

1996

## Return on Investment for Workplace Education

Kevin Hollenbeck

*W.E. Upjohn Institute*, [hollenbeck@upjohn.org](mailto:hollenbeck@upjohn.org)

---

### Citation

Hollenbeck, Kevin. 1996. "Return on Investment for Workplace Education." Presentation for Project Alert, All-Partners Meeting and Luncheon, Wayne State University, Detroit, Michigan, September 27, 1996.

<https://research.upjohn.org/presentations/8>

This title is brought to you by the Upjohn Institute. For more information, please contact [repository@upjohn.org](mailto:repository@upjohn.org).

***RETURN ON INVESTMENT FOR WORKPLACE EDUCATION***

Presentation to

**PROJECT ALERT**

**ALL-PARTNERS MEETING AND LUNCHEON**

Wayne State University

Detroit, Michigan

by

**Kevin Hollenbeck**

**Senior Economist**

**W.E. Upjohn Institute for Employment Research**

**300 S. Westnedge Ave.**

**Kalamazoo, MI 49007-4686**

**A *workplace education* program provides training—separate from regular job activities—in one or more of the following:**

**Reading and writing English**

**Mathematics**

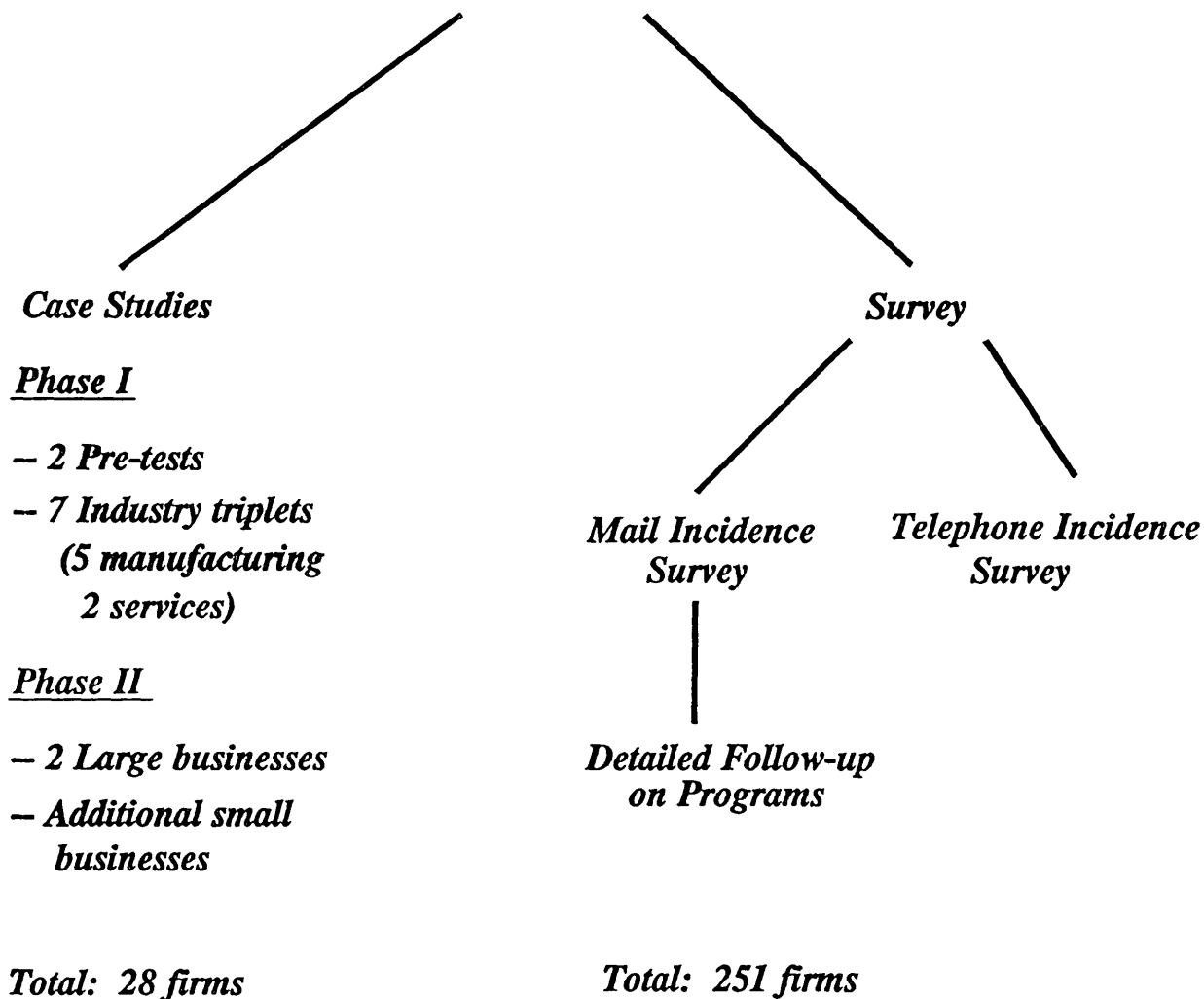
**Speaking and understanding English**

**Problem solving**

**Interpersonal skills**

**Such a program may take place at the work site, somewhere else, or a combination of both.**

# ***STUDY OF WORKPLACE EDUCATION PROGRAMS IN SMALL BUSINESS IN MICHIGAN***



***Note: Excellent representation of firms with programs (DO's)  
Good representation of firms without programs (DON'Ts)***

## **BASIC SKILLS DEFICIENCIES**

- Survey:**
- **37% of hourly employees have difficulties in some basic skill**
  - **26% of hourly employees have difficulties in mathematics**
  - **24% in problem solving or interpersonal skills**
  - **14% in reading and writing**
  - **3% in speaking and understanding English**

### **Case study:**

- **Above percentages are probably underestimates because supervisors and employees are aware of workers' problems that are unknown by management**

**Note:** All of this evidence is based on respondents' perceptions and not on formal assessments.

## INCIDENCE OF PROGRAMS

**Survey:** 22% of firms have a program

**Case study:** Above is an overestimate. Many firms that claimed to have a program in fact did not; exceptionally difficult to find firms with programs

**Summary:**

- Less than 5% of firms have a program
- Most hourly employees with basic skills difficulties do not have the opportunity to improve their skills through workplace programs

**Note:** Incidence is difficult to measure because of response selectivity and because of no uniform definition of what comprises a program

## DIFFERENCES BETWEEN DOs AND DON'Ts

<b>Survey</b>	<b><u>With Program</u></b>	<b><u>Without Program</u></b>
<b>Employment</b>	<b>131**</b>	<b>84</b>
<b>Average hourly wage</b>	<b>9.62</b>	<b>9.18</b>
<b>Training expenditures/payroll</b>	<b>2.8**</b>	<b>0.8</b>
<b>Reorganization of work index</b>	<b>4.04**</b>	<b>2.95</b>
<hr/>		
<b>Turnover index</b>	<b>0.6</b>	<b>0.5</b>
<b>Collective bargaining</b>	<b>22.0</b>	<b>24.6</b>
<b>Profit index</b>	<b>0.0</b>	<b>-0.2</b>

Note: \*\* indicates difference is statistically significant.

## ATTRIBUTES OF PROGRAM

	<u>Incidence Survey</u>	<u>Case Studies</u>
<b>Voluntary</b>	<b>57%</b>	<b>63%</b>
<b>At least partially mandatory</b>	<b>43%</b>	<b>37%</b>
<b>Taught at worksite</b>	<b>82%</b>	<b>75%</b>
<b>Release time given</b>	<b>81%</b>	<b>75%</b>
<b>Instructor</b>		
<b>Company employee</b>	<b>56%</b>	<b>19%</b>
<b>Community college</b>	<b>-na-</b>	<b>56%</b>
<b>Public schools adult ed.</b>	<b>-na-</b>	<b>43%</b>
<b>Included volunteers</b>	<b>-na-</b>	<b>19%</b>
<b>Skills taught</b>		
<b>ESL</b>	<b>4%</b>	<b>13%</b>
<b>Interpersonal skills</b>	<b>67%</b>	<b>19%</b>
<b>Math/measuring</b>	<b>59%</b>	<b>81%</b>
<b>Problem solving</b>	<b>82%</b>	<b>25%</b>
<b>Reading and writing</b>	<b>38%</b>	<b>75%</b>
<b>Standard GED curriculum</b>	<b>20%</b>	<b>19%</b>
<b>Sample size</b>	<b>53</b>	<b>16</b>

**Note:**      -na- means not available. Case studies include Phase I and Phase II firms (including 2 large businesses.)



## ATTRIBUTES OF PROGRAMS

	<u>Detailed Follow-up Survey</u>	<u>Case Studies</u>
Percent of workforce participating	59.5%	34%
Teaching methods used:		
Individual tutoring	0%	13%
Group instruction	57%	50%
Individualized and group instruction	43%	50%
Computer assisted instruction	43%	19%
Average cost (12 months)	\$14,525	see below
Sample size	14	16

### Cost data from case studies:

"\$25K grant plus release time:

"trivial; 1 hour/week release time per employee"

"\$125/participant to provider plus release time"

"\$800 plus release time"

"\$250/participant"

"\$50K grant"

"\$72K grant; \$275/participant plus release time"

"\$13,865 (for 31 participants)"

"\$40,000 in total co. costs."

## IMPACTS OF PROGRAMS

<b>Scale:</b>	<b>None</b> <b>(0)</b>	<b>Very</b> <b>Little</b> <b>(1)</b>	<b>Moderate</b> <b>Amount</b> <b>(2)</b>	<b>Very</b> <b>Much</b> <b>(3)</b>
---------------	---------------------------	--	--	--

<b><u>Survey:</u></b>	<b><u>Basic Skill Improvement</u></b>	<b><u>Mean</u></b>
-----------------------	---------------------------------------	--------------------

<b>Reading</b>	<b>1.6</b>
<b>Writing</b>	<b>1.8</b>
<b>Math</b>	<b>2.2</b>
<b>English</b>	<b>1.0</b>
<b>Problem Solving</b>	<b>1.8</b>
<b>Communication</b>	<b>2.3</b>

### Employee Attitudes/Skills

<b>Work effort</b>	<b>1.7</b>
<b>Company loyalty</b>	<b>1.9</b>
<b>Employee morale</b>	<b>2.1</b>
<b>Independence</b>	<b>1.8</b>
<b>Team work</b>	<b>2.0</b>
<b>Ability to use technology</b>	<b>1.4</b>
<b>Self-confidence</b>	<b>2.3</b>

### Company Outcomes

<b>Employee retention</b>	<b>1.0</b>
<b>Absenteeism/lateness</b>	<b>1.1</b>
<b>Advancements</b>	<b>1.4</b>
<b>Worker safety</b>	<b>1.3</b>
<b>Output quality</b>	<b>1.7</b>
<b>Customer satisfaction</b>	<b>1.5</b>
<b>Scrap/error rates</b>	<b>1.3</b>
<b>Productivity</b>	<b>1.2</b>

<b>Sample size</b>	<b>14</b>
--------------------	-----------

## **MOTIVATION**

### **Why DOs Do**

	<b><u>Rank in Survey</u></b>	<b><u>Rank among case Studies</u></b>
<b>Improve employee well-being</b>	<b>1</b>	<b>4</b>
<b>Customer requirements/customer relations</b>	<b>2</b>	<b>3</b>
<b>Increased competition</b>	<b>3</b>	<b>3</b>
<b>Decreased workforce skills</b>	<b>3</b>	<b>3</b>
<b>Preparation for other training</b>	<b>4</b>	<b>2</b>
<b>Reduce error rates/scrap</b>	<b>4</b>	<b>3</b>
<b>Subsidy became available</b>	<b>5</b>	<b>1</b>

## MOTIVATION

### Why DONTs Don't

	<u>Rank in Survey</u>	<u>Rank among case Studies</u>
Basic skills not serious problem	1	1
Not enough staff to manage	2	2
Never considered doing so	3	4
Too expensive	4	2
Need more information	5	3
Not employer's responsibility	5	3
Workers quit after training	6	4

## EMPLOYERS

- Looking for "engaged, problem-solving" workers
- Support for workplace education is *broad, but shallow*

## WORKERS (UNIONS)

- Looking for economic security, higher wages
- Receiving boosts in self-confidence and self-image
- Support for workplace education is *narrow, but deep*

## **PROVIDERS**

- **Local education agencies and community colleges *plus volunteers***
- **Very capable and very dedicated**
- **Much responsibility left to instructors/volunteers**

## **3 TYPES OF PROGRAMS**

- **LOW INTENSITY**
  - relatively little management involvement
  - relatively few workers
  - literacy tutoring or "off-the-shelf" adult basic education
- **QUICK FIX**
  - intended to solve acute skills problem discovered in process of restructuring
  - involves many workers
  - lots of management involvement
- **LIFELONG LEARNING**
  - both general skills and job-related skills
  - solid management support
  - usually involves an established "learning center"



Table 1  
A Benefit-Cost Analysis Framework for Workplace Literacy Training

Benefit or Cost	Perspective				
	Workers	Employers	Rest of Society	Education/ Training Establishment	All
1. Training costs	0/-	-	0/-	+	-
2. (Higher) Productivity	0	+	+	0	+
3. (Higher) Wages	+	-	0	0	0
4. Nonwage compensation (pensions, health insurance, etc.)	+	-	+	0	0/+
5. (Less) Worker turnover	+	+/-	+	0	+
6. Safer workplace	+	+	+	0	+
7. (Higher) Taxes	-	0/-	+	0/+	0
8. (Improved) Self-esteem	+	0	0/+	0	+
Net Benefits	+	-/+	+	+	+/-

Table 3  
 Estimates of the Marginal Economic Effects  
 from Workplace Literacy Program Participation

Dependent Variable	Population/Model					
	Total Population		Males		Females	
	1	2	1	2	1	2
Percentage increase in annual earnings (from NHES)	16.9*	12.8°	20.8**	19.1**	10.0	1.8
Percentage increase in weekly earnings (from CPS)	11.3**	8.0°	1.4	-4.2	17.1**	14.2**

*Note:* Entries are coefficient estimates from weighted OLS regressions, expressed as percentages. Full models are reported in table 5. The models in column 1 exclude industry and occupation, whereas industry and occupation dummy variables are included in 2.

- \*\* Significant at the .05 level.
- \* Significant at the .10 level.
- ° Significant at the .15 level.

## Impacts of Literacy Training on Productivity Measures

<u>Impact</u>	<u>Percentage of respondents who reported a "moderate" or "significant" impact</u>
Quality of output	51%
Ability to use new technology	51
Error rates	41
Customer satisfaction	35
Time savings	33
Safety	33

---

*Source:* Bassi (1994).