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ABSTRACT

A workplace literacy demonstration project was implemented through a partnership among the Michigan Department of Education, Michigan Institute for Adult Learning and Literacy, and the United Auto Workers/General Motors (UAW/GM) Human Resource Center. Competency-based, job-related foundation skills training was provided for 400 employees, and adults were provided with sufficient basic education to enable them to benefit from job training and retraining programs. Skills centers were established at three UAW/GM sites; these demonstration locations used the following methods: (1) Skills 2000, a video/laser disc program, to recruit and motivate students; (2) Comprehensive Adult Student Assessment System (CASAS) to conduct indepth assessment of each student; and (3) Adult Basic Skills (ABS), a computer-managed educational program of Learning Unlimited to provide basic skills instruction in an onsite, open entry/open exit learning center. An external evaluation used 4 methods: interviews with 34 project staff, administrators, and partners; interviews with a random sample of 51 participants; review of data on learning gains and hours of instruction; and observation of the skills centers. These findings were reported: the project had a profound impact on participants' lives; the union-management relationship was strengthened; Skills 2000 was used inconsistently and not valued as a key element in the recruitment process; CASAS was considered highly inadequate as an assessment tool for the population served; and ABS provided a helpful structure for guiding many participants. Partner commitment and support and project accessibility to employees were identified as strengths. Recommendations focused on improving assessment and curriculum materials and enhancing program recruitment. (Appendices to the final report include the following: detailed plan of operations; advisory board; sample agreement; instructor selection criteria; service delivery schedule; staff training; recruitment and publicity strategies; student assessment; educational development plan; assessment and learning gains reporting form; and evaluation plan. Appended to the evaluation are the following: list of interviewees; interview schedules; and adult basic skills grade equivalencies.) (YLB)

FINAL REPORT

of

National Workplace Literacy Project:

Competency-based Job Related Basic Skills Training Through a Model Partnership

Number V198A00099

Period covered by this report: September 1, 1990 to February 29, 1992

Submitted by

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NATIONAL WORKPLACE LITERACY PROJECT

PROJECT SUMMARY

The Competency-based Job-related Basic Skills Training Through a Model Partnership Grant, awarded by the U.S. Department of Education and conducted in Michigan, proved to be a success. The unique partnership consisted of the United Auto Workers/General Motors Human Resource Center (HRC), the Michigan Department of Education (MDE), and the Michigan Center for Adult Learning and Literacy (MCALL)[1] located at Central Michigan University (CMU). The goals and objectives contained in the grant proposal were accomplished and valuable research data identified the pros and cons of the various educational programs used in the administration of the project.

Workplace adult learners were identified as the focal point for all activities, with everything flowing from this primary focus. Adult learning theory and practice was the conceptual framework of the program or practice. Clear lines of communication were established early and remained open. Everyone's experience was acknowledged and validated, thereby creating a climate of mutual respect and support for decision-making by consensus. Open communication, dialog and consensus building provided an environment and strategies to deal with diverse expectations and needs. Staff development included awareness of cultural diversity among teachers to insure successful implementation of goals and objectives. The development of the successful partnership among complex entities functioning from very different cultural perspectives was supported by following these practices.

[1]Effective October 1, 1989, merged with the Michigan Institute for Adult Learning and Literacy (MIALL), established from funds appropriated by the state legislature.

PURPOSES OF THE NATIONAL ADULT EDUCATION ACT

The national workplace grant project was to address all three purposes of the Adult Education Act:

a. *Improve educational opportunities for adults who lack the level of literacy skills requisite to...productive employment.*

The partnership offered approximately 7,100 employees at three UAW/GM locations the opportunity to review and enhance their educational foundation skills. In two of those locations the grant was not able to accommodate the total number of worker/students who desired to participate in the project. There were worker/students whose CASAS scores increased from 194 to 216, meaning that prior to participating in the project they were having difficulty with basic literacy and computational skills[2]. After ten weeks of instruction and a resulting post score of 216, they could function at a basic literacy level and are now able to handle basic literacy tasks and basic computational skills[3].

b. *Expand and improve the current system for delivering adult education services.*

The grant project was to be conducted in three locations in three different cities. One location had been conducting adult basic education classes in the plant for five years. The other two locations did not have in-plant educational learning laboratories prior to institution of the project. Consequently, the grant provided a first-time opportunity for approximately 4,500 workers at those two locations to participate in an in-plant program to review and enhance their foundation skills. The grant design was to use the Skills 2000 program to recruit workers, the Comprehensive Adult Student Assessment System (CASAS) to assess the workers,

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[2]Center for Remediation Design and Pro Sync, Inc., Michigan Department of Labor, Employment Skills System, Volume I, 1988, Basic Education Skills, Introduction, p.6.
[3]Ibid.

and the Adult Basic Skills program (ABS) by Learning Unlimited as the curriculum. A crosswalk between CASAS and the ABS curriculum was developed by curriculum consultants. The partnership went beyond the grant's original design by adding computers, a computer-based curriculum, an extra teacher in one location funded by UAW/GM HRC, on-site classroom administrators twenty-four hours a day, computer training for all instructors, computer-generated educational prescriptions for all students, the Michigan model of CASAS, and materials for above and below the ABS curriculum design. All worker/student participation in the project was provided on employer time. The grant experimented with individualized prescription education as well as group learning instruction. The resultant learning gain percentages, as measured by CASAS, were greater in the locations using the individualized instruction than in the location which utilized the traditional method of group instruction. The grant proposal indicated control groups would be included; however, a September 18, 1990 meeting produced an agreement between the grant partnership and the U.S. Department of Education to remove this requirement from the grant.

c. *Encourage the establishment of adult education programs*.

The location with the existing educational program continues to flourish today, as do the other two locations which are continuing their learning laboratories and increasing their offerings. The operational hours in one location have been doubled and spouses have been invited to take advantage of the learning laboratory. This grant project produced a pilot program which the training department of the UAW/GM HRC has taken far beyond the original expectations.

GOAL #1

Implement a Workplace Literacy Demonstration project through an exemplary partnership between the Michigan Department of Education (MDE), Michigan

Institute for Adult Learning and Literacy (MIALL) at Central Michigan University, and the UAW/GM Human Resource Center (UAW/GM HRC).

The partnership established and designed certain strategies during the grant writing. These strategies were to provide competency-based, job-related, foundation skills training for 400 employees enabling adults to acquire the basic educational skills necessary for literate functioning and provide adults with sufficient basic education to enable them to benefit from job training and retraining programs. The UAW/GM locations were identified in Livonia, Flint and Saginaw. The demonstration locations used, by grant design, Skills 2000, CASAS, and ABS of Learning Unlimited.

Skills 2000 is intended to encourage employees to analyze their own knowledge and skills in light of new demands in their workplace and to motivate employees to seek education to improve their skills where necessary. It is a recruitment and motivational tool that raises workers' awareness of the importance of developing their basic skills.

CASAS (Comprehensive Adult Student Assessment System) was used for diagnosis and evaluation. It has a valid and reliable assessment and curriculum management system which is linked to employment-related competencies and relevant competency-based curriculum materials that are appropriate for all levels of Adult Basic Education. The CASAS assessment design includes a bank of more than 4000 items that have been extensively field-tested, making it possible to customize assessment and curriculum. Each item is designed to measure a specific competency statement in the CASAS Competency List. Item and test analysis of the field tests items have established a difficulty level for each item so that a person can be tested not only on a specific competency statement, but also on a continuum of difficulty as he/she progresses through the program. The underlying common achievement scale allows for better articulation among programs and levels. Individual achievement, as well as group progress, can be monitored because all items have been calibrated on the same scale.

The Adult Basic Skills (ABS) computer-managed educational program developed by the Learning Unlimited Corporation was the curriculum incorporated in the crosswalk with CASAS. This program has been successful due to the criterion-referenced assessment package and the adaptability of the learning objectives in the system with the learning objectives determined through the task analysis process already completed at many plant facilities. The ABS program is criterion-referenced and should have provided an easy crosswalk from the self-screening Skills 2000 and the CASAS Assessment and Curriculum Management System. The ensuing paragraphs will give a brief explanation of how the crosswalk was performed.

Each CASAS reading skill competency was analyzed for the various reading processes needed to perform that specific job task. This task analysis was accomplished by identifying key words in the vocabulary, comprehension indicators, and benchmarks, then thoroughly analyzing all items in the pre-tests and post-tests. In many cases the benchmark provided the most helpful insight into the nature and depth of the skill competency task. The ensuing reading processes were placed in the most efficient and logical teaching order. For each reading process, an ABS identification number and objective was supplied.

The crosswalk paired each Michigan CASAS skill competency with ABS strand objectives within the matching scope of the ABS system. To understand how Michigan CASAS and ABS compared according to readability levels, refer to the following:

- CASAS level A = the last half of ABS B and all of ABS C
- CASAS level B = ABS D and E
- CASAS level C = ABS level F and G.

(Note: These relationships are based on the stated readability levels of each program.)

For certain Michigan CASAS skill competencies internal GM and volunteer application forms were used, ie: personal history forms, union position applications, volunteer position applications such as Boy Scout Merit Badge Counselor, School Committee Worker., etc.

The math correlation matched each Michigan CASAS skill competency with instructional materials within the ABS system. In preparing this crosswalk between the two systems, each Michigan CASAS skill competency was analyzed. Assessment questions on each of the three levels of the CASAS pre and post tests were then compared with the competency statements. Only those ABS objectives directly corresponding to the Michigan CASAS Program were listed. Some additional ABS objectives were not included in this correlation because the math skills taught in them were at a higher level than the skill competencies covered in the Michigan CASAS Program.

During implementation of the grant it became evident that the crosswalk between ABS and CASAS did not coordinate easily. CASAS represents the "top down" approach of whole language instruction while ABS represents the "bottom up" approach of individual skills instruction. Attempts were made to account for the difference in approaches between ABS and CASAS. Though all efforts were made to relate the ABS curriculum to the CASAS test, the teaching staff felt they were testing "top down" and teaching "bottom up." Additionally, the necessity to consult the CASAS manual to check for benchmarks throughout the prescription process was time-consuming and awkward.

The Plan of Operation outlined a strategic implementation approach as established by the partnership. Although results of all objectives contained in the Plan of Operation are addressed in the performance report, the following selected objectives, identifying unusual results, are highlighted in this summary:

Objective 1.2 - Finalize contract with LEAs in Livonia, Saginaw, and Flint

The grant proposal stipulated that local education agencies would be contracted to provide the instructors for each project location. The potential development of problems, due to contracting non-union education agencies within a strong union supportive system, was not recognized when the grant proposal was drafted. That situation was ultimately solved when UAW and GM agreed that non-union staff, if that was the only staff available, would be permitted to teach in their buildings.

An additional hindrance was encountered during the development of contract language, between MIALL, CMU, and the Local Education Agencies (LEAs). Local LEA union teachers' contracts stipulated that members accept directives only from their administrators. To overcome this obstacle, a network was developed whereby the project director communicated the necessary directions to the LEA administrator assigned to the project who, in turn, relayed the information to the teachers. A sample LEA contract is included in the plan of operation performance report (see Appendix B).

Objective 1.5 - Train project staff in use of CASAS

Teacher training was one component of the project which could have been further enhanced with the investment of additional training time in the use of CASAS and Learning Unlimited's ABS curriculum. For further information, refer to Appendix E in the plan of operation performance report.

Objective 1.7 - Train LEA Adult Education Teachers and Staff

Staff meetings among the teachers at all three locations would have provided opportunities to share information and solve problems. However, due to the complex schedule differences at each location, along with the budget restrictions which did not provide funds for substitute teacher replacements at the same time, it

was not possible to arrange such staff meetings. The cancelling of classes for the purpose of teacher staff meetings was not a possibility because the class participants could not simply come and go, at will, to their jobs since other jobs bank workers were assigned as replacements in those particular positions for the duration of the given session[4]. Consequently, most teacher networking was done by phone.

Objective 1.11 - Design evaluation model and data collection system in cooperation with UAW/GM and LEAs

The design of the evaluation model was developed by the evaluation specialists. The partnership members, in cooperation with the advisory board members, met on numerous occasions with the evaluators to review the design and implementation procedures of the evaluation model. Concerns and suggestions were offered which related to the various needs as they pertained to the individual stakeholders of the grant.

The major obstacle in the evaluation plan was the budget. Once the project was in operation, it became evident that the amount originally allotted for the evaluation, which was 1% of the total project amount, was inadequate to do an evaluation of this grant project. Formative Evaluation Research Associates (FERA) agreed to perform the evaluation; however, their costs were estimated to be approximately 4% of the total grant amount. A budget revision request, submitted to the U.S. Department of Education, was approved July 24, 1991.

The increased cost of the evaluation, plus salary increases for LEA teaching staff and administrators, put additional strain on the budget. Estimates for possible salary raises and cost-of-living escalations during the entire grant period should be taken into consideration and included when calculating budgets.

[4]Session lengths varied--five, six, or seven weeks--depending on the individual plant.

GOAL #2

Provide 400 UAW/GM employees in three plants (locations) with competency-based basic skills training targeted to the increased skill requirements of their changing work place.

Objective 2.1 - Use Skills 2000 to recruit and screen 400 adult workers for basic skills training in Livonia, Saginaw, and Flint

The UAW/GM local joint training coordinators used a variety of methods to recruit students. The Skills 2000 video/laser disc program, which was a recruitment and motivational tool, was available in the cafeteria for interested workers to assess their own personal educational needs. The location and hours of operation to access the Skills 2000 program were heavily advertised. Additional methods used in the recruitment process included: articles in the plant newspaper, posters in the plant, paycheck notices, advertisements on the plant cable television system, word-of-mouth and the personal one-on-one contacts.

Objective 2.2 - Use CASAS to conduct an in-depth assessment of each student

Various greeters, including local job training coordinators as well as plant managers, welcomed participants to their first classroom meeting, at which time they were given an orientation of what to expect. The project director also attended the opening sessions, explained the pilot project and answered questions from the participants. The CASAS appraisal assessments, referred to as a "locator," were administered to participants. Using this locator, CASAS Math and Reading assessment tests were then given, followed by diagnostic tests which produced individualized computer-designed curriculum prescriptions. For further assessment information, refer to Appendix G in the plan of operation performance report.

Objective 2.3 - With each student, develop an Educational/ Development Plan (EDP) based on results of CASAS assessment

The recruiting process resulted in a wide range of learners eager to participate in the project. The curriculum and the learning centers were designed to meet the needs of this wide range of participants. A copy of an Educational Development Plan is attached as Appendix H to the plan of operation performance report.

Objective 2.4 - Provide competency-based, job-related basic skills instruction in an on-site open-entry, open-exit, learning center

The in-plant learning locations varied from one-room to six-room centers. Each center was equipped with at least eight computers along with additional software to supplement the ABS curriculum system. Workers were encouraged to visit the center, ask questions and view the classroom in operation. This volunteer program accommodated all three work shifts in two locations and the first work shift only in the third location. There were participants who attended two complete sessions, while there also were participants who retired during the course of a session. Strategies were, and continue to be, developed to deal with the unusual circumstances which arise in the open-entry, open-exit format.

In two locations, management and the union agreed to exempt project participants from layoffs, thereby allowing the individuals to complete the program. Consequently, the learning centers in those locations were spared the resulting disruptions caused by layoffs which were encountered in the third location.

GOAL #3

Evaluate, determine generalizability of, and disseminate pertinent outcomes as a model for similar partnerships in Michigan and the nation.

The evaluation plan and process was not clearly designed in the original grant proposal; therefore, a great deal of time and numerous meetings were necessary between the partner administrators, project director, and the evaluators to determine and develop an evaluation model to meet the objectives of the evaluation goal. Further references to this goal are contained in Appendixes I and J of the plan of operation. For comprehensive information and statistics, refer to the Evaluator's Report.

This grant was awarded in March 1990 to the Michigan Center for Adult Learning and Literacy[5] at Central Michigan University. The grant project was to commence in April of 1990; however, the MIALL executive director position was not filled until September of 1990. In addition, the director for the workplace project was not employed until September of 1990 at which time the first steps were initiated to put the project into operation. Therefore, the project was approximately six months late in its schedule, prompting the partnership to apply for a six-month no-cost extension, which was approved by the U.S. Department of Education in September of 1991. The extension enabled the project's duration to extend the full 18 months as was originally proposed, thereby allowing sufficient time to conclude the project, complete all reports, and submit them in a timely fashion. The stakeholders consider the knowledge gained from the grant project and its experiences to be very valuable and useful in skill center concept workplace education.

The preceding pages introduce the Plan of Operation Performance Report. In the following report, the performances are in bold print, italicized and, in some cases, reference is made to appendixes for further explanation of the performance.

[5]Effective October 1, 1989, merged with the Michigan Institute for Adult Learning and Literacy (MIALL), established from funds appropriated by the state legislature.

.AN OF OPERATION -- This reflects a six-month no-cost extension of the grant.

Project Design: Goals and Objectives

Goal 1: Implement a Workplace Literacy Demonstration project through an **exemplary partnership** between the Michigan Department of Education (MDE), Michigan Institute for Adult Learning and Literacy (MIALL) at Central Michigan University, and the UAW-GM Human Resource Center (UAW-GM)

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
1.1 Employ a qualified Project Director ***James C. Hacker was hired.*** ***Project Director's main office established at 219 Ronan Hall Central Michigan University; secondary office at the Saginaw area Human Resource Center in Saginaw, Michigan.***	**Fiscal Agent** **1.** Select Director according to Grant Guidelines **Work plan for Director** **2.** Director sets up office **Advisory Board** **3.** Development of advisory board	Aug. 1, 1990 to Sept. 30, 1990 ***Hired Aug. 29,1990.*** ***Offices set up Aug. 29, 1990 & Sept. 10, 1990.*** ***Advisory Board established Dec. 10, 1990.***	All Partners Project Director ***All Partners***	**1.1** Advertise for the position **1.2** Screen applications and interview candidates **1.3** Recommendation of team to Executive Director of MIALL **1.4** Appointment **2.1** Arrange for space **2.2** Secure equipment **2.3** Advertise for and hire secretary **3.1** Convenes Partnership meeting **3.2** Selection Criteria **3.3** Recommend appointments **3.4** Appointments	Notice of position opening, circulation. Appointment Notice/ Hired Offices established Partnership develops and defines responsibilities - ***Refer to Appendix A.*** Appointment Notices

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
1.2 Finalize contracts with LEAs in Livonia, Saginaw, and Flint	1. Negotiate Release Time Contracts with LEAs	Nov. 1, 1990 to Dec. 7, 1990 ***Completed Mar. 13, 1991.***	MIALL Executive Director	**1.1** Meet with Joint Training Coordinators (JTC) **1.2** Establish WPL Learning Center Schedule **1.3** Convene negotiating session with LEA Administrator **1.4** Screen teacher applications and interview candidates	Parameters of project Number of instructional hours established Contracts signed - ***Refer to Appendix B.*** Instructional staff selected - ***Selection Requirements Used - Refer to Appendix C***
1.3 Employ a qualified Curriculum Consultant		Nov. 1, 1990 to Dec. 14, 1990 ***Completed Mar. 22, 1991.***	MIALL Executive Director	**1.1** Design competency-based curriculum tool ***Created from Learning Unlimited.***	***Created a crosswalk between CASAS and Learning Unlimited.***
1.4 Establish and implement the integrated delivery of services, including support services	1. Skills 2000 2. LEAs 3. CASAS 4. Learning Unlimited 5. Curriculum Spec. 6. Evaluation Spec.	Dec. 3, 1990 to Jan. 14, 1991 ***Schedule established Nov. 30, 1990 - Refer to Appendix D.***	Project Director	**1.1** JTC establishes schedule and implements Skills 2000 to work force **2.1** LEAs instructional staff meets and schedules staff training sessions **5.1** Curriculum consultants meet to schedule their consulting services **6.1** Evaluator designs model and data collection system	***Development of Training for the Delivery of Services - Refer to Appendix E.***

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
1.5 Train project staff in use of CASAS	1. Director contacts CASAS	Dec. 12, 1990 to Dec. 21, 1990 Alternate Date: Jan. 7, 1991 to Jan. 11, 1991 ***Completed Jan. 22, 1991.***	Project Director	**1.1** Establishes training schedule **1.2** CASAS trains staff members involved **1.3** Curriculum specialist trained	***Refer to Appendix E.***
1.6 Develop curriculum to meet work place needs based on Skills 2000 profile	1. Develop a computer base curriculum necessary to meet the needs of CASAS	Nov. 1, 1990 to Dec. 21, 1990 Alternate Date: Jan. 7,1991 to Jan. 21, 1991	Project Director	**1.1** Arrange meeting of curriculum consultants **1.2** Break down learning according to CASAS specifications **1.3** Design curriculum and its components based on CASAS	
1.7 Train LEA Adult Ed. Teachers and Staff	1. Assessments of students 2. Develop EDPs for each student 3. Work place Environment 4. Individualized instruction 5. Data collection	Dec. 1, 1990 to Jan. 14, 1991 Alternate Date: Jan. 7, 1991 to Jan. 21, 1991 ***Began training Jan. 22, 1991 and ongoing throughout project.***	Project Director and Curriculum Consultants	**1.1** Training from CASAS consultants **2.1** Staff training and development of Educational/Employability Development Plans **3.1** Training in factory culture **4.1** Use of Learning Unlimited computer instruction **5.1** Records to be kept according to Evaluation Model	***Refer to Appendix E.***

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
1.8 Monitor project progress and flow of resources		Continuous	Project Administrative Director and MIALL Executive Director	**1.1** Personal visits **1.2** Use of phone **1.3** Use of fax	All three sites doing the same proceedure
1.9 Oversee and facilitate project operation	1. Dialogue with all partners involved	Continuous	Project Director	**1.1** Meet with curriculum consultant **1.2** Meet with LEA teachers & staff **1.3** Meet with UAW-GM representatives **1.4** Maintain contact with MDE	Meeting Notes
1.10 Introduce Skills 2000 to UAW-GM employees and begin student recruitment	1. Introduce Skills 2000 2. Begin Student Recruitment	Nov. 1, 1990 to Feb. 28, 1991 ***Completed Feb. 28, 1991.***	UAW-GM Joint Training Coordinators	**1.1** Install Skills 2000 in selected plants **1.2** Begin to familiarize employees with Skills 2000 program **2.1** UAW-GM JTC refer workers to the training program **2.2** Project Director and Evaluation Specialist recruitment and screening procedures	GM Employees using Skills 2000 Referrals made ***Student Recruitment and Publicity Strategies - Refer to Appendix F.***

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
1.11 Design evaluation model and data collection system in cooperation with UAW-GM and LEAs	**1.** Design Evaluation model **2.** Design data collection system	Nov. 1, 1990 to Dec. 21, 1990 ***Model Completed Feb. 20, 1991.*** ***System completed May 1991.***	Evaluation Specialist	**Evaluation model will assess:** **1.1** Job performance **1.2** Safety **1.3** Acceptance to training programs **1.4** Absenteeism **1.5** Progress **2.1** Establish control group report **2.2** Design methods of confidential data collection **2.3** Use demographic measures	Completed Evaluation Model System to collect data ***1.1, 1.2, 1.3, 1.4, and 2.1 removed from the grant, as agreed upon by the partnership members and the U.S. Department of Education at a meeting on September 18, 1990.*** ***Refer to Evaluator's Report.***
1.12 Identify, obtain and Develop ABS and other appropriate instructional materials	**1.** Identify ABS programs **2.** Obtain ABS programs **3.** Develop ABS programs **4.** Other appropriate instructional materials	Nov. 1, 1990 to Dec. 21, 1990 Alternate Date: Dec. 10, 1990 to Jan. 21, 1991 ***Initial phase completed Jan. 24, 1991, but process was ongoing throughout project.***	Project Director and Curriculum Consultants	**1.1** Contact Learning Unlimited Corporation **1.2** Review ABS programs **2.1** Purchase selected ABS programs for use in UAW/GM location **3.1** Adapt programs for specific use within UAW-GM Skills related training **4.1** Review and compile other compatible materials to assist LEAs in instruction	ABS programs established for use Supplementary materials available

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
1.13 Monitor project results for appropriateness for state wide use	**1.** Monitor project	Continuous	Michigan Department of Education	**1.1** Meet with Project Director **1.2** Meet with Joint Training Coordinators **1.3** Meet with Curriculum Consultants **1.4** Meet with LEAs	Project's appropriateness for State wide use determined.

Goal 2: Provide 400 UAW-GM employees in 3 plants with **competency-based basic skills training** targeted to the increased skill requirements of their **changing work place.**

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
2.1 Use Skills 2000 to recruit and screen 400 adult workers for basic skills training in Livonia, Saginaw, and Flint	**1.** Implement Skills 2000 **2.** Screen workers using Skills 2000	Oct. 1, 1990 to Nov. 30, 1991 ***Completed Mar. 1, 1991.***	UAW-GM Joint Training Coordinators	1.1 Same as object 1.10	400 workers will be selected for Basic Skills Training ***The impact of this program for recruiting is contained in the Evaluator's Report.***
2.2 Use CASAS to conduct an in-depth assessment of each student	**1.** Assess students	Jan. 14, 1991 to Nov. 30, 1991 ***Completed Nov. 30, 1991.***	LEA Adult Education Staff	**1.1** Meet individually with students **1.2** Use CASAS to assess student abilities and needs	Student assessment complete ***Student Assessment Information - Refer to Appendix G.***
2.3 With each student, develop an Educational Development Plan (EDP) based on results of CASAS assessment	**1.** Develop EDP with students	Jan. 14, 1991 to Nov. 30, 1991 ***Completed Nov. 30, 1991.***	LEA Adult Education Staff	**1.1** Meet individually with students **1.2** Using CASAS assessment, develop an Educational Development Plan	EDPs exist for each student ***EDP Developed - Refer to Appendix H.***

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
2.4 Provide competency-based, job-related basic skills instruction in an on-site open-entry, open-exit, learning center	1. Provide Job-related Basic Skills Instruction 2. Provide on-site Learning Center	Jan. 14, 1991 to Nov. 30, 1991 ***First site opened Jan. 29, 1991; second site opened Feb. 14, 1991; third site opened Mar. 11, 1991.***	LEA Adult Education Staff	**1.1** Provide skills instruction in which skills taught match the increased skill requirements of the changing work force **1.2** Provide instruction based on specific competency statements **2.1** Provide on-site Learning Center **2.2** Staff Learning Center with certified teachers **2.3** Accommodate all shifts with Learning Center hours and Staff **2.4** Allow open-entry, open-exit format	Students receive instruction Learning Centers accessible to students
2.5 Provide Transportation and child care referral services as needed	1. As needed, students are referred for child care and transportation needs to be met.	Jan. 14, 1991 to Mar. 31, 1992		***Removed from the grant, as agreed upon by the partnership members and the U.S. Department of Education at a meeting on September 18, 1990.***	
2.5.1 (see NOTE) Provide educational counseling as needed **(NOTE:** Object number not assigned in original grant 3-16-90)	2. <u>Advise</u> Students (rather than counsel)	Jan. 14, 1991 to Mar. 31, 1992 ***Jan 29, to Nov. 30, 1991.***	UAW-GM Joint Training Coordinators & LEA Adult Ed. Staff		
2.6 Provide Technical assistance in a follow-up visit	1. CASAS Consultants come to Michigan to train project staff and provide technical assistance	Mar. 1991 ***Completed Jan. 22, 1991***	CASAS Consultant	**1.1** CASAS Consultants visit plant sites **1.2** Provide LEAs technical assistance	LEAs receive follow-up assistance from CASAS

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
2.7 Provide technical assistance in use of Skills 2000 and development of curriculum based on Skills 2000 profile	1. Provide assistance in use of Skills 2000 2. Provide assistance in development of curriculum based on Skills 2000 Profile	Continuous	UAW-GM Human Resource Center Staff	1.1 Meet with UAW-GM Joint Training Coordinators to provide technical assistance 2.1 Meet with curriculum coordinator to provide technical assistance	

Goal 3: Evaluate, determine **generalizability** of, and **disseminate** pertinent outcomes as a model for similar partnerships in Michigan and the nation.

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
3.1 Use CASAS to measure learning gains	1. Measure specific competency statements 2. Measure competency on a continuum as participants progress through the program	Jan. 14, 1991 to Feb. 29, 1992	LEA Staff	***Created a standardized form of reporting -- refer to Appendix I.***	Individual achievement as well as group progress will be monitored ***Refer to Evaluator's Report.***
3.2 Analyze those results	1. Compile results of learning gains measurements 2. Analyze results	Mar. 30, 1992 ***Completed Jan. 31, 1992.***	CASAS Staff ***and the Evaluator.***	1.1 Compile results from each learning center 2.1 Analyze results of each site	***Refer to Evaluator's Report.***

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
3.3 Collect other data outlined in evaluation model	**1.** Collect attendance data **2.** Collect time-on-task data **3.** Collect other data	Jan. 14, 1991 to Mar. 30, 1992	LEA Staff & UAW-GM Joint Training Coordinators	***Created a standardized form.***	***Refer to Evaluator's Report.***
3.4 Evaluate and generalize all evaluation results, including learning gains, effectiveness of Skills 2000 and CASAS, and impact on job-retention, productivity and promotability	**1.** Evaluate and generalize learning gains **2.** Evaluate and generalize effectiveness of Skills 2000 **3.** Evaluate and generalize effectiveness of CASAS **4.** Evaluate the impact on job retention, productivity and promotability	Mar. 30, 1992	Evaluation Consultant		***Refer to Appendix J - Evaluator's Design.***

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
3.5 Report project outcomes and progress toward each goal and objective	**1.** 8-month report on progress **2.** 17-month report on progress **3.** 24-month report on outcomes (This reflects a six-month no-cost extension of the grant.)	Nov. 30, 1990 Aug.31, 1991 Mar. 31, 1992	Project Director	**3.1** Final report should address the following questions: A. Are those who use Skills 2000 and seek work-related, competency-based basic skills training systematically different from those who do not? B. Are job-related outcomes more positive for those who participate compared to those who do not? C. Are job-related outcomes more positive for those who stay and do well in basic skills training compared to those who drop out or do not do well? D. Does Skills 2000 aid recruitment? E. Does it appear transferable to other industries? F. Does CASAS enhance learning gains? Does it aid retention? G. Are the curricula developed transferable to other industrial settings?	***Refer to Evaluator's Report.***

OBJECTIVES	ACTIVITIES/ TASKS	TIMELINES	PERSON RESPONSIBLE	PROCEDURES	EVALUATION/OUTCOME
3.6 Disseminate project materials, information, outcomes, and evaluation results for use as model for other partnerships		Mar. 31, 1992	MIALL Executive Director and Michigan Department of Education		Project materials, outcomes, information and evaluation results available for others ***Will disseminate to:*** ***1. Division of Adult Education and Literacy's Clearinghouse on Adult Education,*** ***2. Curriculum Coorination Center Network,*** ***3. ERIC Clearinghouse on Adult, Career and Vocational Education.***

The principal outcome of this project will be **400 UAW-GM workers with improved basic skills**. Their higher level of skills will improve their ability to meet the increased skill requirements of their changing work place and will enhance their opportunities for career advancement through on-the-job training. The project is designed to increase the number of workers participating in basic skills training by:

a. using Skills 2000 to motivate and recruit participants;

b. providing support services, release time, and on-site open-entry, open-exit training at convenient times to reduce barriers to participation;

c. developing individualized job-related, competency-based curricula, based on the Skills 2000 profile and managed by the CASAS system; and

d. offering instruction that meets the real world needs of employees and employers.

An **exemplary partnership** is another important outcome. The need to increase the skill level of our work force cannot be met without collaboration. This partnership will be a model of what can be accomplished

APPENDIX A

GOAL 1:

Objective 1.1
The Advisory Board

During a December 7, 1990 partnership meeting, the partners defined the role of the advisory board as a working body of individuals who were, in some way, associated with the grant.

The 10-member board consisted of:

- One individual from each of the three LEA's represented in the grant
- One individual from each of the three plants' education teams (resulted in one G.M. and two U.A.W. representatives)
- One individual from each of the four partner components (G.M., U.A.W., MDE, and MIALL)

The responsibility of the Advisory Board was to advise the partnership and provide a network to insure smooth operation of the grant.

MICHIGAN WORKPLACE LITERACY PROJECT

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APPENDIX B

MICHIGAN INSTITUTE FOR ADULT LEARNING AND LITERACY

CONTRACT SERVICES AGREEMENT

1. Name and Address of Contractee:

2. Services Contracted: Instructional services to the _____ Plant in accordance with the Michigan Work Place Literacy Project. _____ Public Schools staff will participate in up to ten training days and perform all instructional tasks necessary to implement and coordinate the Michigan Work Place Literacy Project within the _____ Plant.

3. Amount of Contract:

4. Duration of Contract: January 15, 1991 - November 30, 1991

5. Payment Schedule and Conditions: Payments will be made quarterly upon receipt of documentation from the _____ Public Schools business/personnel office of hours/days of services provided.

6. Account Number: 61191

7. Fund Source: The National Workplace Literacy Project fund to the Michigan Institute for Adult Learning and Literacy (MIALL), Central Michigan University by the U. S. Department of Education.

8. MIALL Executive Director: Linda J. Belknap Phone: 517/774-5202
   WPL Project Director: James Hacker Phone: 517/774-3249

Date	Michigan Institute for Adult Learning and Literacy (Authorized Signature)
Date	(Signature of Contractee)
Date	Central Michigan University (Authorized Signature)

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APPENDIX C

GOAL 1:

Objective 1.2

Selection Requirements for LEA Instructors

- Member in good standing with the public school system.
- Ability to relate to plant populations (age, race, sex).
- Experience working with adult learners.
- Experience working in a plant environment preferred.
- Ability to cover a wide range of skills and levels.
- Able to cover required shifts.
- Ability to advise employees on educational opportunities.
- Experience in marketing adult education programs preferred.

Job Description

- Provide instruction to the targeted population.
- Maintain, update appropriately and evaluate the curriculum of the foundation skill program to accommodate varying clients' abilities and needs as they concern the competency-based levels of the foundation skills curriculum.
- Recommend both instructional and resource materials for the learning center that relate to an adult work environment.
- Supervise the adult education program providing for its curriculum, materials, accounting procedures, evaluation of students, grant reports and proposals necessary for its operation.
- Develop procedures to evaluate students' progress and report same as to the effectiveness of the foundation skills program.
- Develop procedures and supervise activities to further improve the professional curriculum library, book and magazine utilization, and the professional and physical environment of the learning center.
- Identify and work with the targeted populations within the plant to assure active participation in the project.
- Implement data collection procedures to assure accurate, adequate recording of the education and training activities.
- Provide information/materials to the Michigan Institute for Adult Learning and Literacy regarding the Work Place Literacy Project and the plant site.
- Satisfactorily complete tasks as assigned by the designated school administrative staff (the local public school district 's administrator will coordinate with the Project Director in all matters relating to the aspects of this project).

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APPENDIX D

GOAL 1:
Objective 1.4
Tasks to be Completed
(10-15-90)

Research Base	9/1/90 - 12/6/91
Evaluation Consultant Meeting	10/22/90 - ongoing
Development of Curriculum	12/7/90 - 1/24/91 and ongoing
Identify Student Schedule	Began 12/7/90; Completed 2/15/91
Identify Teacher Load	Began 12/7/90; Completed 2/15/91
Secure Contracts with LEA	Began 12/7/90; Completed 3/13/91
LEA to Hire Teachers	Began 12/15/90; Completed 3/13/91
Initiate Marketing Plans	1st Week January - Livonia 1st Week February - Flint 1st Week March - Saginaw
CASAS trainers scheduled	1/8/91 - 1/22/91
Curriculum Consultant Meetings	1/8/91 - 1/24/91
Students Identified	1/15/91 and ongoing
Identify Equipment	Completed 1/22/91
Teacher Training by Project Director	1/23/91 - 1/24,/91 - orientation to respective plant one week prior to that plant's classroom opening, and ongoing
Set Registration Dates	1/29/91 - Livonia 2/14/91 - Flint 3/11/91 - Saginaw
Implementation	1/29/91
Evaluation Plan Completed	5/1/91

APPENDIX E

GOAL 1:
Objective 1.5
Development of Training for the Delivery of Services

Staff Training Process

1st meeting--Project director and Michigan Department of Labor personnel discussed the possibility of using the Michigan model of CASAS, developed by MDOL, for training purposes.

2nd meeting--Project partners and Michigan Department of Labor personnel came to a better understanding of the project's objectives and reached a general agreement between the partners and M.D.O.L.

3rd meeting--Project director, Michigan Department of Education's curriculum consultant, Michigan CASAS consultant and project curriculum consultants met with Learning Unlimited's ABS consultant to develop the crosswalk between CASAS and LU's curriculum.

- Consideration of materials to be used
  - Basic academic skills
  - Pre-employment skills
  - Competency-based materials (inherent in the material)
  - Learning Unlimited (TIS)
- Thirteen calender days required to complete this crosswalk
  - Using the telephone and fax machine the project director communicated with the CASAS consultants, the curriculum consultants, and the LU consultant

4th meeting--Project director and all consultants, including CASAS's California consultant (Jane Eguez) met to discuss the process of the crosswalk and develop the flow chart. A final crosswalk was then formulated.

- Data collection process was completed
- Educational Development Plan was developed
- Curriculum was designed to relate to the workplace

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ACTUAL TRAINING

1st day	9:15-11:45 a.m.	Michigan CASAS consultant presented the CASAS-Michigan Model.
	1:30-3:30 p.m.	Learning Unlimited consultant presented LU's curriculum system.
2nd day	9:00-3:30	Curriculum consultants continued the presentation of LU's curriculum as it related to the crosswalk between CASAS and LU.

PRE-CLASSROOM OPENING TRAINING

- Completed one week prior to the opening of classes.
- Brief history of each plant and list of acronyms used by plant workers.
- Project director and plant training coordinators advised the teaching staff:

  "-- Workers may make derogatory statements, or interrupt in the classroom, but don't take it personally.
  -- Workers want to be a part of change, but may not be able to communicate this in an appropriate manner, so be careful; report any such offenses to plant JTC for further action.
  -- Workers will be leery of the words "trust me."
  -- Jobs bank may have some glitches to begin with; however, things will work out--teachers should consult with the plant JTCs.
  -- Use positives as much as possible."

- Reviewed CASAS assessment system.
- Reviewed LU curriculum.
- Curriculum consultants were available at each meeting.
- Reviewed the schedule and teaching loads, as well as general guidelines and procedures to follow for every-day tasks.

APPENDIX F

GOAL 1:

Objective 1.10

Student Recruitment and Publicity Strategies

- Place "Skills 2000" in the hourly cafeteria, facilitated by trained LJTCs personnel.
- Post registration instructions in the Skills 2000 areas for participation in learning center activities.
- Place registration cards and drop box in Skills 2000 areas.
- Have learning center explanatory pamphlets available in Skills 2000 areas.
- Plan discussion sessions for potential participants, coordinators presiding.
- Plan "Open House" or educational exhibit for workers
  - -- Demonstrations
  - -- Meet instructors
  - -- Tour learning center
  - -- Coordinators available
- Media publicity
  - -- Scripted message with sound on plant cable system
  - -- Bulletin boards
  - -- Posters in plant and at the Union Hall
  - -- Paycheck notices
  - -- Home mailings
  - -- In-plant newspapers
  - -- Union newspaper
  - -- Flyers at the gate
  - -- Local newspaper publicity
  - -- Use of regular, changing cable messages, coupled with popular slogan parodies
  - -- Ed Castor video tape or similar adult success story
  - -- Internal metings with plant personnel

APPENDIX G

GOAL 1:
Objective 1.10
Student Assessment Information

The number of students served by the project totalled 267. Various modifications were necessary for the well-being of the students; therefore, it was impossible to include the total 400 individuals as projected in the grant proposal; however, the actual number of student contact hours represented 98.6% of the total 48,000 hours contained in the proposal. The original goal of each plant was to have at least 125 participants. Classroom schedules, workers' schedules, plant layoffs and plant shutdowns are a few factors which affected participation and outcomes.

The ***Delco plant in Livonia*** screened and tested 65 students. Each 7-week session consisted of 2 shifts, 3 1/2 hours per shift per day, two days per week. Though sessions were 7 weeks in duration, the seven hours of class time per week did not allow enough time for students to show measurable progress in their Educational Development Plan. Therefore, in the best interest of the students, the partnership decided to extend students into another 7-week session. As a result of these carryovers, only 65 students actually participated in the program instead of the original goal of 125 individuals.

The ***AC Rochester plant in Flint*** screened and tested 73 students. Each 5-week session consisted of 1 shift, 8 hours per day, 5 days per week. This plant has been conducting in-plant high school completion programs for five years. As a result, very few plant workers are non-high school graduates. Consequently, most of the Flint plant participants recruited for this program scored in the upper scale of CASAS. The final session in Flint enrolled only five workers.

The ***Grey Iron plant in Saginaw*** screened and tested 129 students. Each 5-week session consisted of 3 shifts, 8 hours per day per shift, 5 days per week. Some students carried over from one session to the next, providing them with 10 weeks of class time which resulted in higher measurable gains in their CASAS scores.

Workers' schedules, plant layoffs, plant shutdowns, local education association schedules, and other disturbances provided opportunities for the administrative staff at the plants and school districts to develop a greater understanding of how to cope with these types of interrupting factors and situations.

The Saginaw and Livonia plants did not have learning centers established prior to the grant project. Creation of the learning centers, coupled with the success of this pilot project and the 1990 UAW-GM contract, is enabling both plants to continue operation of the learning centers even after the grant project was completed. The Livonia plant is increasing the learning center activities to four days per week, doubling the number of students that can be accommodated. The Saginaw plant is eliminating one shift, but

maintaining 30 students per session, as well as increasing the sessions from five weeks to twelve weeks.

The model created through this grant project is the foundation upon which the plants are building and expanding excellent learning centers to continue providing opportunities for workers to increase their foundation and workplace educational skills.

Date: _____

REGISTRATION — Entrance Information

Last Name | First Name | Initial | Maiden Name

Street Number | Street Name | Apt. # | City | Zip Code

Home Telephone | Shift | Plant | Department

Work Telephone | GM Service (years) | Student I.D.

Student's Signature: _____

APPENDIX H

EDUCATIONAL DEVELOPMENT PLAN

I. EDUCATIONAL EXPERIENCE:

1. *Completed* [ ] 4th Grade; [ ] 6th Grade; [ ] 8th Grade
2. *Completed High School* [ ] Yes [ ] No
3. *Have GED* [ ] Yes [ ] No
4. *Earned College Credits* [ ] Yes [ ] No
5. *List any additional training you have received (i.e. in plant training; vocational training; job-related):*

_____

_____

_____

_____

_____

_____

_____

6. *List previous experiences (leisure activities/hobbies):*

_____

_____

_____

_____

_____

_____

7. *List any non-G.M. work experience:*

_____

_____

_____

_____

II. LOCATOR RESULTS:

TEST SELECTED: (Level _____)

Results: _____

Reading _____ *Math* _____

Other _____ *Date* _____

Comments/Recommendations: _____

_____

_____

ALTERNATE TEST: (if selected)

Reading _____ *Other* _____

Math _____ *Date* _____

Comments/Recommendations: _____

_____

_____

_____

_____

OTHER TEST RESULTS: _____

Suggested Study Area: _____

_____

_____

_____

_____

III. GOALS/PLAN:

Short-Term *Goal:* _____

Plan: _____

Date: _____

Long-Term *Goal:* _____

Plan: _____

Date: _____

IV. LEARNING CENTER ACTIVITIES:

DATE	ACTIVITY	RESOURCE

A. LIST SPECIAL CONSIDERATIONS DESIRED IN ASSISTING YOUR EDUCATIONAL PROGRESS (as identified by employee):

CONSIDERATION	PLAN OF ACTION	BY	COMPLETED

B. MODIFICATIONS TO EDP

DATE	MODIFICATION	REASON

I have participated in this modification and have received a copy.

Date	Participant Signature	Instructor
Date	Participant Signature	Instructor
Date	Participant Signature	Instructor

C. EXIT INFORMATION:

[ ] Educational recommendation _____

_____

_____

[ ] Accomplishments _____

[ ] Post-Test Results _____

Reading _____

Math _____

Length of Time: *Weeks*_____ *Hours*_____

Appropriate Signature _____

Instructor Signature _____

Date _____

Additional Comments / Recommendations / Suggestions:_____

APPENDIX I

MATH

Student ID #	CASAS A'ssmt Score	CASAS Pre-test A	B	C	CASAS Post-Test A	B	C	LU Level	# of LU Masterys	Hrs. of Instruction

READING

Student ID #	CASAS A'ssmt Score	CASAS Pre-test A	B	C	CASAS Post-Test A	B	C	LU Level	# of LU Masterys	Hrs. of Instruction

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APPENDIX J

GOAL 1:
Objective 3.4
Evaluation Plan

Purpose of the Evaluation

An evaluation of the Workplace Literacy Project was required by the U.S. Department of Education which awarded a grant to the Michigan Institute for Adult Learning and Literacy to conduct the Project. The purpose of the evaluation was to collect formative data regarding the process and progress of the Workplace Literacy Project during its first year. This information was intended to assist the development of the project, to enhance the project's ability to achieve its goals, and to provide information useful in replicating the project in other workplace settings. The evaluation focused on collecting information regarding the following:

- The roles of the partnership established between the Michigan Institute for Adult Learning and Literacy (MIALL), the Michigan Department of Education (MDE), local education agencies (LEAs), the UAW/GM Human Resource Center (HRC) to implement the project;
- The program design, specifically the curriculum and materials (e.g., Skills 2000, CASAS, ABS, etc.), computer-aided instruction, the quality of teaching, the learning environment, and staff training;
- The learning gains of participants in the project;
- Participants' satisfaction with the project;
- Participants' assessments of how they applied what they learned in the project to their jobs and outside of work; and
- The strengths and weaknesses of the project and recommendations regarding how the project could be further enhanced.

Data Collection Methodology

All participant data collected for the evaluation was treated confidentially. Findings were reported in aggregate form so that individual responses and/or data could not be linked to an individual. FERA collaborated with the partnership on the design and implementation of the evaluation activities and on the reporting of evaluation findings. As much as possible, the evaluation was shaped to meet the needs of all the stakeholders.

The evaluation questions addressed in the data collection and analysis included:

- To what extent did the participants achieve their goals?

- Did the participants believe their involvement in the project was worthwhile?
- To what extent were foundation skills learned as a result of the project?
- To what extent did participants apply what they learned from the project to their jobs and outside of work? Did the project help people on the job?
- How did the partnership contribute to achieving the goals of the project?
- In what ways did Skills 2000, CASAS and ABS contribute to achieving the goals of the project separately and together? How useful was Skills 2000 as a tool for recruiting workers into the program? How useful was CASAS as a curriculum management tool? How useful was ABS as a curriculum tool?
- What materials did teachers use and why did they use these materials?
- To what extent can the project be replicated in other workplace settings?
- How satisfied were participants and partners with the assessment process, the teaching technology, and the learning environment? What were their perceptions of the quality of the instruction that was offered?
- How effective was the staff training, the curricula and the teaching designs?
- What were the strengths and weaknesses of the total project?
- What could have been done differently to enhance the project?

To answer these questions, FERA proposed the following methods and procedures:

1. Conduct interviews of the project partners (approximately 10) regarding their goals for the project and their perception of the achievement of those goals, the roles and relationships of project partners, their perceptions of the effectiveness of the partnership, and their perceptions of project strengths and weaknesses.
2. Observe Skills 2000 and the use of CASAS and ABS and other instructional strategies during a site visit at each plant.
3. Interview project staff during the site visit at each plant.
4. Review data collected by the Joint Training Coordinators and LEA teachers which includes participants' foundation skills learning and achievement of goals.
5. Conduct two focus groups at each site with eight to twelve participants in each group (approximately 60 individuals in total) to record their perceptions of learning, usefulness of Skills 2000, CASAS, ABS and the other instructional

methods, and to understand how the project may affect their work and non-work activities. Participants will be asked about the quality of the program, job-relatedness of the program, and the responsiveness of LEAs, teachers, and staff. These group sessions will occur on the same day as the observational site visits.

All participant data reported to FERA was summarized by the Joint Training Coordinators or LEA instructors on standard forms to protect the identity of the participants. FERA treated all data as confidential, reporting findings in aggregate form so that individual responses could not be linked to the respondent.

WORKPLACE LITERACY PROJECT
FINAL EVALUATION REPORT

February 1992

Submitted by:

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EXECUTIVE SUMMARY

The Workplace Literacy Project was a partnership among management, labor, and education in Michigan to improve workers' basic skills. The Project implemented three pilot workplace literacy programs at UAW-General Motors (GM) locations in Saginaw, Livonia, and Flint. While the locations in Saginaw and Livonia had not previously offered basic skills education in the workplace, the Flint location had a variety of educational programs already in place. The educational programs in the three sites were delivered by teachers from local school districts. The programs implemented varied from site to site, but all three locations made use of three components: 1) Skills 2000 (a recruitment tool); 2) the Comprehensive Adult Student Assessment System (CASAS); and 3) the Adult Basic Skills (ABS) curriculum developed by Learning Unlimited. In addition, computers and a computer-based curriculum (i.e., the Drake system) were purchased by the UAW and additional curriculum materials were provided by teachers and the school districts.

This report presents an evaluation of the Workplace Literacy Project as a whole and its implementation in each of the three pilot sites. The evaluation was intended to describe the factors that affected the development and implementation of the Project, assess the effectiveness of the three major components (Skills 20000, CASAS, and ABS), examine the outcomes of the Project, and assess the usefulness of the Project as a model for other organizations. To collect this information, evaluators conducted individual interviews with Project partners and staff, conducted group interviews with Project participants, reviewed individual assessment data, and observed the program in each of the sites.

Program evaluation findings indicate that Skills 2000 was not used consistently as a recruitment tool and was not valued as a key element in the recruitment process. CASAS was considered highly inadequate as an assessment tool for the population served. ABS provided a helpful structure for guiding many participants through a self-directed learning program, but was not useful with participants at the low and high ends of the skill range. Gains in reading and math learning were indicated by these tools for some groups, but the validity and reliability of this data is suspect

for two reasons. First, valid pre- and post-test CASAS scores were available for only half of the participants. Secondly, one plant devoted only 20% of instructional time to the ABS curriculum, therefore, the reading and math gains measured by ABS may underrepresent actual gains.

Participants reported that the program has had considerable impact on their work and non-work lives. Greater self-confidence, improved communication with others, direct application of skills on the job, a desire to continue their education, and a willingness to apply for new jobs within the plant were the major themes in what they reported. Participants appreciated having the programs inside their plants during their regular shifts, and having paid leave from their jobs to attend the program.

The Project was valued highly by students, teachers, Joint Training Coordinators, and Project administrators. They believe that the Project can and should be replicated in other workplaces within and outside UAW-General Motors locations. They offered many recommendations for strengthening the Project including using a multi-faceted approach to recruitment, developing a workplace literacy assessment instrument, and expanding the variety and level of curricular materials.

I. INTRODUCTION

The Workplace Literacy Project

The Workplace Literacy Project was designed to improve the basic skills of 400 UAW-represented employees in three UAW-GM locations in Michigan--Saginaw Grey Iron, Delco Products Livonia, and A. C. Rochester Flint West.

The Workplace Literacy Project represented a unique partnership between the Michigan Institute for Adult Learning and Literacy at Central Michigan University, the Michigan Department of Education, the UAW-GM Human Resource Center, labor and management in the three UAW-GM plants, and the local school districts in each of the communities (School District of the City of Saginaw, Flint Community Schools, and Livonia Public Schools). Funding for the Project was provided by the UAW-GM Human Resource Center and a grant from the U.S. Depart-

ment of Education. Additionally, the local sites contributed classroom space, on-site administration, and computers, while the local school districts provided supplemental materials.

Evaluation Purposes

Formative Evaluation Research Associates, Inc. (FERA) was contracted to conduct an evaluation of the Project. The purposes of the evaluation were: 1) to describe the factors that affected the development and implementation of the Project; 2) to assess the effectiveness of the major program components; 3) to examine the outcomes of the Project; and 4) to assess the replicability of the Project. This information will be useful in expanding the number of sites and adapting the workplace literacy model to other settings.

The evaluation focused on collecting information regarding the following:

- The partnership established between the Michigan Institute for Adult Learning and Literacy (MIALL), the Michigan Department of Education (MDE), and UAW-GM Human Resource Center;
- The factors which facilitated and impeded the development of the Project;
- The effectiveness of the three program components funded through the Workplace Literacy Project grant (e.g., Skills 2000, CASAS, and ABS);
- The Project's impact on participants and the organizations involved;
- The strengths of the Project and recommendations to further enhance the Project; and
- The usefulness of the Project as a model for other organizations.

Research Methodology

Four strategies were used to collect information about the Workplace Literacy Project. These strategies include:

1) Interviews with the Project partners, the Project Director, Advisory Board members, UAW-GM Job Training Coordinators, learning center administrators, and school district administrators and instructional staff;

2) Group interviews with randomly selected Project participants at each plant;

3) A review of data collected by teachers and plant personnel regarding participants' learning gains and hours of instruction received; and

4) Observation of the Skills Center in each site.

A total of 51 participants were interviewed at the three locations (18 in Flint, 13 in Livonia, and 20 in Saginaw). Participants were promised that their responses would be reported anonymously. Thirty-four (34) individuals--representing the Project partners, the Advisory Board, the Project Director, the three locations, and the school districts--were also interviewed. A list of these individuals is provided in Appendix A. Copies of the interview questions used with each group can be found in Appendices B-D.

Report Organization

The findings presented in this report are organized into six sections. Section II presents an overview of the Project and the factors which affected its implementation. Section III presents profiles of the Project as it was implemented at each of the three locations. Next, Section IV discusses the effectiveness of the major program components. The outcomes of the project--for participants and the organizations involved--are described in Section V. Section VI describes the strengths of the Project and provides recommendations to enhance its effectiveness. Finally, Section VII examines the essential components of the Workplace Literacy Project and its replicability in other workplace settings.

II. A DESCRIPTIVE OVERVIEW OF THE WORKPLACE LITERACY PROJECT

The Major Components of the Project

The Workplace Literacy Project model funded through a grant by the U. S. Department of Education included three components:

1) Skills 2000--a touch screen interactive video disk designed to enhance workers' awareness of the increasingly complex skills needed in the workplace and used to recruit workers to the workplace literacy programs;

2) The Comprehensive Adult Student Assessment System (CASAS)--an assessment tool used to assist in the appropriate placement of students in the program and to monitor their progress; and

3) The Adult Basic Skills (ABS) curriculum--a computer-managed, self-directed educational program which provided individual prescriptions for learners outlining the objectives to be mastered and the curriculum materials to be used.

While these three components are the focus of this evaluation, it should be noted that the programs implemented were supported extensively by the UAW-GM Human Resource Center, union leadership and management at the local plants, and the local school districts. Each location used additional recruitment strategies, assessment tools, and/or curriculum materials. Profiles of the programs implemented at the three sites are described in Section III.

Roles of the Partnership

The initial planning for the Workplace Literacy Project was shared among the UAW-GM National Human Resource Center, the Michigan Department of Education, and the Michigan Institute for Adult Learning and Literacy (MIALL) at Central Michigan University. Each partner contributed specific expertise and experience to the Project. The Michigan Department of Education recommended the program curriculum, and developed the organization and structure of the Project. The UAW-GM Human Resource Center shared information about the company, union, and plant culture, committed the staff and resources necessary to implement the Project, and provided entree into the locations. MIALL assumed responsibility for the overall coordination of the Project and the administration of the grant.

Representatives from the UAW-GM National Human Resource Center met with representatives from the six regional Human Resource Centers in Michigan and asked for their assistance in selecting three locations to participate in the Workplace Literacy Project. Three criteria were used in selecting sites: 1) diversity in geographical location; 2) diversity in terms of type of business (e.g., part supplier or foundry); and 3) a high number of individuals in the JOBS Bank available to temporarily fill the positions of program participants. The locations selected were: A.C.

Rochester Flint West/Local Union 659, Saginaw Grey Iron/Local Union 688, and Delco Products Livonia/Local Union 262.

The regional Human Resource Centers then contacted the plant management and union leadership of the plants to get their "buy-in" to the Project. Meetings were subsequently held at the locations with the plant manager, personnel director, union president, union chairman, and the local joint training coordinators to further plan the Project. The locations were provided an opportunity to have input into the design of their local Skills Center and the evaluation of the Project, and assured that the UAW-GM National Human Resource Center would provide the resources necessary over and above the grant to successfully implement the Project.

The Michigan Department of Education sent a letter to the local school systems which serve each of the identified plants asking for their assistance in delivering the educational programs. At each location, a series of meetings were held with the administrators from the local school district to establish the program logistics (e.g., the targeted population, how many participants, program hours and location, hiring of teachers).

As program planning was progressing at each of the sites, two consultants were hired to "crosswalk," or correlate, the assessment system with the curriculum. Just prior to the Project's implementation at the three locations, the Institute for Adult Learning and Literacy held a two-day training session for the instructional staff from the three school districts. This training provided an orientation to the plant culture, the Comprehensive Adult Student Assessment System (CASAS), and the Adult Basic Skills (ABS) curriculum.

An Advisory Board tc the Workplace Literacy Project was formed to serve as a communication link between the programs operating at the three locations and to provide guidance to the Project Director. Each of the school districts and locations were represented on the Board along with the partner organizations (UAW-GM, MDE, and MIALL). Meetings were held monthly and the locations for these meetings rotated among the three Workplace Literacy Project sites and the partner organizations.

Factors Which Affected the Project's Implementation

The partnership between the Michigan Department of Education, the UAW-GM Human Resource Center (HRC), the Michigan Institute for Adult Learning and Literacy, the local sites, and the local school districts was very important in implementing the Project. The common focus of the partners was on meeting the needs of the learners, rather than the needs of their own organizations. Additionally, the commitment of the partners, in particular the UAW-GM Human Resource Center, the Project Director, the job training coordinators, and the school districts were cited as critical to the success of the Project.

The Project encountered many delays and changes in personnel. The Workplace Literacy Project Director was hired five months into the Project after several of the sites had done considerable planning and were ready to begin their programs. The Institute at Central Michigan University, the fiscal agent for the grant, was reorganized and a new director was not hired until the Project was well into its first year. The UAW-GM representatives to the Project changed several times throughout the grant period. Additionally, the Project was put on hold for several weeks by the UAW-GM HRC to explore the possibility of changing several of the grant components. Among the partner organizations, only the Michigan Department of Education's liaison to the Project remained the same from the time the grant was written until its completion.

Two other factors were believed to have impeded the implementation of the Project: 1) the geographical distance between the partners; and 2) the time necessary to develop working relationships and forge agreements among the various organizations involved. However, the effect of these factors was mitigated, and the overall Project was believed to have been facilitated, by the monthly meetings of the Advisory Board.

III. UAW-GM PLANT PROFILES

Saginaw Grey Iron/Local Union 688

Saginaw Grey Iron (SGI)/Local Union 688 is one of the oldest UAW-GM plants in operation. It is a foundry that produces engine blocks and other castings. In its early days, employees were hired primarily for

their physical ability, rather than their technical ability or educational background. Because of recent downsizing, the average age of the workforce is about 50 years old and a high percentage of the employees have less than a high school education. For many employees, their first language is not English. Forty percent of the plant workforce is estimated to be in need of basic skills education (e.g., reading, writing, and math).

Prior to the Workplace Literacy Project, no previous educational programs (as opposed to training programs) had been offered at Saginaw Grey Iron (SGI). However, a nearby UAW-GM location had established a Learning Center about one year prior to the start-up of the SGI Learning Center. The nearby plant's experience in collaborating with Saginaw Public Schools helped to facilitate the planning and operation of the Learning Center at Saginaw Grey Iron.

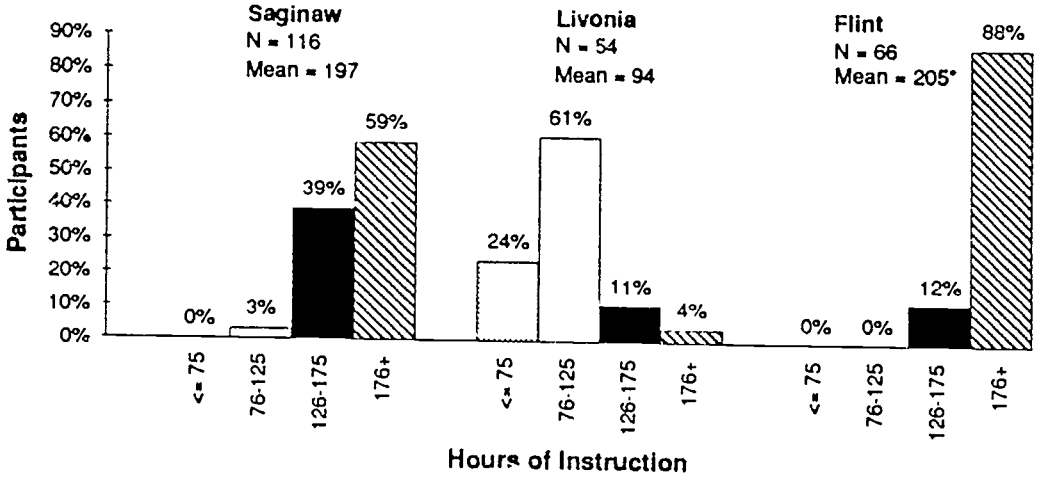
Temporary replacements for the employees attending the Learning Center were provided by personnel in the JOBS Bank. During the summer of 1991, there were approximately 60 individuals in the JOBS Bank at Saginaw Grey Iron. However, as the number of individuals in the JOBS Bank is reduced (e.g., due to increased production or retirement), the organization is unsure of its future ability to provide release time to employees to attend the Learning Center program.

The Learning Center provides a program of direct instruction, self-directed study, mutual support, and individual tutoring to upgrade the basic skills--primarily reading and math--of plant employees. Participants were given a paid leave from their regular work responsibilities to attend the Learning Center program. Instructional staff were present in the Center almost continuously from 11:00 p.m. Sunday night to Friday evening at 11:00 p.m. to serve workers on all three shifts. Five 5-week sessions were offered involving a total of 136 employees. Participants attended the program full-time for eight hours per day. As Figure 1 presents, participants at the Saginaw location attended the program for an average of 197 hours.

Information about the Learning Center program was disseminated to the workforce via many sources: the television in the cafeteria; at an employee meeting; on a flyer; posted on a bulletin board; and printed in

the plant and UAW newspapers. Application forms were disseminated, collected, and reviewed by the Center's on-site administrators. Pre-admission interviews of employees were conducted by these administrators prior to participants being placed in the Center. The first class period was used to orient participants to the Center and materials. The plant manager attended these initial sessions to express his support and encouragement to participants.

Figure 1. Hours of Instruction Which Participants Received



* Approximately 20% of instructional time at Flint (40 hours) was devoted to the Learning Unlimited curriculum.

The Center was staffed by three teachers, one trained substitute teacher, and a secretary. Each teacher taught during one of the three shifts at the site. All teachers were certified to teach at the Adult Basic Education level. In addition, several were certified to teach subjects through grade nine and special education. The secretary provided support to the teachers two days a week for data compilation and record-keeping. Additionally, the on-site administrators provided one-on-one tutoring as their availability permitted.

An Educational Development Plan (EDP) was created for each participant. Each participant's background, assessment data, suggested areas for study, activities in the Center, action plans, and accomplishments were recorded on the EDP form. Upon entering the Learning Center the participants completed the CASAS and ABS assessment process. This material was reviewed by the instructor and the participant was matched with the appropriate ABS materials. The participant moved through this material at his or her own pace aided by the computer software. Instructional staff and on-site administrators monitored progress and provided assistance and tutoring as needed. Participants reported their performance on the ABS mastery tests and this information was posted on a central progress chart kept by the instructional staff.

The instructors supplemented the Adult Basic Skills materials with resource files containing additional material related to the ABS objectives, the Laubach Reading series for new readers, and a mathematics videotape series. In addition, the Learning Center staff utilized social studies and history reading materials from Saginaw Public School's Instructional Media Center.

Delco Products Livonia/Local Union 262

The Delco Products Livonia Plant/Local Union 262 produces chrome bumpers. At one time it was the largest plating factory in the world. In recent years the demand for chrome bumpers has diminished and there have been major cutbacks in product lines and personnel. Today the plant employs approximately 1800 hourly employees, including approximately 200 workers in the JOBS bank. The minimum seniority of workers is 18 years and the average age is above 40 years old. Approximately 18% of the workforce has not earned a high school diploma, though some of these individuals may have earned the GED.

Prior to the Workplace Literacy Project, the Delco Products Livonia Plant had not offered an educational program focused on enhancing basic skills. The management and union leadership saw a need for such a program in order for workers to keep pace with new technology and to fully participate in training programs offered at the plant. In addition, the program was seen as an opportunity for employees to enhance their skills to meet their individual goals.

Planning for the program, or the "EXCEL" Skills Center, as it was known at the Livonia site, began more than a year before it was implemented. Planning responsibilities were shared among five job training coordinators who represented both GM and the UAW. The job training coordinators outlined five key steps in planning and initiating the program. First, two surveys were conducted: 1) a needs analysis survey completed by management to obtain their perspective of workers' training needs; and 2) a survey completed by workers to determine their interest in potential training and educational programs. Second, with the needs information in hand, the job training coordinators sought and obtained "buy-in" from management and union leadership. Third, the logistics of the program were planned (e.g., the number of students to be served, program hours, program location, materials and equipment needed, funding). Fourth, information about the program was disseminated to employees. Marketing strategies used included: notices on paychecks; information in the union newsletter; video on the TV screen in the cafeteria; announcements on the closed circuit monitors in the plant; bulletin board announcements; presentations during employee participation groups; an open house for the Skills Center; and Skills 2000 set up in the cafeteria. The fifth and final step involved registering and selecting participants. Over 180 individuals signed up for the program in the first two weeks in which it was advertised. More than 300 employees signed up by the last session. Due to the overwhelming response, participants were selected by lottery from all shifts and departments.

The Skills Center provided an individualized, self-study program focusing on reading, writing, language, and math. Four 7-week sessions of the program were held which operated on all three shifts. Participants attended the Skills Center two days per week for 3.5 hours per day. Participants could attend the program for one, two, three, or four sessions (49-196 hours) depending upon their needs. Most participants were in the program for two sessions and received an average of 94 instructional hours (see Figure 1). Release time and replacements from the JOBS Bank were promised to participants in the program, although the part-time nature of the program made finding temporary replacements difficult. A total of 67 employees participated in the program.

The Center was staffed by two teachers from Livonia Public Schools who covered the three shifts at the plant. At the beginning of each session, the teachers met with students individually to develop an Educational Development Plan (EDP). Students were administered the CASAS math and reading pre-tests and the ABS diagnostic test which provided each student with an individual prescription. Students worked independently, at their own pace, completing the objectives listed on their prescription. At the end of each unit students took a mastery test. If a student completed all objectives on their prescription, they could take the next higher ABS assessment test which would generate a new prescription. The CASAS post-test was administered to each participant prior to their exit from the program.

Teachers' primary roles were that of facilitators. In addition, teachers provided group instruction about once a week. While the majority of class time in the program was devoted to the ABS curriculum, teachers provided supplemental exercise and practice material, as well as reading materials for new readers and higher level readers.

On-site administration was provided by the job training coordinators. One training coordinator was responsible for each shift and was in the classroom daily to provide support and handle any problems which arose. Another training coordinator assumed responsibility for putting the computer system in place and providing computer support. Teachers received supervision from a Livonia Public Schools administrator located off-site.

A. C. Rochester Flint West/Local Union 659

A. C. Rochester Flint West/Local Union 659 operates as three separate business units which manufacture fuel handling systems, valves, and exhaust systems. Since the late 1970's, the size of the workforce has decreased significantly from approximately 11,500 employees to approximately 2700 employees (including about 650 individuals in the JOBS Bank). Despite the large reduction in workforce, no layoffs have been made since 1985. The average age of the current workforce is 42. A survey conducted in 1985 indicated that approximately one-third of active employees lack a high school diploma.

In response to these survey findings, a General Education (GED) lab was set up in 1985 by Mott Adult High School of Flint Community Schools in a training classroom at the A. C. Rochester Flint West complex. The educational offerings provided on-site have expanded over the years to include ABE and high school completion classes, introductory college classes taught by Mott Community College, a welder/repair training program offered by Ferris State University, a computer certificate program offered by The University of Michigan, and the Basic Skills Enhancement program initiated in 1991 as part of the Workplace Literacy Project.

The Basic Skills Enhancement program developed at A. C. Rochester Flint West was designed to prepare individuals to enter college, technical school, or apprenticeship programs. The need for such a program was identified from needs assessment and job task analysis data collected in 1989. Participants were generally high school graduates who wanted to refresh or further enhance their skills before entering advanced training or higher education programs.

Planning for the program began 7 to 8 months before it was implemented in February 1991. The job training coordinators met with the plant management and union leadership to get their "buy-in" to the program, and handled the administrative pieces involved in putting the program in place (e.g., release time for participants, replacement personnel, monitoring program attendance). Mott Adult High School developed the program with input from the apprenticeship committee and job training coordinators, and implemented the program (e.g., reviewed applications, conducted individual assessments, hired teachers, selected curricular materials). Recruiting was a shared responsibility. Strategies used include: articles in the plant newsletter; announcements on the video screen in the cafeteria; a special mailing to the total workforce; personal recruiting by the job training coordinators and the apprenticeship coordinator; and personal recruiting by Mott Adult High School staff in the plant cafeteria and of students enrolled in other Mott Adult High School classes. Approximately 120 individuals signed up for the program, of which 73 participated. The program could have accommodated 100 students, but a number of individuals had difficulty in getting release time or replacement personnel.

The Learning Unlimited curriculum was used as one part of the Basic Skills Enhancement program. The program also included classes in writing, reading, mechanical concepts (physics), algebra, blueprint reading, and technical math. Participants attended the program full-time for six weeks with approximately 20% of the time devoted to the ABS curriculum. On average, participants received a total of 205 hours of instruction (see Figure 1) and 40 hours of ABS instruction. Five sessions of the Basic Skills Enhancement program were held, all during first shift. Employees on other shifts who wanted to attend the program were transferred temporarily to first shift.

The Basic Skills Enhancement program was taught by three teachers from Mott Adult High School. In addition, a teacher's aide supported the program and was responsible for administering the CASAS and ABS tests, generating the ABS prescriptions, and orienting students to the ABS materials. A full-time Program Director from Mott Adult High School supervised the Basic Skills Enhancement program, as well as the ABE, GED, and high school completion programs offered at the plant. The Program Director met with all students individually prior to enrolling them in the program, provided educational advising, and made program placement decisions.

IV. EFFECTIVENESS OF THE MAJOR PROGRAM COMPONENTS

This section describes the effectiveness of the three program components which were the focus of the Workplace Literacy Project grant--Skills 2000, CASAS, and ABS. Assessments of the components are based upon interviews with participants, instructors, program managers, and Project partners.

Participant Recruitment and Skills 2000

Each of the locations used multiple strategies to recruit program participants. Based upon the comments of the participants interviewed, both printed material (e.g., plant newsletter, bulletin board announcement) and word of mouth recruiting (e.g., from other participants, job training coordinators, instructors, QWL group) were effective means of disseminating information about the program. Skills 2000 was set up in the cafeteria at two of the sites (Livonia and Flint), but only Livonia participants cited it when asked how they had heard about the program.

Those who had used Skills 2000 described it as "fun," "informative," and "easy to use," and liked interacting with the computer. Skills 2000 seems to be most effective when demonstrated by someone as opposed to being used as a stand-alone recruiting tool.

Participants participated in the workplace literacy programs for both personal and work-related reasons. Participants in Livonia and Saginaw tended to stress personal reasons, such as, "I wanted to help my kids with their school work," or "I always wanted to finish school and this has given me the opportunity," or "I will retire in the next five years and need to enhance my skills so I can do something afterwards." Those who participated in Flint did so primarily to prepare for the skilled trades test or to prepare for college. Two features of the programs were cited as particularly important in recruiting participants: 1) confidentiality assured by administering the program through local school districts; and 2) the programs being scheduled during work hours with participants receiving release time to attend.

At Livonia, many more employees were interested in attending the Skills Center (over 300) than could be accommodated by the program. However, the Saginaw and Flint sites fell short of the maximum number of participants which could enroll in their programs. Both programs operated at under 75% capacity. The reasons for under-enrollment included difficulty in arranging release time and replacement personnel, and a smaller target population for the program in Flint. In addition, as with any new workplace literacy program, individuals may initially have been reluctant to participate for fear of exposing what they perceived as their educational weaknesses. As the programs continue, and previous participants share their positive experiences with their co-workers, it can be expected that interest in the programs will build.

Student Assessment (CASAS)

Students' skill levels in reading and math were assessed using CASAS appraisal and pre-tests that were administered when the participants entered the program. The appraisal test was administered first to determine each student's general skill level, and then, depending upon their appraisal test score, each student was administered level A, B, or C as a pre-test to more precisely identify their skill level. When students exited the program, they were given the corresponding level of the CASAS

post-test to determine their progress. In addition to the CASAS assessment system, all participants were administered the ABS placement tests which generated individual prescriptions indicating the objectives for each individual to master. At the Flint location, participants also took a third series of reading and math assessment tests used by Mott Adult High School.

Instructors in the Workplace Literacy Project rated the CASAS assessment system "fair" or "poor." Numerous problems were cited. One problem was that many program participants--20% on math and 26% on reading--exceeded the highest valid score on the pre-test. A few participants (3%), who were non-readers, scored below the valid range on the reading pre-test. CASAS was not useful in assessing the abilities of these students. Another problem cited was that the test did not seem to accurately reflect students' skill levels. In one instance an individual tested at the highest level, even though he could not spell or write. Instructors also felt that the CASAS scores were not useful for program placement purposes because the scores did not indicate what an individual could or could not do (e.g., percentages, fractions). Teachers were also unclear as to how to interpret test scores. One teacher stated, "Let students and teachers know what the scores mean. We've asked, but it seems shrouded in secrecy." Still another problem cited by instructors was that CASAS did not facilitate appropriate placement in the ABS curriculum even though a "crosswalk" had been developed between CASAS and ABS for the Project.

Program participants' opinions regarding the skills assessment process (they were unable to differentiate between CASAS and ABS) were mixed. Their comments ranged from "liked it" and "the testing brought back things I had learned before" to "discouraging" and "burned out." Both participants and teachers mentioned the extensive amount of testing that was required--time which they felt could have been better devoted to the curriculum.

The Adult Basic Skills Curriculum

The Adult Basic Skills (ABS) curriculum focused on both reading/language and math. The ABS program included its own assessment package from which individual prescriptions for learners were generated. The prescriptions outlined the objectives (e.g., fractions) to be mastered and the curriculum materials to be used. Students covered the

material at their own pace and took mastery tests at the end of each unit. If students successfully mastered all objectives on their prescription, they were retested and a new prescription generated.

The Adult Basic Skills curriculum received mixed reviews from program participants, instructors, and administrators. However, those people at the two sites where the ABS materials were used as the predominate curriculum (Livonia and Saginaw) rated ABS more positively. The two aspects of the ABS program that participants particularly liked were the individualized prescriptions and the fact that they could work at their own pace. Students found the prescriptions to be informative and also liked that they could skip around from one area to another, rather than work in sequential order.

The problems or weaknesses that were identified in using the ABS curriculum included:

- Not enough ABS books;
- Poor directions;
- Confusing numbering system;
- More difficult material introduced before easier material;
- Too much covered in some lessons (e.g., G level);
- Reading problems in math difficult for low level readers;
- Not enough examples;
- Did not cover higher level skills (e.g., algebra);
- Answer sheets difficult to fill out;
- Explanations of correct answers not always provided; and
- Teachers' time involved in scoring mastery tests reduces their time available to assist students.

In spite of these problems, many students found the ABS curriculum to be both enjoyable and extremely valuable. The key issue appears to be its ability to meet the needs of a broad range of students as a stand-alone curriculum.

V. PROJECT OUTCOMES

Participant Learning

Student learning or progress in the Workplace Literacy Project was measured using the Michigan version of the Comprehensive Adult Student Assessment System (CASAS). Program participants were administered a CASAS pre-test (level A, B, or C) at program entry and the corresponding level at the time of program completion as a post-test. Students' raw scores on both the pre- and post-tests were then converted to scale scores. The difference between pre- and post-test scale scores were then determined and can be used as one indicator of student learning in the Project.

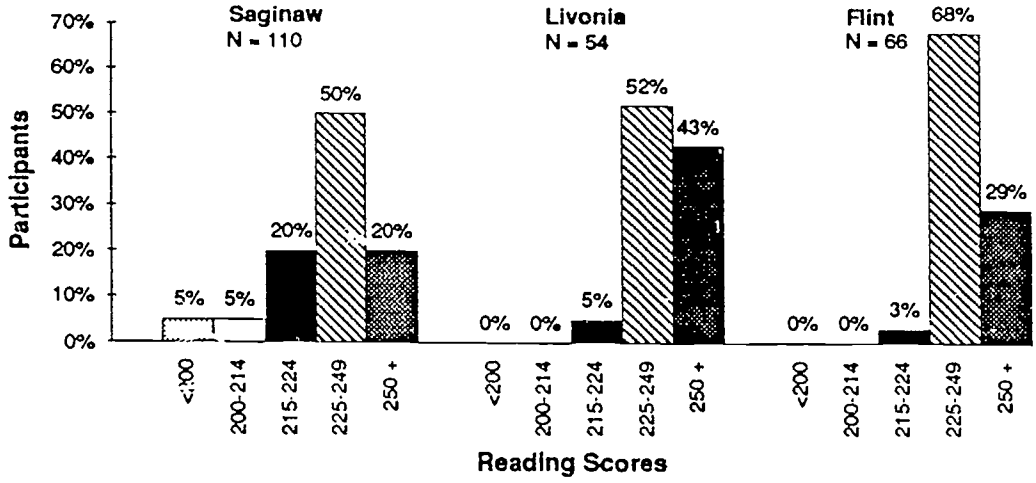
Figures 2 and 3 display students' CASAS pre-test scores on reading and math. The following interpretation of scale scores was provided by the Michigan Department of Labor for whom the Michigan version of CASAS was developed.

> Below 200--"Participants functioning below 200 have difficulty with basic literacy and computational skills necessary to function in employment situations..."
>
> 200-214--"Participants functioning between 200 and 214 have low literacy skills and have difficulty pursuing other than entry level programs requiring minimal literacy skills... These participants are functioning below a 7th grade level."
>
> 215-224--"Participants functioning between 215 and 224 can function at a basic literacy level and are able to handle basic literacy tasks and basic computation skills... These participants are functioning below a high school level."
>
> 225 and above--"Participants functioning at or above 225 can function at a high school entry level..."

The highest valid scale scores for the reading and math pre-tests were 250 and 252, respectively.

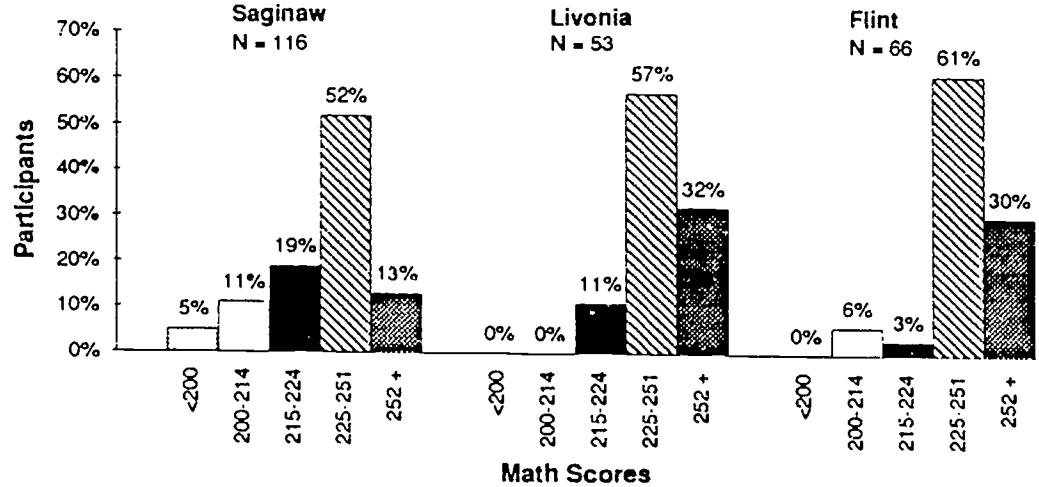
The data displayed in Figures 2 and 3 indicate that a significant percentage of program participants exceeded the upper range of CASAS at the time they took the pre-test (between 13%-43% depending upon the subject area and plant). Most participants scored in the 225-249 range indicating that they can function at the high school level or above. In general, reading scores of participants were slightly higher than math scores.

Figure 2. CASAS Reading Pre-Test Scale Scores*



* Pre-test scores for those idividuals who took both the reading pre-test and post-test.

Figure 3. CASAS Math Pre-Test Scale Scores*



* Pre-test scores for those idividuals who took both the math pre-test and post-test.

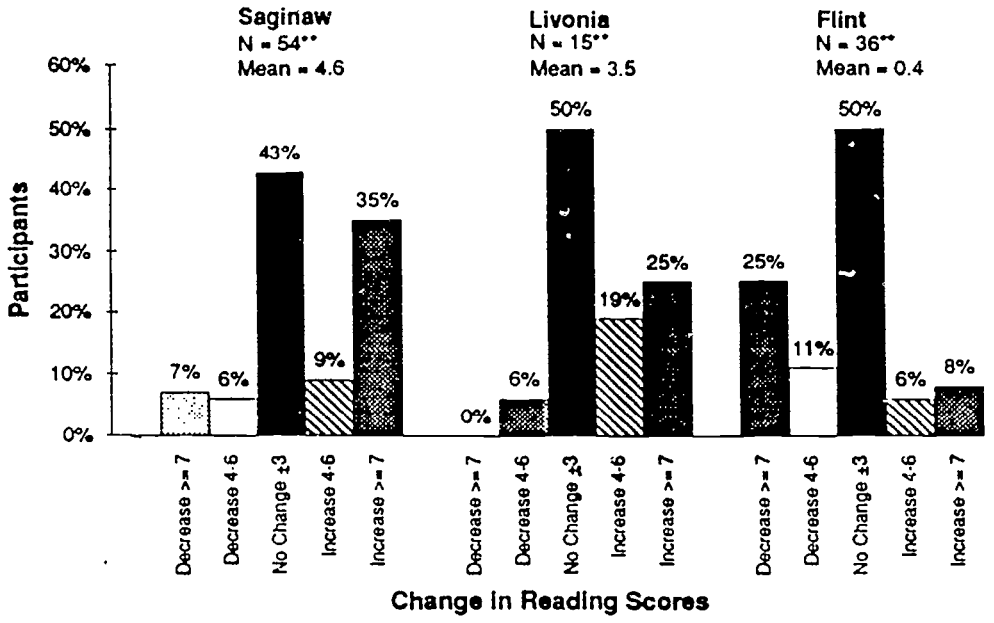
Figures 4 and 5 present the change in participants' CASAS reading and math scores from the time of program entry to exit. Change scores of less than 3 points indicate no change while those 4 points or higher (i.e., those that exceeded the standard error of measurement of 3.0-3.5 points) indicate a measurable gain or loss.

A change in CASAS reading and math scores could not be computed for 62% and 47% of the participants, respectively, because they had pre- and/or post-test scores which exceeded the valid range for levels A, B, or C. The extent to which the change scores of the remaining participants accurately reflect the whole group is questionable. Because many participants scored within the valid range on the pre-test, but exceeded the valid range on the post-test, it is likely that greater learning gains would have been reported for the whole group if all participants had valid scores.

Figures 4 and 5 indicate that between 14% and 44% of the program participants at the plants showed measurable gains in reading, and between 27% and 41% of the participants showed gains in math. A greater percentage of participants at the Saginaw and Livonia sites showed measurable gains than did Flint participants. What is surprising is the large number of individuals at all three locations whose change scores actually decreased (between 6% and 36% depending upon the subject area and plant). Personnel at the CASAS office stated that large numbers of individuals with decreased scores suggest that the circumstances surrounding the test administration may not have been ideal (e.g., not enough time), or that students may not have been motivated to perform their best (e.g., students rushing or guessing simply to finish the test).

To provide additional data regarding student learning in the Workplace Literacy Project, participants' reading and math gains were computed based upon their progress in the Adult Basic Skills curriculum. Grade equivalencies at the time of program entry and exit were determined, and gains computed, using guidelines established by Learning Unlimited. (See Appendix E for further information regarding ABS grade equivalencies). By computing participants' gains using the Adult Basic Skills data, gains could be calculated for a much greater percentage of the Project's participants than was possible using the CASAS data (88% versus 38%-53%).

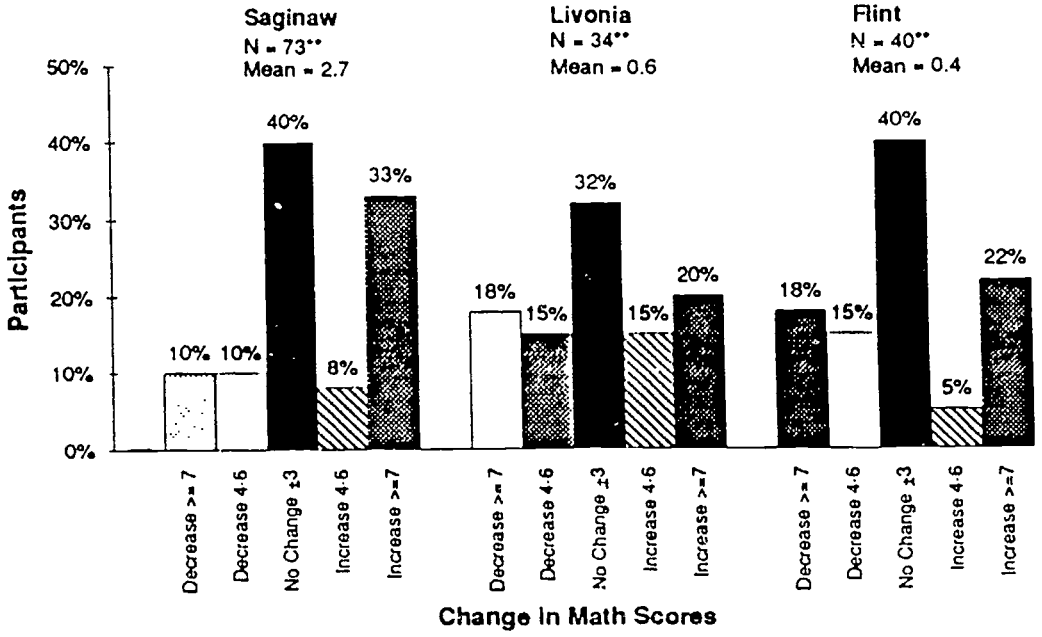
Figure 4. Change in CASAS Pre- and Post- Test Reading Scores*



* The standard error of measurement is between 3.0-3.5 depending upon the test form used, therefore a score of ±3 indicates no significant change.

** The change score for 56 individuals at Saginaw, 39 individuals at Livonia, and 30 individuals at Flint could not be computed because of pre- and/or post-test scores which exceeded the valid range for Levels A, B, or C.

Figure 5. Change in CASAS Pre- and Post- Test Math Scores*

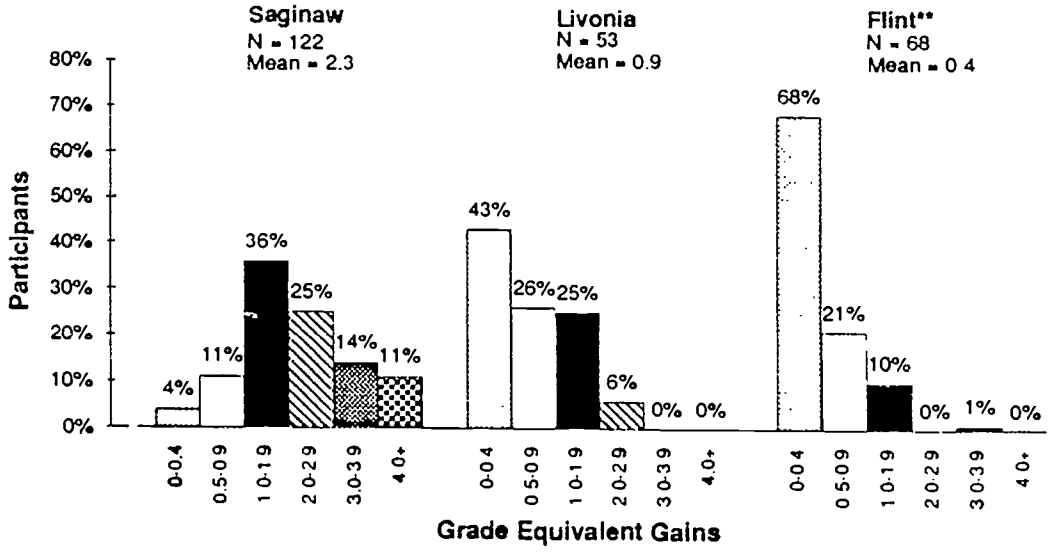


* The standard error of measurement is between 3.0-3.5 depending upon the test form used, therefore a score of ±3 indicates no significant change.

** The change score for 43 individuals at Saginaw, 19 individuals at Livonia, and 26 individuals at Flint could not be computed because of pre- and/or post-test scores which exceeded the valid range for Levels A, B, or C.

Figures 6 and 7 display participants' reading and math progress in the Adult Basic Skills curriculum. Depending upon the plant, between 32% and 96% of the program participants showed progress of a half grade or higher in the ABS reading curriculum. An even greater percentage of participants showed at least a half grade gain in the ABS math curriculum (61%-96% depending upon the plant). Participants at Saginaw posted the highest gains (an average of 2.3 grade levels in reading and 2.0 grade levels in math), while participants at Flint showed the least gain. Because only 20% of instructional time at Flint was devoted to the Adult Basic Skills curriculum, reading gains derived from participants' progress in the ABS curriculum may underrepresent the Flint participants' actual reading gains.

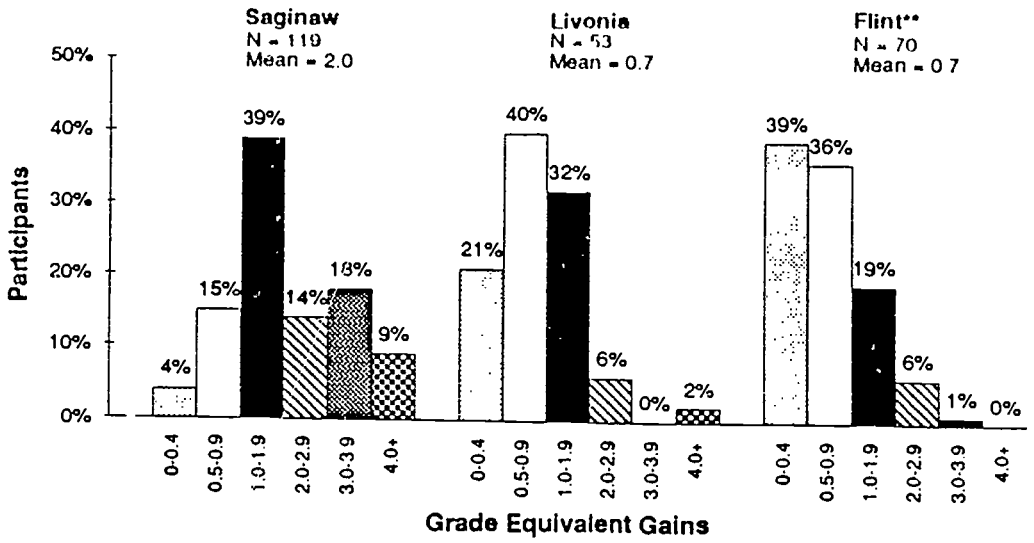
Figure 6. Reading Gains in the Adult Basic Skills Curriculum*



* Grade equivalent reading gains were computed based upon participants' progress in the Adult Basic Skills curriculum (non-readers excluded).

** Only 20% of instructional time at Flint was devoted to the Adult Basic Skills curriculum. Therefore, the reading gains derived from participants' progress in the Adult Basic Skills curriculum may underrepresent actual reading gains.

Figure 7. Math Gains in the Adult Basic Skills Curriculum*



* Grade equivalent math gains were computed based upon participants' progress in the Adult Basic Skills curriculum (non-readers excluded).

** Only 20% of instructional time at Flint was devoted to the Adult Basic Skills curriculum. Therefore, the math gains derived from participants' progress in the Adult Basic Skills curriculum may underrepresent actual math gains.

The Project's Impact on Participants' Lives

Individuals who participated in the Workplace Literacy Project feel that it has had a profound impact on their lives. Every participant interviewed described some way in which their life has been enriched. The Project has provided participants with skills which they have been able to apply in their personal life and on the job, and has changed the way in which participants perceive themselves and their future. Examples of how the Project has impacted participants are provided in Table 1.

Participants were asked if they felt that their participation in the workplace literacy programs would enhance their opportunity for future job openings. There was nearly unanimous agreement that it would. Participants believe that their participation does the following: shows that they are trying; refreshes their skills; makes them less anxious to take the test for job openings; and enhances their resume. Several participants, however, voiced some concern as to whether there would be any job openings in the future to which they could apply their new skills.

Table 1. The Project's Impact on Participants' Lives

General Skills or Attitudes

- Can do more than I thought I could.
- Learned how to handle pressure.
- Increased self-confidence.
- Know that I can learn anything I want to.
- Am more ambitious. Motivates me to want to go further.
- Am more disciplined.
- Proud of what I did.
- Don't feel like I am wasting my life.
- Appreciate my job more.
- Developed trust among co-workers.
- Feel that the company cares about employees.
- Am a better listener.
- Developed teamwork and problem-solving skills.
- Am a better speaker. More likely to speak out in a group.
- Improved written communication.
- Improved comprehension.
- Gained more respect from others.
- Developed a new outlook on life.
- Developed new attitudes which have helped marriage.

Application of Skills On The Job

- Helps me to think about my work a little more--what I can do to take care of a problem on-the-job.
- Able to do pipe layouts better.
- Able to read blueprints.
- Can understand the metric system on blueprints.
- Can read letters from management and safety material.
- Can read markings on machine buttons.
- Able to analyze the pressure applied to a part.
- Wrote notes for the next shift.
- Able to calculate down time.
- Able to fill out suggestions accurately.
- Figured out how to package materials more easily.
- Changed the graphics scale on the computer using the formula for computing area.
- Totaled what material was scrapped.
- Wrote notes for the skilled trades and followed the job to make sure that it was done.
- Plan to take the skilled trades test.
- After working together in the classroom, will be able to work together in the Quality Network.

Application of Skills in Personal Life

- Able to figure interest rates when banking or buying a car.
- Able to check the accuracy of payroll deductions.
- Wrote letters to family members.
- Helped kids with their homework.
- Repaired car by following repair book.
- Did home remodeling and rewiring.
- Plan to enroll in college.
- Better prepared to open own business after retirement.

The Project's Impact on the Organizations Involved

The Workplace Literacy Project has had a significant impact, not only on participants, but on the organizations involved in the Project. New partnerships have been forged between the local school districts and UAW-GM plants. Two locations have established new education centers and the third location has expanded the number of educational programs offered. The Project has also been instrumental in strengthening the relationship between union and management within the plants. Additionally, the UAW-GM National Human Resource Center has established a process for installing skills centers which can be replicated throughout the country. All three locations plan to continue and expand upon the programs implemented as part of the Workplace Literacy Project.

VI. STRENGTHS AND RECOMMENDATIONS TO ENHANCE THE PROJECT

What factors contributed to the success of the Workplace Literacy Project? How could the Project be further enhanced? How could recruitment of participants be strengthened? The responses to these questions by those interviewed--program managers, instructors, and participants--are listed in Tables 2-4.

Table 2. Strengths of the Project

- The partnership and working relationship developed between business and education.
- The project director's commitment and effort.
- The instructors--knowledgeable, helpful, patient, treated participants with respect, caring, supportive.
- The job training coordinators' involvement and support.
- The plant management's support.
- Local plant buy-in and input as to how the project should be implemented.
- Program offered on company time.
- Individualized, self-paced curriculum.
- Program run by local school district with confidentiality of participants assured.
- The teacher:student ratio.
- The use of computers.
- Convenient location.
- Convenient hours.
- Attending the program with co-workers.
- Informal, relaxed classroom environment.
- Small classes.

The strengths of the Project focus on the commitment and support of the Project's partners and the program's accessibility to employees. In contrast, the recommendations to enhance the Project focus on improving the assessment and curriculum pieces, providing additional staff support, expanding the program, and tailoring the grant to better meet the needs of the Project. Specific recommendations to enhance program recruitment include greater support from employees' supervisors, expanding the program, and providing opportunities for program participants to apply their new skills on the job.

Table 3. Recommendations to Enhance the Project

- Apply for longer grant period. Extend to 3 years. Need more planning time prior to implementing the Project.
- Increase funding. Resources were spread too thin across three plants which limited the number of teachers hired, their time available for planning and student advising, and the number of participants.
- In writing the grant, involve school districts and individuals who know the plants. Get their input on the curriculum, training needs, and costs.
- Hire a curriculum coordinator.
- Reduce amount of data collection for grant reporting.
- Design the evaluation plan at the beginning of the Project to include on-going formative evaluation.
- Develop a marketing strategy to sell the programs to management.
- Provide flexibility in the Project to allow sites to try different curricula, assessment programs, teaching strategies, schedules, etc.
- Provide more teacher training (including follow-up training). Topics to cover include: roles and responsibilities, organizational culture, student assessment, the curriculum, use of equipment, etc.
- Include on-site administrators in teacher training sessions.
- Lower student:teacher ratio.
- Provide tutors.
- Make counselors available for student advising and developing EDPs.
- Make secretary available to keep records.
- Find a new assessment tool. CASAS did not accurately reflect the workforce.
- Develop a workplace literacy test for the automotive industry.
- Provide more workplace literacy (job-related) materials.
- Establish a state or national clearinghouse for compiling and assessing workplace literacy materials.
- Provide a variety of curricular materials for individuals with different skill levels (non-readers to college-level) and learning styles.
- Assess computer software packages currently available.
- Ensure that the computer software and hardware are operational at the beginning of the Project.
- Have planned instructional time led by a teacher.
- Extend length of program sessions.
- Include short break at the end of each session to review and plan for the next session.
- Provide additional classroom space.
- Provide high school and college credit.
- Offer a variety of classes (e.g., small engine repair, public speaking, spelling, electronics, history, geography, science, consumer economics, consumer law, accounting, algebra, trigonometry, and calculus).
- Organize classes by subject area (e.g., math or reading).
- Organize classes based upon participants' skill levels.
- Offer classes 4 to 5 days per week rather than 2 days per week.
- Offer classes on all shifts.

Table 4. Recommendations to Enhance Recruitment

- Identify a recruitment coordinator for each plant.
- Provide information about available job opportunities.
- Provide opportunities for advancement on the job.
- Ensure that all interested employees will be provided with release time to attend the program.
- Expand the program to serve more individuals.
- Open the program to family members.
- Publish the names of individuals who participate.
- Have past participants serve as contacts.
- Make it clear that the program is an opportunity to learn what you want to learn and that individuals' performance is confidential.
- Develop strategies for identifying non-readers (e.g., ask supervisors, review problems people had with previous training).
- Offer more subjects.
- Have department meetings of supervisors and employees with program staff (teachers) and past participants to explain the program.
- Get the foreman involved in explaining the need for education at the line meetings.
- Schedule classes on all shifts.
- Distribute pamphlets on the skilled trades test.
- Develop a video of the program and show it in the cafeteria.

VII. REPLICABILITY OF THE PROJECT

The partners and staff involved in the Workplace Literacy Project were asked to assess the effectiveness of the three major components of the Project--Skills 2000, CASAS, and the ABS curriculum--as a stand-alone program model. All of those people interviewed believe that in order for a workplace literacy program to be effective, Skills 2000 and the ABS curriculum would need to be augmented and CASAS replaced. They recommended that an assessment instrument be developed specifically focused on workplace skills. Interviewees also stressed the importance of using a multi-faceted approach to recruiting (i.e., various types of media and personal face-to-face contact) and instruction (i.e., a variety of curricular materials and teaching methods). In summary, they believe that the needs of participants should influence the program design, rather than the program design be dictated by specific program components.

Based upon their experience, Project staff and partners identified what they believe are the essential components of a Workplace Literacy Project (see Table 5). Their responses emphasize the importance of developing good working relationships among organizations and groups, establishing a common mission, obtaining funds for program development and operation, identifying workers' needs, using a variety of instructional materials and methods, ensuring confidentiality, maintaining program flexibility, and providing on-going program monitoring.

Table 5. Essential Components of a Workplace Literacy Project

- Clearly identified program mission and objectives.
- Funds for program development and operation.
- Partnership between business and education.
- Commitment of company/plant management for: 1) funding; 2) support from floor supervisors; and 3) assistance from training department.
- Good relationship between the union and management.
- Involvement of workers to ensure their needs are represented.
- Needs assessment of workers' skill levels and educational needs.
- Match between the needs of participants and instructional goals.
- Good assessment instrument.
- Variety of curricular materials suitable for adult students.
- Individualized curriculum.
- Stand-up teaching.
- Good instructional staff.
- Use of computers.
- Participants guaranteed confidentiality.
- Training for those delivering the program and providing services.
- Employee release time to attend the program.
- Careful monitoring of program implementation (i.e., formative evaluation).
- Flexibility.

APPENDIX A

List of Individuals Interviewed

Workplace Literacy Project

LIST OF INDIVIDUALS INTERVIEWED

Partners

Linda Belknap, MIALL

Ken Alexander, UAW-GM HRC

Mohammed Isa, UAW-GM HRC

Gloria Grady Mills, Michigan Department of Education

Advisory Board

Kent Copeman, Flint Community Schools

Don Scott, School District of the City of Saginaw

Jim Newman, Livonia Public Schools

David Crooks, Delco Products Livonia

Gordon Koester, Saginaw Grey Iron Plant

Jack Krueger, AC Rochester Flint West

Staff

Jim Hacker, WLP Project Director

Gary Trosin (UAW), Colleen Cencich (GM)
Bobby Anderson (GM), David Crooks (UAW)
Job Training Coordinators, Delco Products Livonia

Tim Quinn (UAW), Gordon Koester (GM)
Job Training Coordinators, Saginaw Grey Iron

Bill Foy (UAW), Carole Smith (GM), Jack Krueger (UAW)
Job Training Coordinators, AC Rochester Flint West

Lee Wright (UAW), Keith PoPour(UAW), Jim McDonald (UAW) and
Janet Nash (Saginaw Public Schools)
Learning Center On-Site Administrators, Saginaw Grey Iron

Pat Wright (Flint Community Schools)
Learning Center On-Site Administrator, AC Rochester Flint West

Judy Sternberg (Livonia Public Schools)
Learning Center On-Site Administrator, Delco Products Livonia

Mary Serich, Deborah Beahan and Jim Chapman
Instructional Staff, AC Rochester Flint West

Kathy Furmaga and Joan Lippens
Instructional Staff, Delco Products Livonia

Helen Jiles, Carole Kolleth, Elizabeth Szabo
Instructional Staff, Saginaw Grey Iron Plant

Participants

Saginaw Grey Iron/Local Union 688 (20 participants)

Delco Products Livonia/Local Union 262 (13 participants)

A.C. Rochester Flint West/Local Union 659 (18 participants)

APPENDIX B

Interview Schedule for Project Partners and Advisory Board

Workplace Literacy Project

INTERVIEW SCHEDULE FOR PROJECT PARTNERS AND ADVISORY BOARD

Interviewee Name:

Date: *Time:* *Location:*

Special Circumstances/Notes:

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1. What has been your role with respect to the Workplace Literacy Project? What are your major responsibilities related to the Workplace Literacy Project?

2. With whom have you had contact in carrying out activities of the Project?

3. What do you believe are the goals of the Workplace Literacy Project?

4. What would you like to see the Workplace Literacy Project accomplish?

5. On what basis would you judge the success of the Workplace Literacy Project? ("I believe the Workplace Literacy Project will have been successful if/when it has .....")

6. Please give a brief overview of how the Project was implemented according to your experience.

7. What factors have facilitated the development and impact of the Workplace Literacy Project?

8. What factors have impeded the development and impact of the Workplace Literacy Project?

9. How has the Partnership between the Michigan Institute for Adult Learning and Literacy, the Michigan Department of Education, and UAW-GM HRC affected the Workplace Literacy Project?

10. How did the Advisory Board work?

11. What do you see as the essential components of the Workplace Literacy Project model? *(Probe: What components are critical to the success of the Project?)*

12. Can this model be replicated in other workplace settings? What components of the model would need to be modified?

13. What advice would you offer to others in developing and implementing a Workplace Literacy Project?

14. How would you rate the effectiveness of the following components of the Workplace Literacy Project? Would you say that the ..... was very good, good, fair, poor, or that you don't know? Please explain.

    Recruitment of participants
    Skills 2000
    Skills assessment process
    CASAS
    Curriculum design
    Learning Unlimited materials
    Other curricular materials
    Computer-aided instruction, (e.g., the Drake system)
    Learning environment
    Quality of teaching
    Educational advising
    Staff training
    On-site administrators

15. Would Skills 2000, CASAS, and the Learning Unlimited materials work effectively on their own? Why or why not?

16. What changes, intended or unintended, have occurred in your organization or among the Partner organizations (e.g., in the plant, local education agency, UAW or GM) as a result of the Workplace Literacy Project?

17. From your perspective, what are the most significant accomplishments, thus far, of the Workplace Literacy Project?

18. What impact has the Project had on enhancing workplace literacy, thus far?

19. What do you see as the strengths of the Workplace Literacy Project?

20. What do you see as the weaknesses of the Project?

21. How can the efforts of the Workplace Literacy Project be further enhanced?

22. What was the actual cost of implementing the program? What costs were contributed by each organization (i.e., dollars and resources)?

23. Where did Project revenues fall short of meeting Project needs?

24. What would you estimate to be the cost to set up a similar program in another GM plant? In another company?

25. What do you think should be the future direction of the Workplace Literacy Project?

26. Is there anything else you would like to add about the Workplace Literacy Project?

APPENDIX C

Interview Schedule for Project Staff

Workplace Literacy Project

INTERVIEW SCHEDULE FOR PROJECT STAFF

Interviewee Name:

Date: *Time:* *Location:*

Special Circumstances/Notes:

---

1. What has been your role with respect to the Workplace Literacy Project? What are your major responsibilities related to the Workplace Literacy Project?

2. With whom have you had contact in carrying out activities of the Project?

3. What do you believe are the goals of the Workplace Literacy Project?

4. What would you like to see the Workplace Literacy Project accomplish?

5. On what basis would you judge the success of the Workplace Literacy Project? ("I believe the Workplace Literacy Project will have been successful if/when it has .....")

6. Please give a brief overview of how the Project was implemented, according to your experience.

7. What factors have facilitated the development of the Workplace Literacy Project?

8. What factors have impeded the development and impact of the Workplace Literacy Project?

9. How has the Partnership between the Michigan Institute for Adult Learning and Literacy, the Michigan Department of Education, the LEAs, the UAW and GM affected the Workplace Literacy Project?

10. What materials were used in the program? Why?

11. What do you see as the essential components of the Workplace Literacy Project model? *(Probe: What components are critical to the success of the Project?)*

12. Can this model be replicated in other workplace settings? What components of the model would need to be modified?

13. What advice would you offer to others in developing and implementing a Workplace Literacy Project?

14. How would you rate the effectiveness of the following components of the Workplace Literacy Project? Would you say that the ..... was very good, good, fair, poor, or that you don't know? Please explain.

    Recruitment of participants
    Skills 2000
    Skills assessment process
    CASAS
    Curriculum design
    Learning Unlimited materials
    Other curricular materials
    Computer-aided instruction, (i.e., Drake system)
    Learning environment
    Quality of teaching
    Educational advising
    Staff training
    On-site administrators

15. To what extent was the program curriculum (e.g., the skills taught and the materials used) job-related? Please give examples.

16. Would Skills 2000, CASAS, and the Learning Unlimited materials work effectively on their own? Why or why not?

17. What changes, intended or unintended, have occurred in your organization or among the Partner organizations (e.g., in the plant, local education agency, UAW or GM) as a result of the Workplace Literacy Project?

18. From your perspective, what are the most significant accomplishments, thus far, of the Workplace Literacy Project?

19. What learning gains have participants achieved thus far? Please give examples.

20. What impact has the Project had on enhancing workplace literacy thus far?

21. What has been the single most important benefit of the Project?

22. What do you see as the strengths of the Workplace Literacy Project?

23. What do you see as the weaknesses of the Project?

24. How can the efforts of the Workplace Literacy Project be further enhanced?

25. What would be the best ways to get more participants involved in the program?

26. What do you think should be the future direction of the Workplace Literacy Project?

27. Is there anything else you would like to add about the Workplace Literacy Project?

APPENDIX D

Group Interview of Participants

Workplace Literacy Project

GROUP INTERVIEW OF PARTICIPANTS

Introduction: The Michigan Institute for Adult Learning and Literacy has asked FERA (Formative Evaluation Research Associates, Inc.) to conduct an evaluation of the Workplace Literacy Project. The purpose of this interview is to obtain your reactions to the program and your thoughts regarding how this program or programs set up in other plants could be more effective. The interview will take approximately an hour and a half. Your individual responses will be kept confidential by FERA. Only summarized information from all respondents will be reported.

1. How did you hear about the program?

2. Why did you decide to participate in the program?

3. Would you have participated in the program on your own time?

4. When you first started, what did you hope to get out of the program? Did you have any specific goals, either personal or work-related, that you hoped to achieve?

5. What did you like most about the program?

6. Were there any things that you did not like about the program, or any changes that you think would improve the program?

7. How would you rate the effectiveness of the following components of the program? Would you say that the ..... was very good, good, fair, poor, or that you don't know? Please explain.

   Recruitment of participants

   Skills 2000 (i.e., touch screen interactive video disk)

   Skills assessment process

   CASAS

   Learning Unlimited materials

   Other curriculum materials

   Computer-aided instruction, (e.g., the Drake system)

   Classroom environment

Teachers

(if applicable)

Educational advising

On-site administrators

Support of the education and training department

8. To what extent was the program curriculum (e.g., what you learned and the materials used) job-related? Please give examples.

9. Of the things you learned in the program, what things stand out as most important?

10. Are there things you can do now that you couldn't do before you entered the program, or things you can do better as a result of the program?

11. Have you been able to use the skills you gained in the program on-the-job? If so, how?

12. Have you used the skills you gained in the program outside of work (e.g., in your personal life, in the community)? If so, how?

13. Has your participation in the program, or your improved skills, had an impact on how you feel about yourself, or how others (on-the-job or outside of work) view you? In what ways?

14. Do you have any future plans or goals which you hope to achieve with your new reading, writing or math skills?

15. Do you feel that your participation in the program will enhance your opportunity for future job openings? Please explain.

16. What would be the best ways to get more participants involved in the program?

17. Is there anything else you would like to add about the program?

APPENDIX E

Adult Basic Skills Grade Equivalencies

LEARNING UNLIMITED ADULT BASIC SKILLS: GRADE EQUIVALENCIES

The following Grade Equivalencies allow the user to establish a participant's starting point. Grade Gains can be determined by comparing the starting Grade Equivalency with the Mastery percentage from the current diagnostic level plus any mastered objectives for that level.

To determine a GRADE GAIN the following process is recommended:

1. Look at a participant's first Diagnostic Prescription. The "MASTERY %" (percent) is located in the report heading along with the Diagnostic Level. Find the appropriate "GRADE EQUIVALENCY" table for that level. Now look down the "%MASTERY" column of that table and locate the participant's "MASTERY %". To the right of this % (on the same line) is the corresponding grade equivalency. This would be considered the Initial Grade Equivalency.

2. If you want to store this Initial Grade Equivalency, as well as the Final Grade Equivalency and Grade Gain, in each participant's record, you may use MASS EDIT to load the data or you may enter each participant's record and enter the data on the fourth screen. The method you choose would be determined by where you are in the process:

   * If instruction has just started, MASS EDIT will allow you to accomplish this task with the greatest ease.
   * If instruction is now ending and you have final results, working with an individual student's data and record is the most time efficient.

   There are a number of USER-DEFINED VARIABLES located on the Fourth Screen of the Participant File. Choose six fields in sequence. Record the MATH Initial Grade Equivalency in the first of the six fields. Record the READING Initial Grade Equivalency in the fourth of the six fields. The format could be: Math, use an "M" as the first character ("R" for Reading), then an "I" for Initial as the second character, then the actual grade equivalency. An example would be "MI3.2" or drop the "M" if needed: "I10.3"

3. When the instructional session/term/year is at an end, you will work from the participant's current Diagnostic Prescription and Instructional Mastery Scan Form. Find the Grade Equivalency table for the current Diagnostic Level, then look down the table to find the "MASTERY %". To the left of this % mastery (on the same line) is the corresponding number of objectives initially passed on the diagnostic assessment.

   How many objectives has the participant since mastered on this level? (Use the Instructional Mastery Scan Form to count the

marked Objective IDs for the current level or working from the student's prescription, count the Objectives noted as mastered.)

Start with the number immediately below it and count until you reach the number of objectives the participant has mastered, progressing to the next table/level if needed.

Now look across to the far right column (same line) to obtain the Final Grade Equivalency. Record this number in the appropriate user-defined variable (the second for MATH or fifth for READING located on the fourth screen of the particpant's record). Use the same format as above "M" or "R" for the first character, and an "F" for Final as the second character, then the grade equivalency. Examples: "MF6.7"; "F12.5"

4. Now subtract the Initial Grade Equivalency from the Final Grade Equivalency to determine the Grade Gain and record this number in the appropriate field (third field for MATH or the sixth for READING) on the fourth screen of the participant record. Use the same format again: "M" or "R" as the first character, and a "G" for Gain as the second character, then the Grade Gain. It shouldn't be necessary to drop the "M" or "R" in this situation. Examples: "MG3.5"; MG2.2"; RG3.5; RG2.2

5. To print a report listing this information, you have several options. Under Selected Listings, a "Normal" report won't have appropriately labeled column headings for the special data. However, you may choose to create an "ASCII" file:

   Select the desired fields, being sure to select a blank field for spacing purposes---such as another User-Defined Variable that contains no data---between each of the six special User-Defined fields. Be sure to save and name the report. You will find the file under the "\REPTSAVE" directory within the TIS directory. The file extension will be ".ASC". You may then pull that ASCII file into a word processor and add the appropriate column headings and title.

   You could create this report initially and use it as a work sheet to gather information, being sure to sort it in alpha order, thereby facilitating a MASS EDIT of the data into the appropriate fields in the participant record.

   Rename the file, if you want to save the initial work sheet, because after you have loaded the data you will want to re-run the report.

NING UNLIMITED ADULT BASIC SKILLS: GRADE EQUIVALENCIES

The Learning Unlimited (LU) Adult Basic Skills system is developed on the concept that at least 80% mastery is necessary to insure a participant's continued success. If the participant drops below 80%, then some instruction should take place. All LU standard diagnostic assessments and the Training Information System (TIS) dynamic diagnostic assessments are criterion referenced: each objective is tested a minimum of three times. When diagnosing, all three of the questions testing an objective must be correct to establish mastery of that objective.

On the reference tables that follow the number of objectives correct("# OBJS MASTERED") determine the percent of mastery ("%MASTERY"). The grade equivalencies ("GRADE EQUI") for Diagnostic/dynamic tests are based on the number of objectives that have been mastered.

READING DIAGNOSTIC

LEVEL AA, TEST 401 (.5-1.0)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.05	
2	.09	.5
3	.14	
4	.18	
5	.23	
6	.27	.6
7	.32	
8	.36	
9	.41	
10	.45	.7
11	.50	
12	.55	
13	.59	
14	.64	.8
15	.68	
16	.73	
17	.77	
18	.82	.9
19	.86	
20	.90	
21	.95	
22	1.00	1.0

LEVEL A, TEST 410 (1.0-2.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.04	1.1
2	.08	1.2
3	.12	
4	.15	1.3
5	.19	1.4
6	.23	1.5
7	.27	
8	.31	1.6
9	.35	1.7
10	.38	1.8
11	.42	
12	.46	1.9
13	.50	2.0
14	.54	2.1
15	.58	
16	.62	2.
17	.65	2.3
18	.69	2.4
19	.73	
20	.77	2.5
21	.81	2.6
22	.85	2.7
23	.88	
24	.92	2.8
25	.96	2.9
26	1.00	3.0

LEVEL B, TEST 411 (3.0-4.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.03	3.1
2	.06	3.2
3	.09	
4	.13	3.3
5	.16	
6	.19	3.4
7	.22	
8	.25	3.5
9	.28	3.6
10	.31	3.7
11	.34	
12	.38	3.8
13	.41	
14	.44	3.9
15	.47	
16	.50	4.0
17	.53	4.1
18	.56	4.2
19	.60	
20	.63	4.3
21	.66	
22	.69	4.4
23	.72	
24	.75	4.5
25	.78	4.6
26	.81	4.7
27	.84	
28	.88	4.8
29	.91	
30	.94	4.9
31	.97	
32	1.00	5.0

LEVEL C, TEST 421 (5.0-6.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.03	5.1
2	.06	5.2
3	.10	
4	.13	5.3
5	.16	
6	.19	5.4
7	.23	5.5
8	.26	
9	.29	5.6
10	.32	5.7
11	.35	
12	.39	5.8
13	.42	5.9
14	.45	
15	.48	6.0
16	.52	6.1
17	.55	
18	.58	6.2
19	.61	6.3
20	.65	
21	.68	6.4
22	.71	
23	.74	6.5
24	.77	
25	.81	6.6
26	.84	6.7
27	.87	
28	.90	6.8
29	.94	6.9
30	.97	
31	1.00	7.0

On the reference tables that follow the number of objectives correct("# OBJS MASTERED") determine the percent of mastery ("%MASTERY"). The grade equivalencies ("GRADE EQUI") for Diagnostic/dynamic tests are based on the number of objectives that have been mastered.

READING DIAGNOSTIC

LEVEL D, TEST 431 (7.0-7.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.04	
2	.07	
3	.11	7.1
4	.15	
5	.19	
6	.22	7.2
7	.26	
8	.30	7.3
9	.33	
10	.37	
11	.41	7.4
12	.44	
13	.48	7.5
14	.52	
15	.55	
16	.59	7.6
17	.63	
18	.67	
19	.70	7.7
20	.74	
21	.78	7.8
22	.81	
23	.85	
24	.89	7.9
25	.93	
26	.96	
27	1.00	8.0

LEVEL E, TEST 441 (8.0-8.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.04	
2	.08	
3	.12	8.1
4	.15	
5	.19	
6	.23	8.2
7	.27	
8	.31	8.3
9	.35	
10	.38	
11	.42	8.4
12	.46	
13	.50	8.5
14	.54	
15	.58	
16	.62	8.6
17	.65	
18	.69	8.7
19	.73	
20	.77	
21	.81	8.8
22	.85	
23	.88	
24	.92	8.9
25	.96	
26	1.00	9.0

LEVEL F, TEST 442 (9.0-9.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.05	
2	.09	9.1
3	.14	
4	.18	9.2
5	.23	
6	.27	9.3
7	.32	
8	.36	9.4
9	.41	
10	.45	
11	.50	9.5
12	.55	
13	.59	9.6
14	.64	
15	.68	9.7
16	.73	
17	.77	9.8
18	.82	
19	.86	9.9
20	.90	
21	.95	
22	1.00	10.0

LEVEL G, TEST 452 (10.0-12.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.04	10.2
2	.08	10.4
3	.12	10.5
4	.15	10.6
5	.19	10.7
6	.23	10.8
7	.27	10.9
8	.31	11.0
9	.35	11.2
10	.38	11.3
11	.42	11.4
12	.46	11.5
13	.50	11.6
14	.54	11.7
15	.58	11.8
16	.62	11.9
17	.65	12.0
18	.69	12.2
19	.73	12.3
20	.77	12.4
21	.81	12.5
22	.85	12.6
23	.88	12.7
24	.92	12.8
25	.96	12.9
26	1.00	13.0

LEARNING UNLIMITED ADULT BASIC SKILLS: GRADE EQUIVALENCIES

The Learning Unlimited (LU) Adult Basic Skills system is developed on the concept that at least 80% mastery is necessary to insure a participant's continued success. If the participant drops below 80%, then some instruction should take place. All LU standard diagnostic assessments and the Training Information System (TIS) dynamic diagnostic assessments are criterion referenced: each objective is tested a minimum of three times. When diagnosing, all three of the questions testing an objective must be correct to establish mastery of that objective.

On the reference tables that follow the number of objectives correct("# OBJS MASTERED") determine the percent of mastery ("%MASTERY"). The grade equivalencies ("GRADE EQUI") for Diagnostic/dynamic tests are based on the number of objectives that have been mastered.

CASAS MATH DIAGNOSTIC

LU LEVEL A, TEST 301 (1.0-4.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.04	1.1
2	.07	1.3
3	.11	1.4
4	.14	1.5
5	.18	1.6
6	.21	1.8
7	.25	2.0
8	.29	2.2
9	.32	2.3
10	.31	2.4
11	.39	2.5
12	.43	2.6
13	.46	2.8
14	.50	3.0
15	.54	3.2
16	.57	3.3
17	.61	3.5
18	.64	3.6
19	.68	3.8
20	.71	3.9
21	.75	4.0
22	.79	4.2
23	.82	4.3
24	.86	4.5
25	.89	4.6
26	.93	4.8
27	.96	4.9
28	1.00	5.0

LU RANGE A-B, TEST 507 (4.0-7.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.03	4.1
2	.07	4.3
3	.11	4.4
4	.13	4.5
5	.17	4.6
6	.20	4.8
7	.23	5.0
8	.27	5.2
9	.30	5.3
10	.33	5.4
11	.37	5.5
12	.40	5.6
13	.43	5.8
14	.47	5.9
15	.50	6.0
16	.53	6.1
17	.57	6.2
18	.60	6.4
19	.63	6.5
20	.67	6.6
21	.70	6.8
22	.73	6.9
23	.77	7.0
24	.80	7.2
25	.83	7.3
26	.87	7.5
27	.90	7.6
28	.93	7.8
29	.97	7.9
30	1.00	8.0

LU RANGE C, TEST 508 (8.0-9.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.03	8.1
2	.06	8.2
3	.10	
4	.13	8.3
5	.16	
6	.19	8.4
7	.23	8.5
8	.26	
9	.29	8.6
10	.32	8.7
11	.35	
12	.39	8.8
13	.42	8.9
14	.45	
15	.48	9.0
16	.51	9.1
17	.55	
18	.58	9.2
19	.61	9.3
20	.65	
21	.68	9.4
22	.71	
23	.74	9.5
24	.77	
25	.81	9.6
26	.84	9.7
27	.87	
28	.90	9.8
29	.94	9.9
30	.97	
31	1.00	10.0

LU RANGE D, TEST 509 (10.0-12.9)

# OBJS MASTERED	%MASTERY	GRADE EQUI
1	.02	10.1
2	.04	10.2
3	.07	
4	.09	10.3
5	.11	
6	.13	10.4
7	.16	10.5
8	.18	
9	.20	10.6
10	.22	10.7
11	.24	
12	.27	10.8
13	.29	10.9
14	.31	
15	.33	11.0
16	.36	11.1
17	.38	
18	.40	11.2
19	.42	11.3
20	.44	
21	.47	11.4
22	.49	11.5
23	.51	
24	.53	11.6
25	.56	11.7
26	.58	
27	.60	11.8
28	.62	11.9
29	.64	
30	.67	12.0
31	.69	12.1
32	.71	
33	.73	12.2
34	.76	12.3
35	.78	
36	.80	12.4
37	.82	12.5
38	.84	
39	.87	12.6
40	.89	12.7
41	.91	
42	.93	12.8
43	.96	12.9
44	.98	
45	1.00	13.0