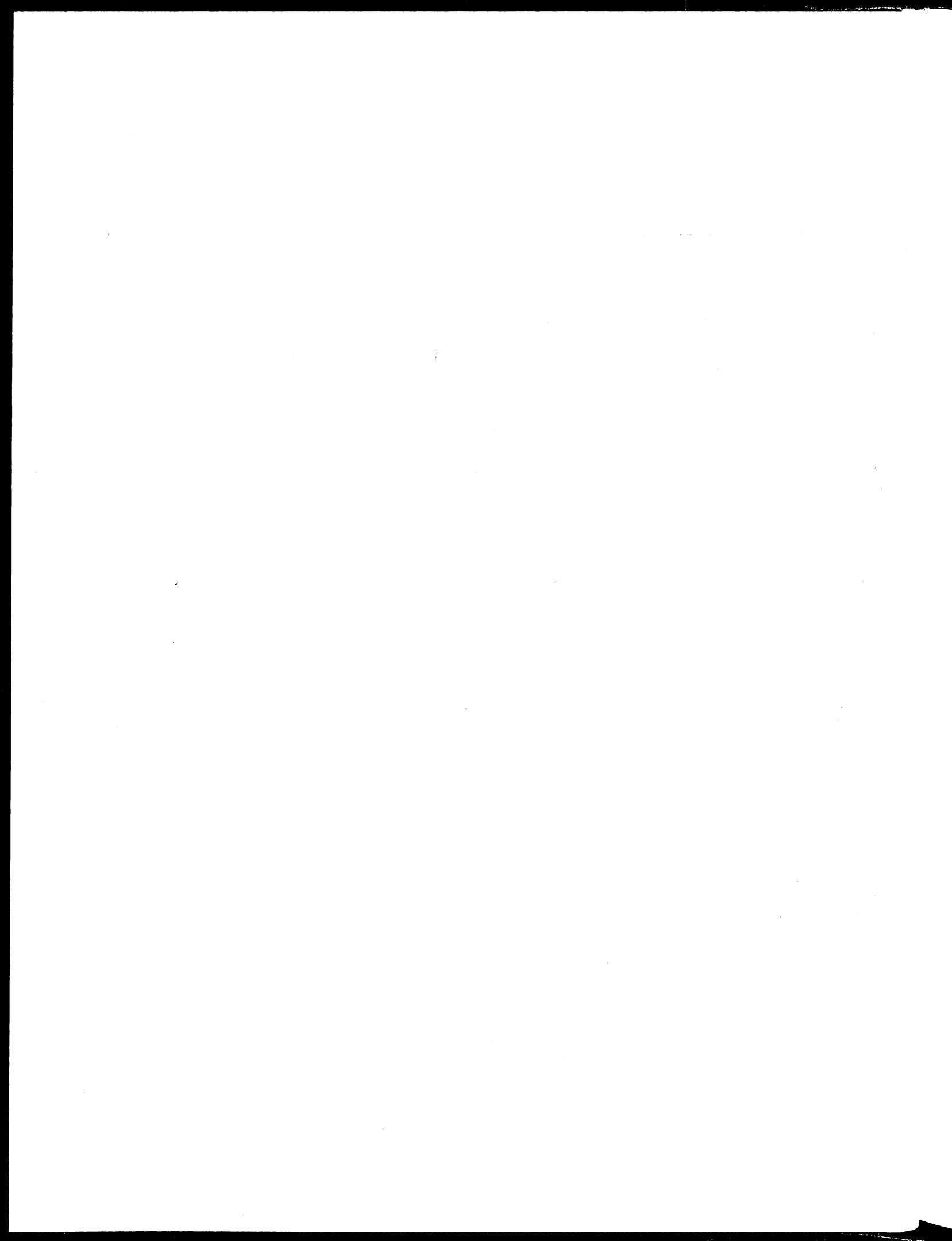
ID \_\_\_\_\_

1. When did you attend your company's Outreach Program?  
dates \_\_\_\_\_ to \_\_\_\_\_
2. Are you working now? yes/no  
If yes, what is your job? (list)
3. Did you take any vocational training? yes/no  
If yes, list  
If no, did you take any on-the-job training? yes/no  
If yes, list
4. If employed, is there (more/less/same) amount of reading and/or math in your new job as compared with your old job?  
reading: more/less/same  
math: more/less/same
5. What were the factors that made you decide not to attend the basic skills classes? (list)
6. Why do you think others like yourself might not have attended? (list)
7. What incentives would you have needed to attend? (examples)
8. Would you be more open to a basic skills class now? yes/no  
On a 1-10 scale, with 10 being most likely and 1 no chance at all, what is the likelihood of your attending a basic skills class?  
1 2 3 4 5 6 7 8 9 10
9. Do you anticipate any changes in your life that may cause you to need any basic skills training in the future? (list)



## REFERENCES

- Barbee, David. 1987. *Methods of Providing Vocational Skills to Individuals with Low Literacy Levels: The U.S. Experience*. Vocational Training Branch, International Training Office of International Labor Organization, CH-1211, Geneva 22, Switzerland.
- Farm Credit Mediation Program. 1987. Figures provided by Mat Metz, January.
- Minneapolis Star and Tribune*. 1986. "Joining the Service Economy." January 5.
- Minnesota Department of Human Services, General Assistance Task Force. 1986. *Report of the Task Force on Functional Illiteracy*. St. Paul: Minnesota Department of Human Services, February.
- Minnesota Department of Jobs and Training, Minnesota Economic Conversion Task Force. 1987. St. Paul, Minn.: department figures given in oral report, September 16.
- Minnesota State Planning Agency, Office of the State Demographer. 1984. *Minnesota Labor Force Projections 1980-2000*. St. Paul, Minn.: Minnesota State Planning Agency, June.
- New York Times*. 1987. Forum: "The grim truth about the job miracle." February 1.
- Park, Rosemarie and Rebecca Storlie. 1986. "Report to the Minnesota Economic Conversion Task Force on Automation and Retraining at American Crystal Sugar," May 6. Available from the authors, University of Minnesota, 175 Peik Hall, 625-5524. Unpublished.
- Sticht, Thomas G. 1983. *Literacy and Human Resources Development at Work*, Human Resources Research Organization, Alexandria, Virginia. February.
- U.S. Bureau of Labor Statistics. 1985. *Displaced Workers, 1979-83*. Bulletin 2240. Washington, D.C.: U.S. Bureau of Labor Statistics, July.





## BIBLIOGRAPHY

- Diel, William and Larry Mikulecky. "The nature of reading at work." *Journal of Reading*, Vol. 24, 3, December 1980, pp. 222-226.
- Fleming, Lilly, Daniel Bassill, and Linda Stoker. "The Private Sector Involvement in Literacy Efforts," *Literacy: Meeting the Challenge*. Paper presented at the National Right to Read Conference, Washington, D.C., May 27-29, 1978. Government Printing Office, Washington, D.C. 20402, 1978.
- Hunter, Carman St. John and David Harmon. *Illiteracy in the United States*. New York: McGraw Hill, 1979.
- Knox, Alan. *Adult Development and Learning*. San Francisco: Jossey-Bass, 1978.
- Lauterborn, Robert F. "Reading: Why Industry Cares and What One Company Is Doing About It." Paper presented at the Annual Meeting of International Reading Association, New Orleans, April 27-May 1, 1981.
- Mikulecky, Larry. "Documenting Analysis of Literacy Requirements in Industry." *Basic Skills for Productivity and Participation Conference*, National Institute of Education, Washington, D.C., May 22-23, 1980.
- Mikulecky, Larry and William Diehl. *Job Literacy*. Monograph Reading Research Center, School of Education, Indiana University, Smith Research Center, 2805 East 10 Street, Bloomington, IN, February 1980.
- Moe, Alden, Timothy Rush, and Rebecca Storlie. *The Literacy Requirements of Ten Occupations on the Job and in Vocational Training Programs*. Department of Education, Purdue University, November 1979.
- National Education Assessment Program. *NEAP Newsletter*, Vol. X, 1, February 1977. NEAP, Denver, CO.
- Northcutt, Norville. *The Adult Performance Level Study*. University of Texas, Austin, Final Report, 1975.
- Park, Rosemarie. "A critical review of developments in adult literacy." *Directions in Reading Research and Instruction*, 30th National Reading Conference Yearbook, Washington, D.C., 1981, pp. 281-289.
- Park, Rosemarie. "Literacy in industry: A hidden drain on productivity." *Minnesota Business Journal*, November 1981, pp. 24-26.
- Park, Rosemarie. "Improving basic skills in the workplace." *Training and Development Journal*, March 1984, pp. 76-80.
- Sticht, Thomas G. (Ed.) *Reading for working: A Functional Literacy Anthology*. HumRRO, Alexandria, VA 22314, 1975.
- Sticht, Thomas G. *Basic Skills in Defense*. HumRRO, Alexandria, VA, 1982.
- Sticht, Thomas G. and Diana Welty Zapf. *Reading and Readability Research in the Armed Services*. HumRRO, Alexandria, VA 22314, 1976.



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