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ABSTRACT

The project was an empirical exploration to determine the scope of the learning capacity of marginal Army personnel (those with low scores on Army general ability and aptitude tests), to observe the longitudinal effects of long term, self-managed learning strategies, and to determine the proficiency levels that these men could reach as a result of their application of these strategies. The approach was to design an individualized instructional program to provide participants with the instructional skills and knowledge to manage their own training and educational growth. A 104-page section describes the operational model which utilized 12 interrelated learning concepts and teaching strategies to structure the program into three levels, each containing sub-levels (modules). Data were collected on the self-selected activities engaged in by the 24 participants and the proficiency levels they reached during their stay in the project. Considerable gains were reported in both areas for a majority of the participants. Recommendations for setting up a special program with similar objectives are listed. Appended materials (66 pages) include: a schematic breakdown of model operation (describes the process the participant works through in the project), individual participant scores and mini-case reports, and a correlation matrix. (Author/MS)

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Report FR-WD-CALIF-75-6

Developing the Potential of Low Ability Personnel

Fred S. Jealous, Hilton M. Bialek, Frank Pitpit and Paul Gordon

HUMAN RESOURCES RESEARCH ORGANIZATION
(HumRRO) Western Division
Post Office Box 5787
Presidio of Monterey, California 93940

15 June 1975

Final Report for Period 15 June 1974 - 15 June 1975

Prepared for

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Project ABEL was a one year extension of HumRRO's Basic Research Task #21. This effort was an empirical exploration to determine the scope of the learning capacity of marginal Army personnel, to observe the longitudinal effects of long term, self-managed learning strategies and to determine the proficiency levels that these men could reach as a result of their application of these strategies.

The approach to this effort was to design an individualized instructional program to provide participants with the instructional skills and knowledge

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to manage their own training and educational growth. Data were collected on the self-selected activities engaged in by the 24 participants and the proficiency levels they reached during their stay in the project. Considerable gains were reported in both areas for a majority of the participants.

Recommendations for setting up a special program are listed in case the situation again arises in which the utilization of large numbers of "marginal" personnel is necessary.

SUMMARY AND CONCLUSIONS

PURPOSE

This effort was an empirical exploration to determine the scope of the learning capacity of marginal Army personnel, (who at the inception of this project were expected to provide an appreciable proportion of the manpower requirements) to observe the longitudinal effects of long term, self-managed learning strategies and to determine the proficiency levels that these men could reach as a result of these strategies.

The basic approach to this problem was to develop a highly individualized instructional program based on each man's entry level capabilities and interests.

APPROACH

The goal in the design of the instructional program and the project environment was to help the participants become more autonomous and successful in their ability to organize their educational development while simultaneously acquiring basic skills. To help clarify the interdependent nature of improvement in basic skills, organizational skills, utilization of community resources, and interaction with authority, the term "self-management" was used as a general phrase that incorporated these dimensions.

The program and curriculum were designed specifically to provide participants with a successful individualized experience in these areas in such a format that they would be able to apply these abilities while in the project and utilize them later to adapt to diverse post-project

situations. They should then demonstrate ability to make plans and more effectively carry them out. They should be better able to sustain continued application over the long period of time required for substantial skill development. Increase in these skills should also result in less dependency on institutional personnel with whom these men interact.

FINDINGS

Significant and impressive gains in basic skills and evidence of self-managed behavior are reported. Two-thirds of the men formally evaluated showed appreciable gains in basic skills and in the behaviors identified as "self-management".

CONCLUSIONS

A project of this nature established under certain conditions and constraints specified in the report would be of value to the Army or any other large organization on a long-term career basis. The cost-effectiveness would be realized in terms of the increased value and contribution of the majority of participants over years of service. From the point of view of a majority of the participants, it is difficult to think of another training or educational experience offered by a large organization that would be of greater personal value.

PREFACE

HumRRO Work Unit ABEL was the conclusion of a three year basic research effort to determine the scope of the learning capacity of marginal Army personnel in a highly individualized instructional program. Work was accomplished at the U.S. Army Research Institute Field Unit, Presidio of Monterey, California.

Work Unit ABEL has been conducted by HumRRO, Western Division, at the Presidio of Monterey with Dr. Howard H. McFann as Director. Mr. Fred S. Jealous was the Work Unit Leader. Dr. Hilton M. Bialek was the Evaluator. Mr. Frank Pitpit and Mr. Paul Gordon were research assistants. They worked on the design and implementation of the instructional program. Mr. Pitpit was also responsible for data collection, and Mr. Gordon for working with participants who had special problems with reading. Mr. Tracy Boatman worked as a research assistant for two years and was very helpful in the design and implementation of the instructional program. Ms. Beth Eaton gave valuable assistance in organizing the format of the curriculum and in the early implementation efforts.

Administrative and logistical support for the program was provided by the U.S. Army Research Institute Field Unit, Presidio of Monterey, whose chief is COL Ullrich Hermann. Staff Sgt. Donald Nemeth acted as liason with the military, set up the recruiting program at Fort Ord, and acted as a tutor for one of the participants. Staff Sgt. Raymond Tosti, Sgt. First Class Donald Booth, and Staff Sgt. Tom Chorba

also served as administrative officers for the project.

The research was conducted under the Department of the Army, U.S. Army Research Institute for the Behavioral and Social Sciences, Contract DAHC 19-74-C-0051.

Meredith P. Crawford
President
Human Resources Research Organization

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PROBLEM STATEMENT

Project ABEL was a one-year extension of HumRRO's Basic Research Task #21. This effort was an empirical exploration to determine the scope of the learning capacity of marginal Army personnel, to observe the longitudinal effects of long-term self-managed learning strategies and to determine the proficiency levels that these men could reach as a result of these strategies.

The basic approach to this problem was to develop a highly individualized instructional program based on each man's entry level capabilities and interests.

The outcome of this effort is an individualized instructional program designed to provide participants with the organizational skills and knowledge to manage their own training and educational growth.

Data were collected on the activities engaged in by the participants and the proficiency levels they reached during their stay in the project.

BACKGROUND

Two research premises were the starting points for testing alternative socio-psychological elements which best support increased learning proficiency and self-generated motivation. First, previous HumRRO research had demonstrated that under certain carefully designed conditions many men of low-measured aptitude could, within a normal

period of time, attain levels of proficiency far beyond what was commonly thought to be within their potential. See, for example, the Technical Reports on HumRRO Work Units APSTRAT and VOLAR.[1] Secondly, other mastery-learning and functional-evaluation research had shown that the discrepancies in learning-time between individuals could be significantly reduced by judicious design and organization of curriculae and learning environments.[2]

Such demonstrations of releasing this hidden potential in relatively circumscribed training atmospheres raised a critical question. How much additional potential, both in terms of degree and scope, remains dormant in these men because behavioral science has not yet devised the proper social-psychological-curriculum arrangements for liberating it? The answer to this question would not only be of benefit in diminishing current problems inherent among the low-aptitude enlistee population, but could also provide the chance for many more soldiers to be eligible for a broader range of training assignments, and hence give personnel administration officers greater versatility

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[1] The Concepts of Performance-Oriented Instruction used in Developing the Experimental Volunteer Army Training Program, by John E. Taylor, Eugene R. Michaels and Mark F. Brennan, HumRRO Technical Report 72-7, 62 pp., March 1972 AD-743 851 ED-064 588.

Development and Implementation of Quality Assured, Peer Instructional Model, by Kenneth Weingarten, Jacklyn E. Hungerland, and Mark F. Brennan, HumRRO Technical Report 72-35, 73 pp., November 1972, AD-753 601 ED-070 929.

[2] "Functional Types of Student Evaluation." Measurement and Evaluation in Guidance by Peter W. Arasian and George F. Maddus, Vol. 4, No. 4, January 1972.

Mastery Learning: Theory and Practice, by James H. Block, Ed, Holt, Reinhardt & Winston, New York 1971.

"Recent Developments in Mastery Learning." Educational Psychologist, by B. S. Bloom, No. 10, 1973.

in task deployment. Finally, the answer to the question would also have profound significance for behavioral science and technology; for educational and training institutions; for manpower selection, development and utilization in both military and civilian sectors.

After two years of experimentation and design, the basic research effort had developed a program and curriculum which seemed promising.[1] By the end of FY 74, the indications of success were based on the participation of 12 men, whose time in the project ranged from seven months to eight weeks. This period during which they had been involved was a highly experimental one. They had experienced constant curriculum revisions and had worked closely with the staff providing feedback on the curriculum contents. Project ABEL provided an additional year to make a few final revisions in the program and increase the number of participants who had attended the project to a level where a more thorough evaluation could be made.

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[1] Enhancing the Potential of Low Ability Military Personnel, BR-21 Final Report 74-2, July 1974.

Chapter 1

DESCRIPTION OF THE MODEL

THE PLANNING PHASE[1]

The breadth of the initial BR-21 task required a long period of definition. During this planning phase of the project, the staff decided to bring participants in immediately and use their interaction and psychometric testing as a basis for developing a model. A group of 13 volunteers came to the Presidio of Monterey. Although they had just completed their Basic Training, their full time responsibility would be their participation in the project.

For an approach during this initial phase, we decided to work individually with participants encouraging them to identify realistic, short-term goals. The staff would support the participants by helping them to elicit goals, clarify these goals, plus aid and guide the participants to the resources necessary. The staff had made the unstated assumption, without fully appreciating the ramifications of it for this population, that each participant, given the opportunity, would orient himself and organize his efforts towards achieving some goal. The reality was dramatically different. The lack of structure in this initial environment led us into chaos and a series of discipline problems that were difficult and very time-consuming.

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[1]This is explained in much greater detail in Chapter III of BR-21 Final Report 74-2, Enhancing the Potential of Low Ability Personnel, July 1974.

Out of this planning phase came some clear directions for areas in which the participants needed to improve their skills. It was clear they needed to:

1. Improve their basic skills.
2. Learn to interact effectively with authority figures.
3. Experience success in establishing goals and personally arranging the requisite procedures and time.
4. Learn to use the community to develop personal resources.

The effect of their limited experience and ability in these areas on individuals and the social institutions of which they are a part is well known.[1] Numerous studies report that marginal men are most likely to create additional problems for staff in many institutional settings. The work of institutional personnel delegated to interact with these men is often made more difficult, time-consuming and frustrating because many marginal personnel need extra assistance in understanding administrative procedures, negotiating to get what they want, and filling out the forms that are frequently required in large organizations like the Army or schools they may want to enter.

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[1] Marginal Man and Military Service, A Review, Department of the Army, December 1965.

The Prediction of AWOL, Military Skills, and Leadership Potential, by Eugene H. Drucker and Shepard Schwartz, Technical Report 73-1, 43 pp., January 1973. AD-758 161 ED-074 342.

Performance in Four Army Jobs by Men at Different Aptitude (AFQT) Levels: 3. The Relationship of AFQT and Job Experience to Job Performance, by Robert Vineberg and Elaine N. Taylor, Technical Report 72-22, 144 pp., August 1972. AD-750 603 ED-072 110.

It was also clear that the environment in which this program would take place needed as much focus as the program and the curriculum. It could not be another high school classroom. Most of the participants had failed in that environment. If they were going to develop more propensity for success and achievement, it would be necessary to have an environment in which the difficulties of change could be discussed and group support for change could be developed. The staff would have to learn to integrate human relations work into their daily contacts with the men in order to provide the support necessary for the men to make the difficult reorientation to study habits and goal setting patterns. We had learned from our experience during the planning phase that interpersonal problems and poor communication with people in authority usually led to a breakdown in morale and a dramatic diminishing of work on the part of participants.

Using these considerations as a basic framework, the staff decided not to take in any new participants until a curriculum and program environment were designed.

This design and revision of the model were carried out in FY 74.

GENERAL CONSIDERATIONS

Our goal in the design of the instructional program and the environment was to help the participants become more autonomous and successful in their ability to organize their educational development while simultaneously acquiring basic skills. It was necessary

to clarify the interdependent nature of improvement in:

basic skills,

organizational skills,

utilization of community resources, and

interaction with authority.

We used the term self-management as a general phrase that incorporated these dimensions.

The program and curriculum were designed specifically to provide participants with a successful, individualized expecience in these areas, in such a format that they would be able to apply these abilities, while in the project, and utilize them later to adapt to diverse post-project situations. They should then demonstrate ability to make plans and carry them out more effectively. They should be better able to sustain persistent application over the long period of time required for substantial skill development. Increase in these skills should also result in less dependency on institutional personnel with whom these men interact.

The program we designed was more than a special training/education curriculum. The staff was required to assume the roles of tutor, educational technologist, counselor and friend. This emphasis on staff support and attitudes toward participants was no idle conceptualization of ideal conditions for an optimal environment. We are stating that encased in the foregoing discussion are principles which if unobserved will not permit a self-management system patterned after ours to function. Working with participants to develop organizational and basic skills cannot, for example, overlook the

problems they have interacting with authority. The importance of staff-participant interaction is dealt with in greater detail in Chapter 2.

ORGANIZING CONCEPTS AND STRATEGIES

The operational model we designed utilized 12 interrelated concepts and strategies. Several of these concepts have been developed or used, singularly or in some combination, on previous HumRRO projects so there was a high degree of confidence that, used properly, they would be effective:

> Quality Control - testing procedures employed that ensure criteria are being met.
> Small Group Instruction - teachers work with a group small enough so that all students feel free to ask questions and seek aid.
> Peer Instruction - use of a student to teach another student.
> Performance-Based Instruction - teaching of behaviors that will actually be used in the real jobs or task situations.
> Feedback - immediate knowledge of the results of efforts at learning.
> Individualization - letting the student make some decisions for himself and working with him to construct tasks so they better meet his personal needs and desires.
> Functional Context - arranging the conditions of learning so that student sees the usefulness of the instruction or task.
> Criterion-Referenced Instruction - establishment of well-defined standards that all students must complete perfectly.

All of these approaches have been discussed in previous HumRRO reports.[1]

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[1] The Concepts of Performance-Oriented Instruction Used in Developing the Experimental Volunteer Army Training Program, by John E. Taylor, Eugene R. Michaels and Mark F. Brennan, HumRRO Technical Report 72-7, 62 pp., March 1972. AD-743 851 ED-064 588

Development and Implementation of Quality Assured, Peer Instructional Model, by Kenneth Weingarten, Jacklyn E. Hungerland, and Mark F. Brennan, HumRRO Technical Report 72-35, 73 pp., November 1972, AD-753 601 ED-070 929.

Instructional Strategies for Training Men of High and Low Aptitude by Hilton M. Bialek, John E. Taylor and Robert N. Hauke, HumRRO Technical Report 73-10, 38 pp., April 1973 (SPECTRUM III) AD-760 408.

Other strategies were incorporated so that work in the basic skills was integrated into all aspects of the instructional program. Since the program was more than training in specific skills, it required a climate in which participants could experience selecting and developing their own avenues for self-improvement. The additional four strategies are explained below.

Basic Skill Tutoring

In the design of the program the staff provided for feedback in the areas of:

1. written and oral communication
2. math
3. basic skills progress (Retaking Comprehensive Test of Basic Skills).

This made the participants aware of their levels of achievement and progress and also made the need for improvement obvious. At the same time, this feedback facilitated more realistic goal setting.

It was clear to the staff and participants that improvement in the basic skills was prerequisite to the participants achieving other training or educational goals. Most participants in the planning phase of the project had shown very little awareness of the degree to which basic skills work was prerequisite to their being successful in many of the goal areas they were selecting.

Our plan was to see that the basic skills were being improved through direct and indirect exercises in the curriculum. For example, mastery presentations required that they make either organized oral or written presentations and in order to learn the

skills of determining a baseline, participants had to determine their rate of work in math. As participants moved through the project, most of them chose to do some basic skill work in independent study, tutorials, on post classes for high school diplomas, or remedial courses at the local junior college.

Listening-Speaking-Reading-Writing Approach to Language Development

Careful attention was paid to the sequencing of language development work with participants, and the way in which information was presented. Whenever possible, written work followed some oral presentation or exercise. The modules moved from listening-speaking activities into the participants editing of their spoken word. In tutoring, careful attention was paid to giving verbal previews and integrating verbal interaction in the form of feedback and discussion with written work.

In the first two months, the language work that participants were required to do was through the vehicle of peer instruction and the organization and editing of oral presentations and the transcripts thereof. The transition to reading was done through the use of available newspapers, magazines and programs like the Science Research Associates Reading for Understanding.[1] Written practice began later in Level II where the men kept a daily log and wrote summary reports.

Our organization of language development work has used this

[1]Thurstone, Thelma Gwinn, Senior RFU Reading for Understanding, Chicago, Ill., Science Research Associates, Inc., 1965.

principle as a guideline and with individuals for whom the transitions were too great, adjustments were made to allow more time or to back-up to a level at which a person was ready to function.

L-S-R-W has been very effective in helping pinpoint the type of language development activities that a person could best spend his time with, and frequently proved useful in evaluating problems that participants were having with study programs. For example, our early use of programmed math materials provided for little staff interaction and feedback. We went through a period of very negative participant reaction to math which was resolved by adding small group tutorials assuring personal interaction at any point it was required.

Developing Personal Resources in the Community

If we expected participants to develop their resources for self-improvement while they were in the project and after they left, they needed to have some experience dealing with institutions while they were in the project. We had discovered in the planning phase of BR-21, that either because they didn't know how to find the resources, or because they had difficulty interacting with authorities in public places, the participants were for the most part unable to put together a program which reflected their needs and goals.

Generally, we chose not to bring the resources to them, but to direct them to libraries, education centers, school counselors and bookstores, in order to give them experience in meeting people in these places and developing resources there. To assure that each participant had one experience in the community, one of the modules required two

visits to a local community college where participants took a career counseling inventory and later returned to talk with a college counselor about career interests and educational requirements.[1]

Beyond this, participants were counseled as to the community resources for helping them with a skill development program. Of the 24 men we are reporting on, 17 arranged at least one skill development program using community resources outside of the project.

Supportive Climate

There were two characteristics that made a supportive climate an important strategy in this project:

1. We were not a short term training program, but a long term self-development one.

2. We were concerned with the development of the participants' propensity to assume responsibility for their own self-development.

The quality of support was provided in the design of the curriculum and in the day-to-day staff-participant or participant-participant interaction. The curriculum, designed to be highly structured in the beginning and then gradually less and less structured, insured frequent staff-participant contact initially and in the later stages

[1] A relationship with the local community college (Monterey Peninsula College) developed out of these contacts. After a review of the program, the counseling department agreed to give three credits for the completion of Levels I and II of our instructional program. The math department, already supplying tutors at Fort Ord, agreed to send a tutor to the project for small group instruction in math. Participants who registered at the college were able to earn up to seven junior college credits while working on the modules and math and algebra at the project.

permitted the participant to develop a rate of contact that was best suited to him.

In the day-to-day contacts with the participants the staff had to provide recognition for achievement, tutoring when participants ran into difficulty, counseling when personal problems became overwhelming, and time for problem-solving when decision-making became difficult. Besides these contacts, weekly group meetings provided an opportunity for participants to discuss problems effecting them and to have input into the instructional program.

Peer-instruction and other participant involvement in staff roles were also used, in part, to build a peer climate that was supportive of individual efforts at skill development.

LEVELS AND MODULES

Structurally, the program was divided into three sequential levels, with the autonomy and responsibility of the participants increasing as they advanced from Level I to Level III. In Level I, the participants were responsible for completing the six modules of the instructional program and beginning a review of basic math. In Level II, they were responsible for completing the four modules of the instructional program, peer instructing a new student through the modules of Level I, and continuing their review of basic math. They also had the option of engaging in other basic skill development work while in Level II. In Level III, the participant was responsible for designing his own self-development program, using resources at the project or in the community. He also served for part of his time in Level III as

a peer instructor for his student in Level II. For most of Level III, the participant was in charge of his use of time. Figure 1, Overview of the Three Levels of Operation on the following page presents the levels and modules schematically.

The goals of the instructional program were coordinated in the design of the modules. The participant was to experience:

1. Improving basic skills
2. Using personal organizational skills
3. Interacting with authority figures
4. Using the community to develop resources

These were all part of the modules. Skills 1 (particularly oral and written communication) and 2 were part of each of the modules in Level I and Level II.

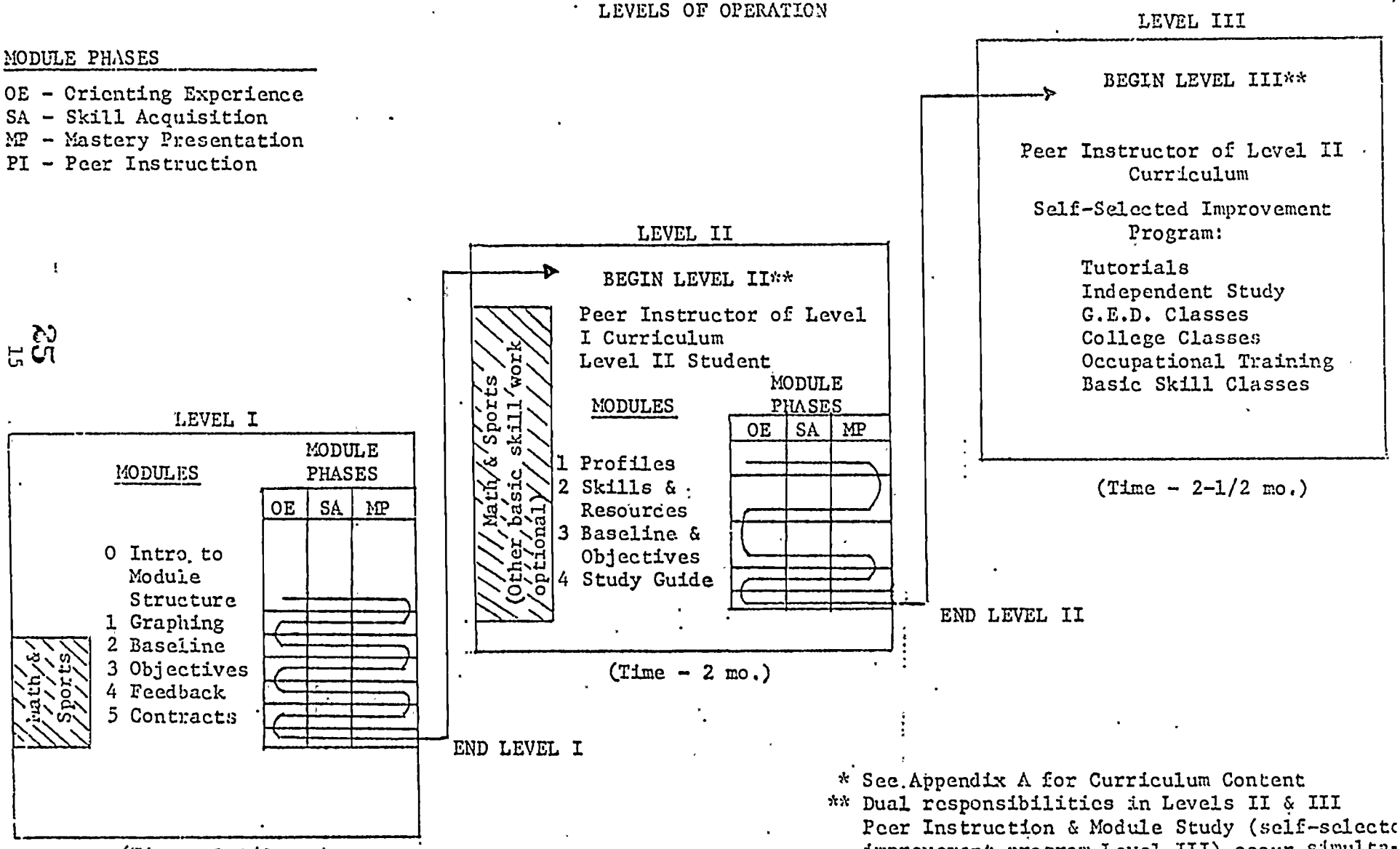
In Level I, the module work consisted primarily of learning the vocabulary and skills the participant would use to organize a study program. The participant learned the skills of graphing, taking baselines, setting objectives, and getting feedback. He carried out these operations for his review of basic mathematics, and his work with a behavior of choice.

Mastery of these skills was demonstrated by giving an oral presentation, without notes, before two members of the staff and his peer instructor. Each presentation was taped and after a participant passed a module, his tape was transcribed for him to edit. A review of the materials for Level I, Module II, Baseline, on pages 18 to 24 shows

FIGURE 1: OVERVIEW OF THE THREE LEVELS OF OPERATION

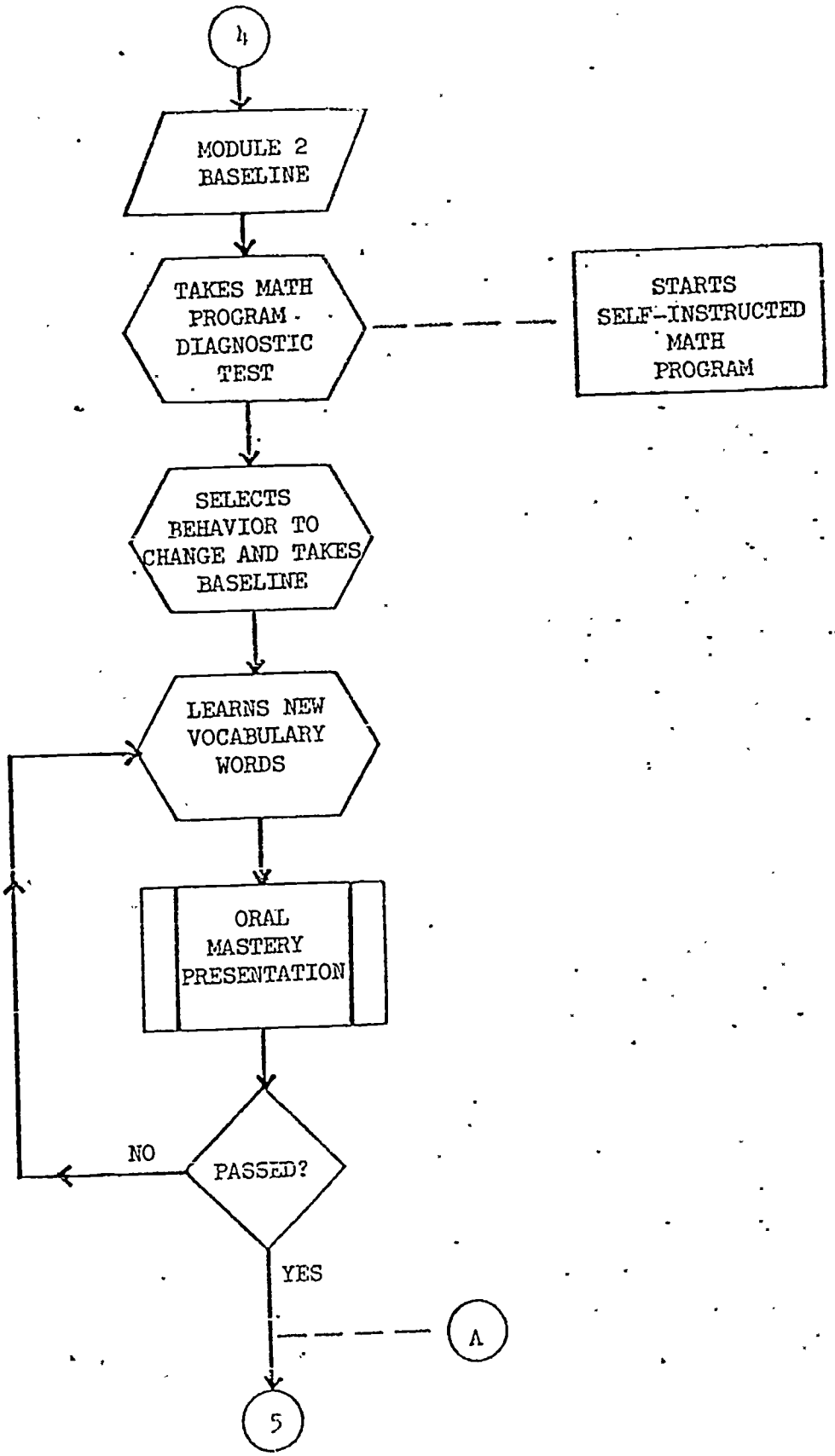
MODULE PHASES

OE - Orienting Experience
SA - Skill Acquisition
MP - Mastery Presentation
PI - Peer Instruction



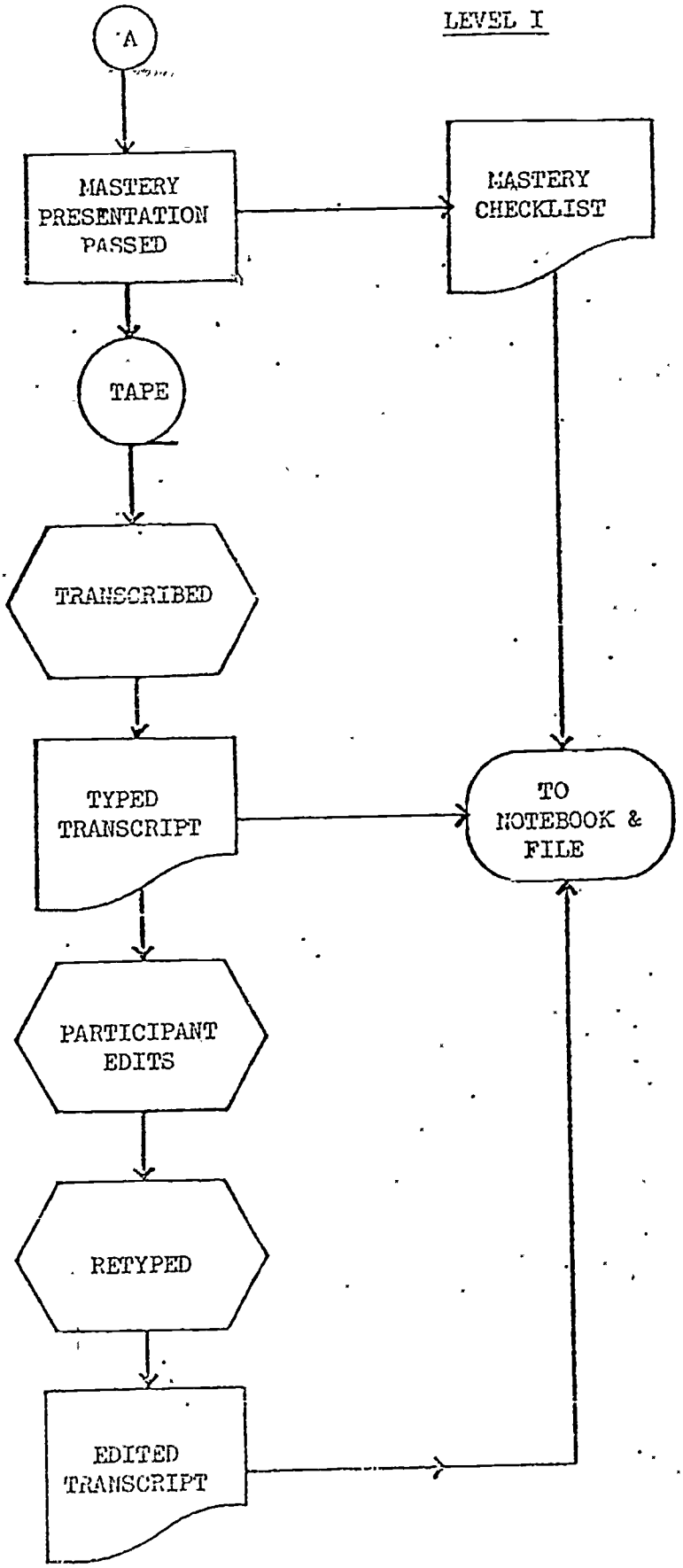
* See Appendix A for Curriculum Content
** Dual responsibilities in Levels II & III Peer Instruction & Module Study (self-selecte improvement program-Level III) occur simulta-neously

the reader how the modules were organized and how basic skill work was integrated into the modules.


4
MODULE 2
BASELINE
TAKES MATH
PROGRAM -
DIAGNOSTIC
TEST
STARTS
SELF-INSTRUCTED
MATH
PROGRAM
SELECTS
BEHAVIOR TO
CHANGE AND TAKES
BASELINE
LEARNS NEW
VOCABULARY
WORDS
ORAL
MASTERY
PRESENTATION
NO
PASSED?
YES
A
5

MASTERY PRESENTATION

LEVEL I



MODULE 2: BASELINE

Module 2: Baseline, introduces the student to the concept of a baseline, a starting point with respect to a goal. The student taking baselines to gauge his standing in two areas:

1. Mathematics
2. A behavior of his own choice

For his baseline in the math program, the student begins by taking a diagnostic test in the math test[1] to see what material he has already learned. He then begins work on the first unit in the programmed math test. He graphs both his behavior in the math program (number of problems completed) and his behavior of choice (e.g., smoking, weightlifting, money spent, etc.). In this module the student also learns that:

1. Tests can be used for information and feedback.
2. If he scores well on the math diagnostic test, it is not necessary to relearn previously mastered material.
3. He already has some success in math.
4. He can use programmed materials for learning.
5. Progress can be recorded, viz., math records and graphs.
6. He can be the principal agent in teaching himself by using his math book and seeking tutoring.

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[1] Heywood, Arthur H., A First Program in Mathematics, Encino, Ca., Dickinson Publishing Company, 1972.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE OF MP:

PROJECTED DATE OF MP:
(5 days maximum*)

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

A. Notebook

B. Pencil

C. A First Program in Mathematics by A. H. Heywood

III. PEER INSTRUCTOR MATERIALS NEEDED:

A. One extra copy of PI Guide for this module

B. Math Baseline Packet

C. Graph of Time in Module

IV. ORIENTING EXPERIENCE:

A. MATH

1. HAVE YOUR STUDENT GO THROUGH THE MATH PROGRAM DIAGNOSTIC PROCEDURES.
2. DISCUSS WITH HIM WHAT THE TEST RESULTS MEAN.
3. THE STUDENT WILL BEGIN WORKING ON HIS MATH PROGRAM DURING THIS MODULE AFTER COMPLETING THE ORIENTING EXPERIENCE.

B. STUDENT BEHAVIOR

1. HAVE THE STUDENT CHOOSE A BEHAVIOR OF HIS THAT HE WOULD LIKE TO INCREASE OR DECREASE.
2. EXPLAIN TO HIM THAT HE WILL TAKE A BASELINE ON THIS BEHAVIOR DURING THE MODULE

* If more time is needed, see Coordinator

V. SKILL ACQUISITION:

A. Vocabulary

The student must learn to pronounce, spell, define and use the following terms:

1. Baseline
2. Diagnostic Test
3. Record (noun)
4. Record (verb)

B. Practical Application

The student must learn to:

1. Explain how the OE for the Math Program meets the definitions of the vocabulary words.
2. Record his baseline of the behavior he wants to increase or decrease (minimum of 3 days).
3. Use the math book
4. Use the math record sheet

VI. MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook up-to-date

1. DAC
2. Filled-out baseline forms for Math Program
3. Baseline record for behavior of choice
4. Corrected MP Transcript for Module 1
5. Mastery Checklist for Module 1
6. Math Record Sheet
7. PI Guide for this module

B. Copy of A First Program in Mathematics

MASTERY CHECKLIST

I. STUDENT: DATE COMPLETED:

PEER INSTRUCTOR: DAYS IN MODULE:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook

B. Pencil

C. A First Program in Mathematics

III. EVALUATOR MATERIALS NEEDED:

A. Mastery Checklist

B. Tape Recorder, Cassette

IV. PRACTICAL APPLICATION

	Pronunciation	spelling	definition	demo. OE Math	demo. Behavior
1. BASELINE	___	___	___	___	___
2. DIAGNOSTIC TEST	___	___	___	___	___
3. RECORD (verb)	___	___	___	___	___
4. RECORD (noun)	___	___	___	___	___

5. USE OF MATH BOOK AND RECORD:

___ a. Demonstrate use of Table of Contents

___ b. Work three frames in math book

c. Records this work in his Math Record, in Notebook, to show:

___ 1. How much time spent

___ 2. Number of frames

___ 6. EXPLAINS BASELINE ON BEHAVIOR OF CHOICE

V. NOTEBOOK ITEMS

___ 1. DAC

___ 2. Corrected MP Transcript for Module 1

___ 3. Mastery Checklist for Module 1

___ 4. PI Guide for this module

___ 5. Filled-out Baseline forms for Math Program

___ 6. Math Record Sheet

___ 7. Record of baseline for selected behavior

VI. PI MATERIALS:

___ 1. Graph of Time in Module

EVALUATED BY:

_____ _____

In Level II, participants began peer instructing and were responsible for arranging their schedules to accomodate this responsibility and to complete the four modules of Level II. In Module I he began identifying career interest areas and the skills he needed to develop to meet entry level requirements in these careers and he began this by retaking the Comprehensive Test of Basic Skills for feedback on his progress in this area and with visits to the local community college to take part in their career counseling process. Once he had specified these skills, the expressed function of Module 2, he gathered study materials, took baselines on the materials and prepared the study guides that would insure accurate records for feedback. His working program for Level III was then established.

In Level II, each participant had some daily experience with written communication from keeping a log which included his activities and comments on the project and his personal life.

Unlike the formal evaluations of Level I, the mastery reviews of Level II were relaxed meetings with the Project Director. Besides demonstrating the completion of the required work, the occasion was used for review of problems and interests. This session was not taped, but the student brought with him his log and a copy of a Summary Report he had written. This Summary Report (300-500 words), was written on a topic related to the participants experiences in the project or some other area of personal interest. This report had been reviewed by a peer instructor and staff member, so that a corrected,

typed copy was presented at the Mastery Review.

For the reader interested in the step-by-step analysis of each Module in Level I and II, schematic flow charts and detailed information appear in Appendix A.

A sports program was offered daily as an opportunity to break the sedentary pattern of the rest of the day. This program was originally required and used for teaching graphing, baseline and feedback skills. However, the participants requested that they be able to choose whether to use the time for sports or skill development, so this option was built into their day.

In Level III, the student had no modules to complete. It is at this level that the organizational skills learned in Levels I and II were to be applied and hopefully brought to fruition, enabling each participant to design and manage his own developmental program. He worked on his individual study program at the project site and in the community, and used the staff on demand. He was required only to keep track of his time use and meet with his coordinator on an individually-tailored schedule for feedback sessions on his progress. Daily contact was assured by the need to have a Daily Activity Checklist signed off by his coordinator and by his responsibility to let the project and military staff know his destination and time of return when he left the project.

Although all the participants who stayed in the project completed the modules it was not mandatory that they use these skills to organize

their work in Level III. In some cases, our insistence on this would have impaired the self-development behavior we were trying to foster. These men considered the record keeping a nuisance and were more in need of support and recognition for their own way of working. However, the self-management formula was used by many of the participants because it provided a way to organize their days and keep records of their work.

Chapter 2

STAFF AND PARTICIPANTS

LOW ABILITY PERSONNEL

Personnel in the U.S. Army are classified as low ability on the basis of paper and pencil tests. The Army Classification Battery is administered to volunteers at the Armed Forces Examining and Entrance Station. Based on the result of these general ability and aptitude tests, predictions are made about the likelihood of success an individual will have in different military occupations. Personnel who are classified as low ability usually are restricted to military occupations requiring minimal technical and verbal skills.

Participants who volunteered for Project Abel were all classified as Mental Category IV personnel, which is synonymous with low (10-30 range) scores on the general ability section of the Army Classification Battery. This score has traditionally been referred to as the Armed Forces Qualifying Test (AFQT) score. This 10-30 range score represents the lowest of four admissable categories.

The participants came from Advanced Individual Training at Fort Ord, California, where they had received training for such occupational roles as Cook, Driver, Clerk and Supplyman.

Of the 24 men who went through the program,[1] 12 had received high school diplomas and only two had received any occupational training in civilian life - one as a printer's apprentice, the other

[1]This figure excludes the twelve men who were here during the planning phase of BR-21, or the men who were in the program for less than three months.

in a specialized area of repair on large freight trucks.

Reviewing our initial interviews, it is clear that the Army was perceived as a possible remedy to this absence of occupational opportunities. The ease with which we were able to recruit further illustrates the responsibility for their future which many men had handed over to the Army.

The mean reading level for the participant group is 6.86 (grade equivalent), language skills 6.8, and arithmetic 7.3. Upon entry into the project each participant was administered the Weschler Adult Intelligence Scale (WAIS). Mean verbal IQ for the group was 90.7. Mean performance IQ was 92.9, and mean full scale IQ was 91. Thus, the group, despite a relatively high average number of years of schooling, represent a distinctly below average aptitude group. They report money, training, and a chance to get away from home and be on their own as reasons for entering the Army.

BREAKDOWN OF PARTICIPANTS IN BR-21 AND PROJECT ABEL

BR-21 - Planning Phase:	
Completed Planning Phase	11
AWOL - Deserter from Army	1
BR-21 and Project ABEL:	
Completed Planning Phase and Project	1
Completed Project Abel (6 mos. or more)	22
Completed Project and Transferred Because of Discipline Problems	1

Transferred Because of Discipline Problems	4
Requested Transfer After Trial Period	2

PARTICIPANT SELECTION

Personnel records were screened to identify possible volunteers from a pool of men who were in their second or third week of Advanced Individual Training at Fort Ord, California. Initially anyone was considered eligible who:

1. Had an AFQT score between 10 and 25 (Category IV). We lowered the range from 10-29 to 10-25 to assure we did not get any "False" Category IV Volunteers.

2. Showed no serious discipline record in civilian or military life (a few traffic tickets, a joy riding episode, a single arrest for marijuana smoking -- were not considered serious enough to disqualify.)

Men who fit these qualifications were invited to a briefing, held at Fort Ord, where a Staff Sergeant attached to the Human Research Unit explained the program and the military regulations that would operate while they were in the project. Of particular importance, was the fact that the men who joined the project would, after a 30 day trial period, have to waive their guarantees for a station of choice. Those attending this first briefing were also given samples of the programmed math materials that are used in the project so they could check out the level at which they were expected to read.

Candidates who expressed an interest following this meeting were invited to another briefing and individual interviews at the project site. So as not to interfere with their training schedule, these interviews were carried out in the evening, after training hours.

At this briefing, carried on by the civilian staff, the men were given an explanation of the project goals, the nature of experimental work, and the peer instructional system. They were also informed that if they were selected and volunteered they could leave the project at any time, and any discipline problems they caused could lead to an immediate transfer from the unit. Thus, this sample was not completely random.

In addition to clarifying the basic military and project requirements, the participants were told that upon mastery of the skills in the modules of the program, they would be able to design their own development program in areas that reflected their career intersts and personal needs. To do this, they would have access to resources at the project site, on Fort Ord, and in the community.

Current participants were utilized to answer informal questions and provide input to the interview committee, on those they considered to be seriously interested.

During the same evening, individual interviews were conducted by two civilian staff members and the Staff Sergeant. To be selected an interviewee needed to:

1. Demonstrate an active interest in self-improvement.
2. Demonstrate an ability to read the materials used in the project.
3. Have no imminent major personal plans (a long leave or marriage, for example).
4. Demonstrate a self-protective inquiry - (Curiosity about the drawbacks his participation might have for him.)
5. Indicate an understanding of the voluntary nature of the program.

To judge his interest in self-improvement the interviewers and the interviewee discussed his educational history and plans for the future.

Candidates most likely to be chosen expressed dissatisfaction with their educational history, had a view of the Army as a chance to remedy this, and expressed some career interest or educational goals towards which they could upgrade themselves in this project. Candidates whose needs were being met by their present situation in the Army were not likely to be selected.

Candidates were notified of the staff's decision at this meeting.

Following this meeting, the men who volunteered were processed into the Human Research Unit and, on completion of AIT, were brought into the project for approximately six months.

PARTICIPANT RESPONSIBILITIES

It was made clear to the participants who entered the project that their primary responsibility was skill development. They were exempt from regular military duties and the occasional duties they were required to perform were scheduled as much as possible so as not to interfere with their daily programs. The last hour of the day and Friday mornings were set aside as possible time for their use as duty soldiers by the military staff. Except for periodic frustrations, caused by unexpected demands for their services, this system provided the participants with minimal distraction from the opportunity to work on their own self-development projects.

Operationally they had responsibilities as peer instructors as well as students. Because of problems scheduling incoming participants with the dates when participants in the project were ready to tutor and the fact that a whole day was not required to act as a peer-instructor, the roles of student and peer instructor overlapped in Levels II and III. Participants had to

schedule their time as students and as peer instructors.

Although scheduling was a problem for some of the men, they preferred this diversity of activities in a day to the wasted time and boredom caused by long periods in one role. It also meant they could move through their work as fast as possible.

Participants were organized into hierarchical teams and assigned to a professional staff person who acted as a coordinator. These teams met weekly to review individual progress and problems.

Beyond this, the staff examined staff roles the participants might be able to assume. We had participants serving in four roles:

1. Evaluator for module mastery.
2. Team Coordinator - working with small groups to discuss progress and problems.
3. Recruiter - explaining the project to prospective volunteers.
4. Math Tutor.

The requirements for assuming this role, which meant an extension of time in the project were:

1. Successful work in their self-development program.
2. Demonstrated ability to work effectively with other participants.
3. Acceptance by the staff as a co-worker.

This aspect of the program was begun in the fourth quarter of FY 74, to offer a reward and incentive for achievement in the project and to test out the potential that a few men might develop with more time in the project.

These were all considered experimental roles, particularly the role as Team Coordinator, since this individual was required to act as the person with overall responsibility for helping participants with their special problems related to modules, basic skill work, program planning and evaluation.

Since there were three other teams with staff professionals as coordinators, there was support for this participant in this staff role, particularly when it came to basic skill tutoring.

We found that participants operated well in and enjoyed the roles as evaluators and recruiters, but had some difficulties in the other two roles. As team coordinator for small groups of peers, the two people who participated were reluctant to take leadership roles in resolving conflicts and often were not able to be other than paternalistic in problem-solving situations. This created some antagonism amongst the members of their teams. As math tutors, they were effective in short-term interactions for work on a particular problem, but it was necessary to have a staff person as a guide and organizer for the overall program.

Although the participants who came into the project expressed unfulfilled educational needs, there were, for most, other overriding needs that the staff observed. Most of the men were "on their own" with money in their pockets for the first time. Spending money to buy clothes, stereos and cars, drinking, smoking marijuana and trying to get peer confirmation for their masculinity were often the main focuses of their attention. For some, these concerns were well integrated into their efforts for upgrading their skills and did not affect their participation in the project; for others these needs were put aside only reluctantly and their participation in the project was minimal.

STAFF-PARTICIPANT INTERACTION

With the use of Peer Instruction, the staff was freed from the role of transmitting the information in the curriculum, once the system was primed.

Only in the event of illness or a particular learning difficulty that the peer instructor could not solve did the professional staff step into this role.

As a coordinator, the staff person met weekly with the team to discuss progress in module work and independent study systems, and to listen to comments about operational problems and new ideas the participants might have for the program. In this role he was responsible for seeing that people did not fall too far behind without some intervention, for seeing that interpersonal problems within his team were worked out, and for keeping the rest of the staff informed of the progress of the individuals on his team.

Each staff person was capable of providing basic skill tutoring, acting as an evaluator, helping design independent study programs, providing feedback to participants on their progress with their study programs, and counseling for decision-making problems. Decision-making problems included how best to approach a subject matter, what subjects to work on, how to resolve personal problems, and whether or not one should continue in the project. Each staff person was also responsible for overseeing that accrued data was kept by team members and for providing help in the basic skills. There were, however, staff persons assigned to have major responsibility and expertise in one of the basic skill areas, to develop resource material for these, and to back-up staff with less competence.

Underlying the entire staff-participant interaction was the awareness that the participants were sensitive to actions they considered to be interpersonal or organizational abuses of authority. They would call work to a halt if they felt unfairly treated by a staff person or by some program

demand. Within their role as soldiers they often felt forced to give the impression of having resolved such conflicts because of the powers available to those above them; in the project's atmosphere these conflicts became obvious and we had to deal with them in the day-to-day operation. Most often problems arose if the participants felt taken for granted, their opinions deemed irrelevant, or that authority figures were exceeding their legitimate bounds.

Recognizing the immediacy with which they withdrew to minimal work and/or to the search for peer support for the loss of respect, the staff was required to focus on how their behavior contributed to problems in these areas and to explicitly define their areas of authority. These areas extended to their knowledge of the program, of the education world, and their expertise in basic skills. Increasing participant responsibility for some of the program design, for peer instruction, for decisions about skill development work, and the opportunity to discuss the effects of staff behavior in their weekly meetings all served to help keep problems with authority at a minimum.

To maximize continued participant commitment to the program and to individual study programs, group problem solving approaches were used. Modifications based on participant input were considered and often put into effect. For example, although one-to-one peer instruction was the regular format used, a group of three participants decided early in the Level I experience that they wanted to work as a group since "we learn better that way". By rearranging their peer instructors' responsibilities, this was put into effect. The combination of more interaction and some competition seemed to function very well, as these men finished their work well within

the maximum limits suggested by the staff. In fact, this worked so well, had the program been in an earlier stage we would have considered this as a format.

Small group meetings were held each week to air individual concerns. Small groups insured maximum participation. We learned that the participants would not speak out in large groups unless they could warm up and develop support in a small group first. If a small group wished, a large meeting took place. Participants discussed interpersonnel grievances, problems with program design, desired changes, and individual progress.

This sequence of small and large group meetings was most necessary during the period when modules were being revised, when new participants came in or when there were conflicts affecting the group.

When the format of the program had stabilized and there was general agreement about the way the program operated, these meetings focused more and more on a review of learning problems, accomplishments and goal changes the participants were making.

Large group meetings were restricted to a time when a staff or participant felt they were necessary. They were usually called for announcements affecting the whole group, a discussion of interpersonal conflicts that were affecting the whole group, and periodically when morale seemed low and the rationale of the project needed to be reviewed.

GENERAL COMMENTS

Even though we had a population that was characterized as "low ability", the staff observed that there was a broad diversity of ability within the group. This situation makes collective descriptions of limited value. Some participants came with sufficient motivation to carry them through the

project productively; others though they wanted to learn, went through frequent periods of reclarifying a direction, and others spent most of their time at the project resolving emotional problems which made concentration on other skill development work nearly impossible. When we look at the data, it is a surprise to us how much some of the men accomplished in spite of their overriding concerns.

The salient fact in the day-to-day operation of the program was the need to be flexible in the application of the curriculum to an individual participant. Although we were aware that periods of no work, indecision, boredom, overriding emotional problems, and discipline problems might occur, they were not part of the design of the program. The staff had to learn to live with these behaviors and make decisions based on a long range view of individual progress if we were to maintain a program where participant responsibility was given a chance to evolve. At times our attempts to work through these problems meant we were risking the eruption of more discipline problems and distractions, but we chose this route rather than making the unrealisitic demand that productivity in basic and organizational skill development be demonstrated full-time.

Operationally, the elements of the program that focused on basic skill and organizational skill development were treated as a part of the total development of the individual, rather than simply being elements, which if imposed would produce development in and of themselves. In working with the participants, the staff was constantly balancing their recognition of the participants' need for these skills with the recognition that the development of these skills had to fit into the framework of the total concerns of the individual.

CHAPTER III

EVALUATION

INTRODUCTION

The evaluation design consists of two major components: (1) the analysis of pre-post project differences on a series of psychometric instruments and (2) an analysis of the kinds and quality of activities engaged in by participants. The first component attempts to deal with the general question of whether the participants as a group showed measurable gains in basic skills, aptitudes and capacity to learn. The second question attempts to measure the degree to which participants engaged in self-directed learning activities over the length of time they were on the project. Specific questions such as possible relationships between these two components are dealt with as the analysis is presented.

CHANGES IN BASIC SKILLS, APTITUDE AND LEARNING CAPACITY: MEASURING INSTRUMENTS

These instruments were used to assess psychometric change: (1) Comprehension Test of Basic Skills[1] (CTBS) which includes measures of reading, language, and arithmetic skills; (2) the Weschler Adult Intelligence Scale[2] (WAIS), the standard measure of adult intelligence; and (3) the Army Classification Battery (ACB).

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[1]Published by CTB/McGraw-Hill, Del Monte Research Park, Monterey, California, 1969.

[2]Published by Psychological Corporation, New York, New York.

The CTBS, level 4, has two alternate forms and the pre-post design involved the use of one form at one administration and the other form at the other administration. The average inter-form reliability for the CTBS is .95. Published norms for 10th graders (the level closest to the average educational level of the participant group) were used and the results are expressed in grade equivalents. The eight different basic skills listed in Table 1 are self-explanatory.

The WAIS is an individually administered intelligence test and, as such, overcomes problems of reading and test-taking comprehension that might arise if a paper and pencil assessment of learning potential or capacity were to be used with this population. It is recognized as the standard for estimating adult intelligence levels. The test was individually administered upon entry and exit from the project. There is only one form of this test but there is no evidence to suggest that participants profited from the initial administration on the subsequent administration six to eighteen months later.

The ACB is used by the Army for classification and assignment. In its present form, it has ten sub-scales but many of the participants had taken an earlier and different form of the battery when they entered the Army which prevented all ten areas from being used as a pre-post measure. In addition, our analyses revealed unacceptably large and apparently random fluctuations between administrations for many of the sub-scales. This might be partially explained by the unknown, uncontrolled conditions under which the recruiting station administered the "pre" project ACB. It might also be due in part to the fact that each sub-scale is itself a composite of two or more sub-tests (up to six in one case); many of which test very

Table 1

MEANS, DIFFERENCES AND SIGNIFICANCE LEVEL

OF PRE-POST PSYCHOMETRIC DATA

	$\bar{X}$ Pre-Test	$\bar{X}$ Post-Test	$\bar{X}$ Difference	"t" Value[1]
Comprehension Test of Basic Skills (CTBS)				
Reading Vocabulary	7.44	8.53	+1.08	4.23***
Reading Comprehension	6.43	7.73	+1.30	2.88**
Language Mechanics	6.34	8.08	+1.74	3.73**
Langugage Expression	6.00	7.13	+1.13	2.93**
Language Spelling	6.65	7.73	+1.08	2.83**
Arithmetic Computation	6.80	8.90	+2.10	5.97***
Arithmetic Concepts	7.45	8.30	+ .86	2.27*
Arithmetic Applications	7.20	8.28	+1.08	3.63**
Total CTBS Battery	6.67	7.86	+1.19	6.58***
Weschler Adult Intelligence Scale				
Verbal	90.08	94.12	+4.04	4.66***
Performance	92.58	99.90	+7.32	5.75***
Full Scale	90.75	96.48	+5.73	6.61***
Army Classification Battery (ACB)				
General Technical	84.13	92.75	+8.62	3.11**

Note: (1) Two Sided Test
* Significant at .025 Level
** Significant at .005 Level
*** Significant at .001 Level

specific information while others test general aptitudes. Accordingly, we report only the GT (General Technical) score as an overall index of aptitude for military training.*

CHANGES IN BASIC SKILLS, APTITUDE AND LEARNING CAPACITY: RESULTS

Table 1 presents the pre and post test means, the mean difference between them for each of the scales of the instruments described above. Also shown is the "t" value as an indication of the reliability of the observed differences. This is a matched or correlated "t" test which takes account of the fact that the same individual is being measured twice.

Clearly there are statistically and meaningfully significant gains in measured basic skills and aptitude. Every scale involved shows this pattern. As a simple and direct test of the hypothesis that the project could produce significant gains these results appear impressive.

A closer look at these results leads to the following observations:

1. If "intelligence" as measured by the WAIS, is a fair index of an individual's capacity to learn or benefit from experience, and if this capacity is assumed to be fixed or relatively fixed, then these results (a group shift on the full scale IQ from 90.75 to 96.48) suggest that these men were not functioning at their full capacity before entering the project and that the experience did allow for a greater expression of their intellectual abilities.

* Scores for each individual participant on all tests as well as a brief case study of each participant appear in Appendix B.

2. The GT scale of the ACB is a critical variable in assigning men for advanced military training. For a large number of MOS's, a minimum score of 90 is required. The mean GT score change for this sample from 84 to 93 has certain implications for both the organization and the individual in regard to effective manpower utilization.

3. Research in the literature on literacy training[1] suggests approximately a one year gain for every 100 hours of reading training. Although there was no formal across the board reading training in Project ABEL, the better than one year gain shown for reading vocabulary and comprehension is not inconsistent with that finding.

4. The gains in language skills follow the same argument as given for the reading gains. There was no required formal language program although some participants did voluntarily work on this skill and all were required to write. The overall gain of approximately 1.5 years is consistent with the gain shown in reading.

A legitimate question arises regarding the gains recorded above. Were the gains a function of a participant's initial level of skill or ability? That is, are gains correlated with achievement in a particular skill such that more skillful participants gained more? To check this out correlations between pre-tests and gain scores were run. The results are shown in Table 2. They seem to clearly indicate that gains were not a function of a participant's relative standing. Also shown are the pre-post correlations as an indication of relative stability over time.

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[1] Sticht, T., et al. Auding and Reading, HumRRO 1975.

Table 2

CORRELATION OF PRE-TEST SCORES WITH

GAIN SCORES AND POST-TEST SCORES

	Pre-Test/Gain Score Correlations	Pre-Post Test Score Correlations
Comprehension Test of Basic Skills		
Reading Vocabulary	-.06	.77**
Reading Comprehension	-.02	.59*
Language Total	.32	.83**
Arithmetic Computation	-.16	.71**
Arithmetic Total	-.11	.73**
Weschler Adult Intelligence Scale		
Verbal	-.06	.77**
Performance	-.28	.81**
Full	-.10	.79**
Army Classification Battery		
General Technical	.42	.53*

* Significant .005 Level
** Significant .0005 Level

PARTICIPANT ACTIVITY PATTERNS: MEASURING INSTRUMENT

The second major component of the evaluation design centers on attempts to measure whether participants manifested self-management behavior. Recall, that one premise of the project was that during the latter phases of a participant's stay on the project (the latter part of Level II and all of Level III) he would voluntarily engage in activities that were self-developmental and largely self-controlled. The idea of a pervasive monitoring or data collection system was rejected because it would be in direct conflict with the intention of creating a supportive but permissive climate where participants would gradually accept responsibility for their own actions rather than feeling pressured or constantly observed. The solution to the problem of maintaining this climate and still collecting reliable information was to set up a periodic staff meeting at which each participant was presented by an "advocate" whose job was to present evidence regarding the particular participant's activities and supporting data for his evidence. Another staff member had the role of the "adversary" in which he was to attempt to counter the evidence or raise questions concerning the reliability of the evidence presented. The Project evaluator acted as the "judge" and only evidence which met certain criteria was finally admitted as an "activity". Generally speaking, support for the reporting of an activity came from a corroborated daily activity checklist (DAC) item, from a record of attendance at a class, and from test results or other written documents. Hearsay, second-hand and conjectured evidence was not admitted.

Figure 2

DESCRIPTION OF SCALES USED TO RATE PARTICIPANT ACTIVITIES

A. Relevance

±2 Activity is clearly and directly connected to project goals or larger self-development program.

Note: Usually this rating is only given if the work includes the graphing and feedback skills taught in the modules. A program which required alot of organization and planning to set up might also be given this rating.

±1 Activity vaguely somewhat related to project goals or larger self-development program.

Note: Usually given because of lack of records.

0 No relationship whatsoever.

B. Difficulty

±2 Activity (and program participant has designed for it) taxes his maximum ability and diligence.

±1 Activity is within his capacity

0 Activity is below his normal capacity and diligence.

C. Goal Attainment

±2 Completed task.

±1 Completed task behind schedule or would have completed activity, but circumstances beyond his control prevented it. This rating often given because there was no schedule and completion cannot be judged certain or because there was a significant amount of work done, but the reasons for not continuing the work are unclear.

0 Did not complete task.

D. Self-Regulatory

±2 Pace and goal entirely under control of participant.

±1 Pace and goal slightly under control of participant.

0 Pace and goal imposed (college course, etc.)

Under these conditions a list of activities for each participant was assembled and the three staff members independently rated each activity on the four dimensions listed and described in Figure 2.*

Next the staff reconciled their independent ratings and where differences could not be reconciled the lowest score independently assigned was used as the permanent score.

Since it is not possible to compare activities on a pre-post level nor is there an appropriate control group available, the best that can be done is to: (a) compare participants with each other, and (b) investigate possible relationships between participants, activities and their performance in the skill acquisition area.

PARTICIPANT ACTIVITY PATTERNS: RESULTS

As can be seen in Figure 2 and Appendix B, each activity is scored along four dimensions and scores can range from 0 to +8 (+2 maximum per dimension). A tally shows a mean score of 5.03 per activity for the project participants as a whole. This rough index suggests that the "quality" of the experiences were in line with the expressed objectives of the project.

The number of activities per participant that met the criteria for inclusion in the evaluation ranged from 5 to 20. The number of activities is positively and significantly correlated with the following variables:

* A list of the activities engaged in and the scores assigned for each participant appears in Appendix B.

activity score (.96), time on the project (.57), and change in Reading Vocabulary score (.50). Obviously the number of activities per participant and his total activity score are essentially interchangeable (r = .96), and since both are significantly related to time on the project, an index was calculated using activities divided by time on the project. The question was then asked, "Is there any relationship between this index of self-managed behavior and any of the eighteen basic skill indices?", and the answer is "No". None of the initial basic skill scores or changes in basic skills are related to the index of self-managed behavior.* Thus, it can be concluded that self-managing behavior and improvement in basic skills are essentially independent behavioral consequences of participation on the project.

The full impact, however, of the effect of the project on participant self-managing cannot be conveyed numerically. It must be kept in mind that the activities for which a participant received evaluation credits had to meet the rules of evidence described earlier even before they were subject to staff ratings.** In one sense then an estimate of attainment of this objective can be obtained through a re-examination of the list of activities presented previously for each participant. Again, in reading these activities it must be kept in mind that these participants have had a history of few sustained, goal directed, self-developmental activities. Those activities that were engaged in were voluntary, optional

* The interested reader will find the full correlation matrix reproduced in Appendix C. All psychometric and activity scores are intercorrelated and significance levels noted.

** It is this factor which undoubtedly accounts for at least part of the extremely high correlation between the activity score and the number of activities scored.

and largely self-selected. On a more quantitative level, consider the following argument: The average participant was on the project for ten months. Typically, the first three months involved mastery of Level I modules and preliminary Level II work. Self-initiated activities only began then with seven months (on the average) available time. An examination of the descriptions of the actual projects undertaken will reveal that most were of considerable duration (i.e. a semester) or continuous (reading comprehension program). The average participant engaged in slightly over eight scoreable activities in the seven months and it is our judgment that this is an appreciable achievement for the population involved.

Chapter IV

CONCLUSIONS AND RECOMMENDATIONS

It seems reasonable to conclude that the majority of the participant's did benefit considerably from their stay on the project. The ultimate criterion is, of course, whether these changes will carry over so that they have greater options in the decisions and patterns of their lives. Testimonial evidence in the form of unsolicited letters from a few of the men would suggest this possibility.

The conventional wisdom has it that marginal men may improve their basic skills through various remediation programs but that fundamentally their potential and ceiling is fixed. This project attempted to examine this assumption by trying to impart more global skills identified as the development of self-initiatory, self-regulatory and self-goal setting behavior. We were able to demonstrate that creating an environment which would be supportive of these behaviors and helping men to provide their own means and goals when they attempted them did result in noticeable changes especially as compared to the past histories of the participants. These findings in addition to the fact that many participants showed large gains in measured intelligence and in basic skills do indicate that proper environmental supports and opportunities can release the potential in a substantial proportion of so called "marginal" men.

While on the subject of "marginal" men it is well to point out the variability or heterogenity observed within this supposedly homogeneous group. A review of the data reported here and the case reports strongly cautions against the usual generalizations concerning this group. Large organizations certainly need psychometric screening devices but they also

need procedures for recognizing and capitalizing on the wide variations within designated groups.

Is a project of this sort "cost-effective"? It would seem that if the Army is interested in utilization of the "marginal" population on a long-term, career basis then the investment would be worth it. That is, if a program of say one year's duration would produce the results obtained here for a majority of the participants, their value to the Army over the long term would more than pay for itself not only in terms of greater technical skill acquisition but also in terms of a greater sense of responsibility, and accountability.

This project experienced a number of false starts, failures and frustrations. Now, at its completion, it might be well to list a series of recommendations and suggestions for consideration in any future attempts to reach similar objectives.

Operational Strategies

1. Because they are prerequisite to successful functioning in higher level occupations and training situations, progress in the basic skills should be monitored and fed back to participants.

2. The program should be individualized and include self-selected goal setting activities for which the participants can see clear personal payoffs (i.e. diplomas, school, skill, or career entry competence).

3. Wherever possible boundary conditions, mastery criteria, and a high degree of personal feedback should be built into the participant's study program.

4. The physical setting should provide private as well as small group work space.

5. Groupings should be limited to small numbers, 5 or 6, if participation is desired. Large group tasks should be avoided.

6. The organizational framework (curriculum, modules, staff requirements) should be situations in which each person can experience success and recognition.

7. To develop peer support for the operation, participants should have active operational responsibility. Peer instruction and participant decision-making responsibility for the day-to-day operation of a program will help this.

8. The environment should be constantly monitored for "hidden negative reinforcers", that encourage minimal work and avoidance behaviors.

9. A "protective" interface between the project and the larger organization needs to be established and maintained. This is necessary to allow participants sufficient leeway and to allow sufficient staff autonomy. Nevertheless, recognition that the project is part of a larger operational organization cannot be ignored. This dynamic balance requires constant negotiation and accommodation.

Staffing Considerations

1. Staff personnel should be selected for their ability to be flexible and accept suggestions and criticism from the participants and each other.

2. Staff should have ongoing training in interpersonal relations to develop and maintain the ability to interact effectively with both the emotional and academic problems of participants.

3. Closely examine the roles assigned to the staff and eliminate responsibilities that conflict with the objectives of the program.

4. Be aware of the students developmental activities and records as it will facilitate discussions and the evaluation of his program with him.

5. Do not hesitate to talk to a student about areas where he is educationally deficient. He generally knows why he is there and has an idea about what he wants to accomplish.

6. Use caution and do not overestimate the validity of the psychometric measurements used to measure the students' aptitude.

Educational Resources and Materials

1. Use materials that can be completed in short periods of time and provide rapid feedback.

2. Diversity of materials in the same basic skill area is important for preventing boredom.

3. Programmed Material should be accompanied by staff or peer support through tutoring or small groups.

4. Program should expose participants to the use of community resources which are available for self development.

5. Make arrangements with other institutions to reward participation and achievement in the program (i.e. receiving credits, useable diplomas, entrance into desireable educational or training programs).

Participation

1. The program should be voluntary.

2. Establish efficient and timely procedures for the departure of participants. Each man should have a review, at two month intervals of his involvement and progress. If a review shows a man to be below minimum standards he should be dropped.

Alternative Programs

1. Establish a program for certain personnel nearing the end of their Army tour. This could be for those persons who wish to enlist but won't be able to meet educational and ACB standards or don't qualify for a guarantee for training in some field they wish to enter.

2. Create a half-day program so that the individual could work in his MOS at the same time. This would eliminate the need for transfer and reassignment when leaving or completing the program, and attendance in the program would be used to reward good work in the regular work assignment.

3. A program such as ABEL could be established in other settings besides a military organization. Manpower development programs, Job Corps Centers, residential rehabilitation and corrective institutions frequently serve clients from the same population that was served in this project. Remedial programs in these settings have traditionally focused only on basic skill acquisition and/or extensive theraputic procedures. The project described in this report has goals more moderate than therapy (and more based on day to day behavior) and more ambitious than only basic skill improvement. It should, therefore, be effective in a variety of settings.

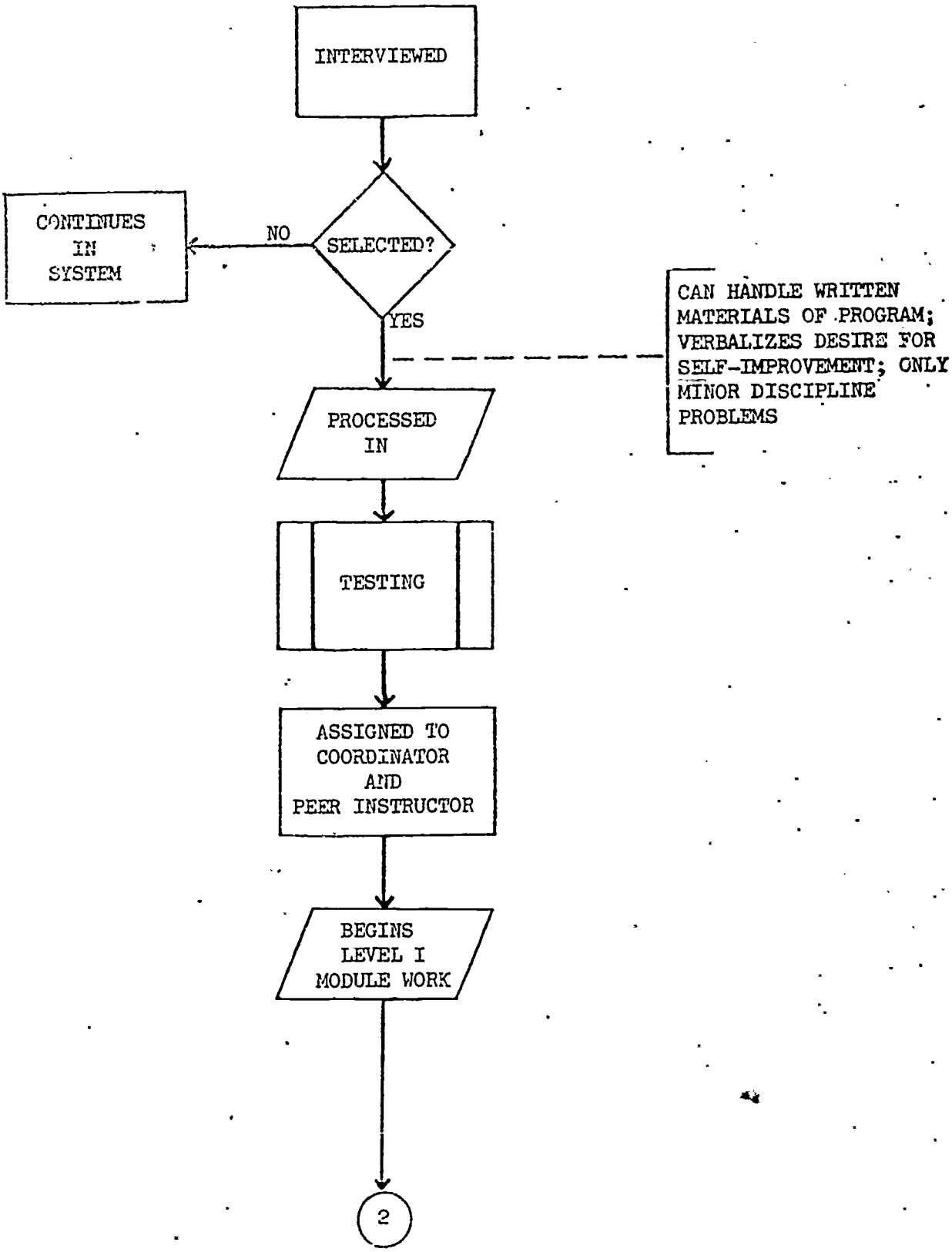
APPENDIX A: SCHEMATIC BREAKDOWN OF MODEL OPERATION

Appendix A describes the process a participant works through from pre-acceptance to post-participation in Project ABEL.

Included for each step is a schematic diagram, a Peer Instructor's Guide, a Mastery Checklist, and other forms introduced at different stages of the curriculum.

SELECTION

SELECTION


INTERVIEWED
SELECTED?
NO
CONTINUES IN SYSTEM
YES
CAN HANDLE WRITTEN MATERIALS OF PROGRAM; VERBALIZES DESIRE FOR SELF-IMPROVEMENT; ONLY MINOR DISCIPLINE PROBLEMS
PROCESSED IN
TESTING
ASSIGNED TO COORDINATOR AND PEER INSTRUCTOR
BEGINS LEVEL I MODULE WORK
2

LEVEL I

There are several common exercises contained in each of the Level I modules. The student must:

1. Use a Peer Instructor's Guide to assist learning mastery criteria.
2. Communicate orally with his Peer Instructor.
3. Learn a vocabulary list and definitions of the words used in the module.
4. Organize an oral presentation covering the module material. This oral presentation will be made before a staff evaluator, a peer evaluator, his peer instructors, and any other project members who wish to attend.

Upon completion of each module, the student receives a typed transcript of his oral Mastery Presentation. He is required to make corrections, such as striking out irrelevant material and restructuring statements for clarity.

Typed transcripts for modules 3-5 contain no punctuation or capitalization. Here the student is required to capitalize and punctuate where necessary in addition to making corrections for clarity. The transcript is reviewed by the student's Peer Instructor, after which the student reads it to his coordinator and submits it for retyping.

Throughout Levels I and II, the student keeps a notebook which helps to organize all materials used and produced throughout the two levels. Included in the notebook are:

1. A list of the modules.
2. Dividers -- for each module, math work, math records, behavior of choice records, and notebook paper.
3. Daily Activity Checklist -- a form which is used by the student

to record time use during the work day.

4. Peer Instructor Guides for each of the modules.
5. Additional forms required by the modules.
6. Mastery Checklists filled out by staff evaluators during Mastery Presentations.
7. Original and corrected transcripts for the Mastery Presentations in Level I.
8. Summary Reports for Level II.
9. Graphs of the time norms and time of completion for the modules in Level I and Level II.
10. Additional items that a participant cares to preserve.

DEFINITIONS - LEVEL I

INTRODUCTION TO MODULE STRUCTURE

ORIENTING EXPERIENCE (OE) - The module phase in which the peer instructor introduces his student to a module.

SKILL ACQUISITION (SA) - The module phase in which the peer instructor teaches his student terms and skills.

MASTERY PRESENTATION (MP) - The module phase in which the student gives an oral presentation to demonstrate the terms and skills he has learned to an evaluator.

PEER INSTRUCTION (PI) - The module phase in which the student leads a new student through the OE and SA phases of the module.

LEVEL I, MODULE 1: GRAPHING BEHAVIOR

BEHAVIOR - Things people do that you can keep count of.

GRAPH - A picture of a person's behavior during a period of time.

HORIZONTAL AXIS - The left-to-right line on a graph that tells when a behavior occurs.

VERTICAL AXIS - The up-and-down line on a graph that tells how much a behavior occurs.

ASCENDING PATTERN - A pattern on a graph that shows an increase in a behavior.

DESCENDING PATTERN - A pattern on a graph that shows a decrease in a behavior.

STABLE PATTERN - A pattern on a graph that shows a behavior remaining at about the same level.

LEVEL I, MODULE 2: BASELINE

BASELINE - An initial measurement of abilities or work habits.

DIAGNOSTIC TEST - A test that tells you what your baseline is.

RECORD - (verb) To keep information for future use by writing or other means.
(noun) Stored information (e.g., graphs, transcripts, tape recordings).

LEVEL I, MODULE 3: OBJECTIVES

OBJECTIVE - A goal with a deadline.

GOAL - Something you want to accomplish.

DEADLINE - A date or time set for reaching a goal.

VAGUE OBJECTIVE - Either the goal or the deadline cannot be clearly stated.

WELL-DEFINED OBJECTIVE - Both the goal and the deadline can be clearly stated.

LOW LEVEL OF ASPIRATION - A goal with a distant deadline.

MODERATE LEVEL OF ASPIRATION - A goal with an intermediate deadline.

HIGH LEVEL OF ASPIRATION - A goal with a near deadline.

LEVEL I, MODULE 4: FEEDBACK

FEEDBACK - Information that tells you how well you are doing with respect to an objective.

ROUGH-GRAINED FEEDBACK - Non-detailed information with respect to approaching an objective.

MEDIUM-GRAINED FEEDBACK - Moderately detailed information with respect to approaching an objective.

FINE-GRAINED FEEDBACK - Highly detailed information with respect to approaching an objective.

LEVEL I, MODULE 5: PERFORMANCE CONTRACTS

TERMINAL OBJECTIVE - The point on a graph where the goal line meets the dealine.

INTERMEDIATE OBJECTIVE - The hourly, daily, or monthly points on the goal line between the starting date and the terminal objective.

REINFORCER - Something enjoyable that a person gets only if he accomplishes his Intermediate and Terminal Objectives.

FEEDBACK RECORDS - Records or graphs set up to show whether a person accomplished his Intermediate and Terminal Objectives.

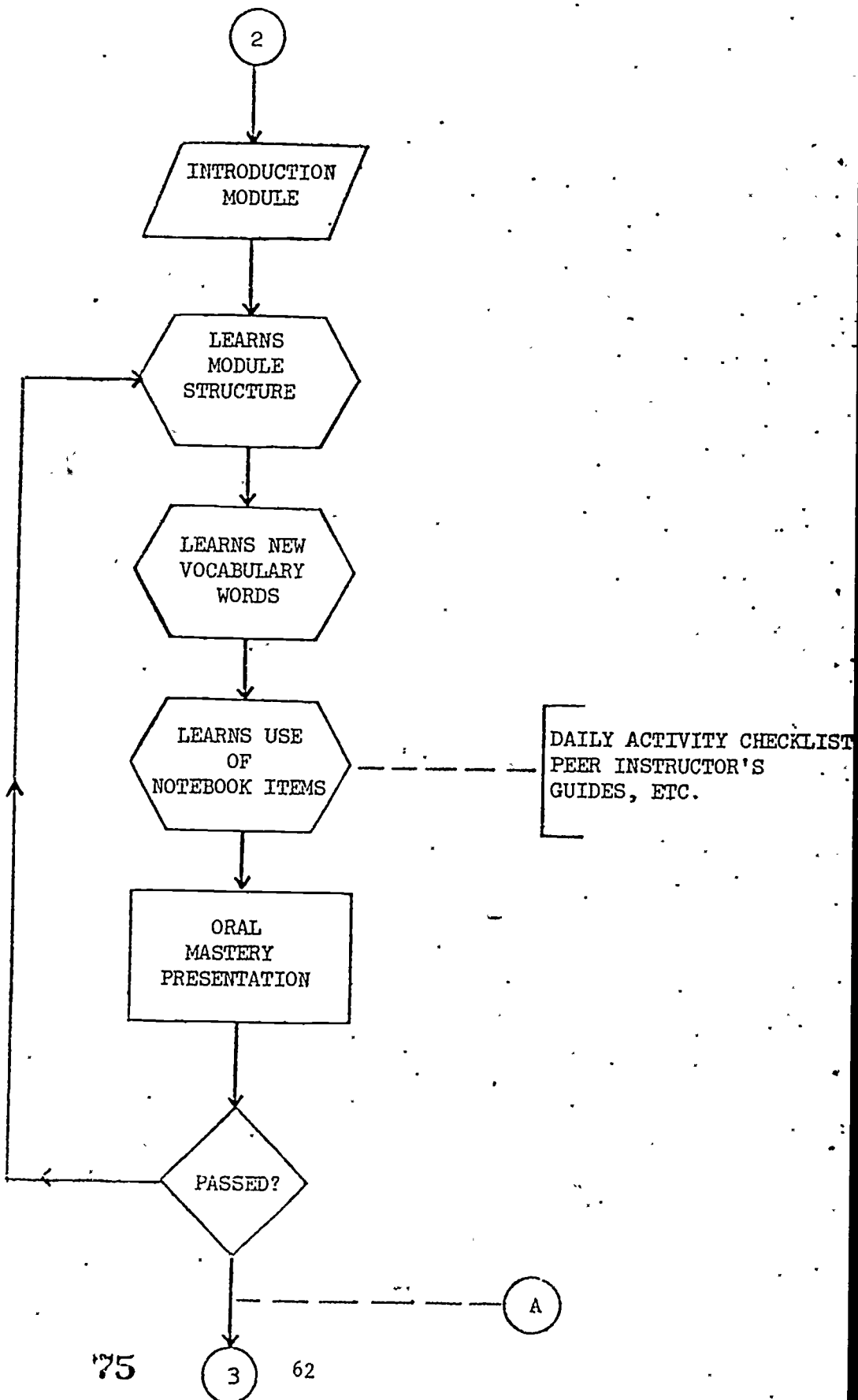
PERFORMANCE CONTRACT - A written agreement that contains four parts:

(1) well-defined Terminal Objective
(2) well-defined Intermediate Objectives
(3) reinforcers for both Intermediate Objectives and Terminal Objective
(4) feedback records

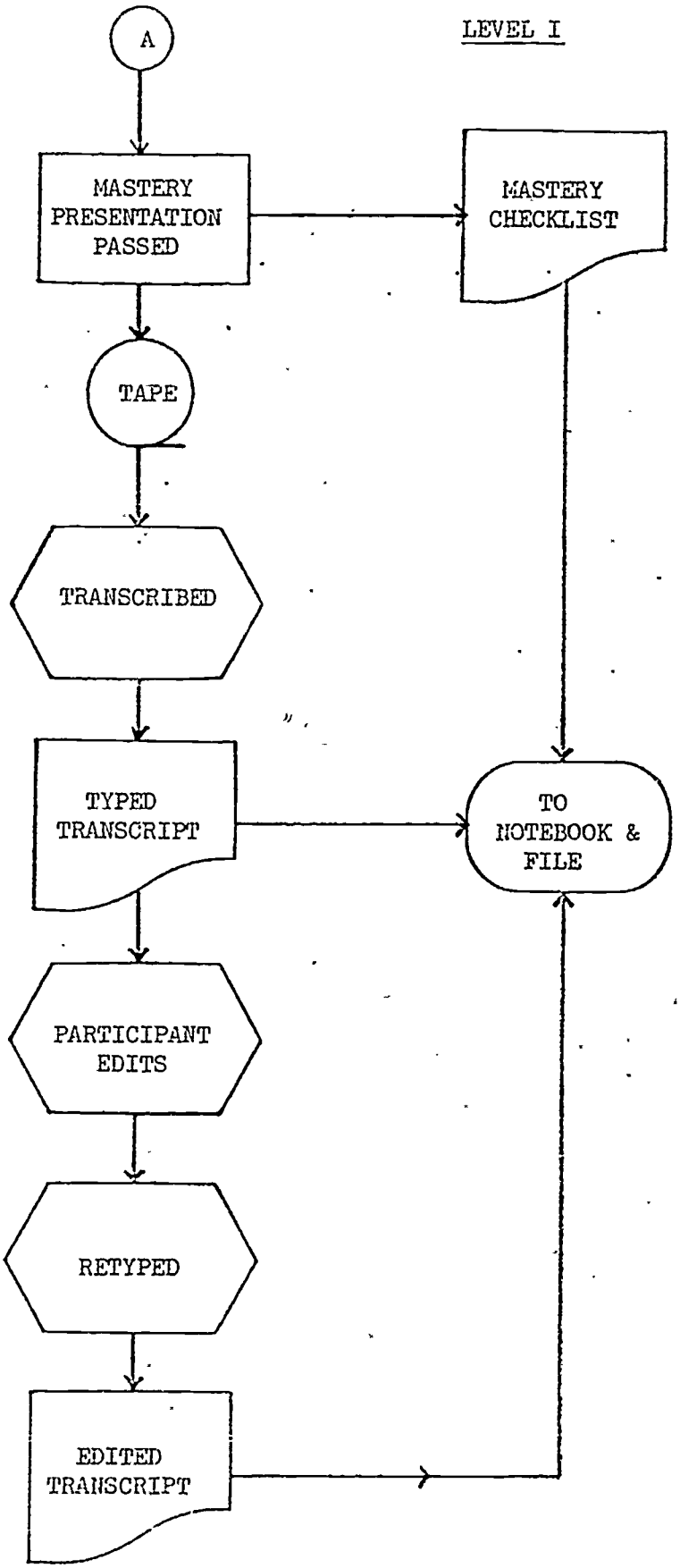
LEVEL I

INTRODUCTION MODULE

LEVEL I


2
INTRODUCTION MODULE
LEARNS MODULE STRUCTURE
LEARNS NEW VOCABULARY WORDS
LEARNS USE OF NOTEBOOK ITEMS
DAILY ACTIVITY CHECKLIST
PEER INSTRUCTOR'S GUIDES, ETC.
ORAL MASTERY PRESENTATION
PASSED?
A
3

LEVEL I


A
MASTERY PRESENTATION PASSED
MASTERY CHECKLIST
TAPE
TRANSCRIBED
TYPED TRANSCRIPT
TO NOTEBOOK & FILE
PARTICIPANT EDITS
RETYPED
EDITED TRANSCRIPT

Level I - Introduction to Module Structure

The first module introduces the new student to the format and structure used in the Level I modules. In addition, the new student experiences the following in the introductory module:

1. Relating a concept to an actual situation by use of an example. This is the case with the Orienting Experience, where learning the card trick* is used to illustrate the module structure.
2. Being taught by and learning from a Peer.
3. Learning material at a level of 100% mastery.
4. Coping with the tension involved in giving an oral Mastery Presentation.
5. Dealing with people in authority (i.e., evaluators in the MP).
6. Communicating orally in a Mastery Presentation to clear up any points not covered adequately in his oral presentation.

* Any card trick that can be performed by an individual is suitable.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE OF MP:

PROJECTED DATE OF MP:
(3 days maximum*)

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

A. Notebook

1. Binder
2. Dividers
3. 5 Copies of Daily Activity Checklist (DAC)
4. Notebook Paper
5. Outline of Level I Curriculum

B. Pencil

III. PEER INSTRUCTOR MATERIALS NEEDED:

A. Deck of Cards

B. Notebook

C. One extra copy of PI Guide for this module (to be given to student after OE and before SA)

D. Graph of Time in Module

IV. ORIENTING EXPERIENCE (OE):

A. DEMONSTRATE THE CARD TRICK TO YOUR STUDENT.

B. TEACH YOUR STUDENT TO PERFORM THE TRICK.

C. HAVE YOUR STUDENT EXPLAIN AND DEMONSTRATE THE TRICK TO AN EVALUATOR.

D. HAVE YOUR STUDENT PERFORM THE TRICK FOR A NEW STUDENT AND THEN TEACH HIM TO PERFORM THE TRICK.

E. HAVE YOUR STUDENT BRING THE NEW STUDENT TO THE EVALUATOR AND HAVE THE NEW STUDENT DEMONSTRATE HIS OWN MASTERY OF THE TRICK.

* If more time is needed, see Coordinator.

V. SKILL ACQUISITION (SA):

A. Vocabulary

The student must learn to pronounce, spell, define and use the following terms and abbreviations:

1. Orienting Experience (OE)

2. Skill Acquisition (SA)

3. Mastery Presentation (MP)

4. Peer Instruction (PI)

B. Practical Application

The student must learn to:

1. Name the four phases of a module and the order in which they occur.

2. Relate the four phases of a module to his Orienting Experience.

3. Explain the use of notebook and notebook items:

   a. Outline of Level I Curriculum
   b. Dividers
   c. PI Guide
   d. DAC

VI. MATERIALS NEEDED FOR MASTERY PRESENTATION

A. Notebook up-to-date

1. Binders
2. Dividers
3. Outline of Level I Curriculum
4. Up-to-date DAC
5. PI Guide for this module

INTRODUCTION TO MODULE STRUCTURE

MASTERY CHECKLIST

I. STUDENT: DATE COMPLETED:

PEER INSTRUCTOR: DAYS IN MODULE:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook

B. Pencil

III. EVALUATOR MATERIALS NEEDED:

A. Mastery Checklist

B. Tape Recorder, Cassette

IV. PRACTICAL APPLICATION

	pronunciation	spelling	definition	demo. OE	abbreviation
1. ORIENTING EXPERIENCE	___	___	___	___	___
2. SKILL ACQUISITION	___	___	___	___	___
3. MASTERY PRESENTATION	___	___	___	___	___
4. PEER INSTRUCTION	___	___	___	___	___

5. EXPLAIN USE OF NOTEBOOK AND NOTEBOOK ITEMS:

___a. Outline of Level I Curriculum

___b. Dividers

___c. PI Guide for this module

___d. DAC

- -

V. NOTEBOOK ITEMS:

___a. PI Guide for this module

___b. DAC

___c. Outline of Level I Curriculum

___d. Dividers

- -

VI. PI MATERIALS

___a. Graph of Time in Module

EVALUATED BY:

_____ _____

* One Copy Used For Each Module in Level I

MASTERY PRESENTATION EVALUATION FORM

PRESENTATION STYLE

A. Guidance Required

No prompts or probes required	_____	_____	_____
No prompts but a few probes required	_____	_____	_____
No prompts but many probes required	_____	_____	_____
A few prompts required	_____	_____	_____
Many prompts required	_____	_____	_____

COMMENTS: _____

_____

_____

B. Verbal Fluency (circle one)

1.	fluent 1	2	3	4	5	non-fluent
2.	1	2	3	4	5	
3.	1	2	3	4	5	

COMMENTS: _____

_____

_____

FEEDBACK TO STUDENT ON THE QUALITY OF HIS MASTERY PRESENTATION:
(Deliver orally and note here)

_____

_____

_____

EVALUATOR'S SIGNATURE: _____
(to be signed when student has passed the Mastery Presentation)

NAME:

DATE:

CODES		MONDAY HR/MIN	TUESDAY HR/MIN	WEDNESDAY HR/MIN	THURSDAY HR/MIN	FRIDAY HR/MIN	WEEKLY TOTAL HR/MIN	
MODULE WORK	1 ALONE	/	/	/	/	/	/	(1)
	2 W/PI	/	/	/	/	/	/	(2)
	3 MP (circle if passed)	/	/	/	/	/	/	(3)
	4 WRITING & EDITING	/	/	/	/	/	/	(4)
	5	/	/	/	/	/	/	(5)
PEER INSTR	7 W/STUDENT	/	/	/	/	/	/	(6)
	8	/	/	/	/	/	/	(7)
SKIL DVLPMT	9 MATH	/	/	/	/	/	/	(8)
	10	/	/	/	/	/	/	(9)
	11	/	/	/	/	/	/	(10)
MTGS	12 STAFF/PARTICIPANT	/	/	/	/	/	/	(11)
	13 W/COORDINATOR	/	/	/	/	/	/	(12)
	14 PI	/	/	/	/	/	/	(13)
	15	/	/	/	/	/	/	(14)
	16	/	/	/	/	/	/	(15)
SPORTS	17 SPORTS PROGRAM	/	/	/	/	/	/	(16)
OTHER	18 MEALS	/	/	/	/	/	/	(17)
	19 BREAKS	/	/	/	/	/	/	(18)
	20 MILITARY DUTY	/	/	/	/	/	/	(19)
	21	/	/	/	/	/	/	(20)
								(21)

% EFFECTIVENESS

WEEKLY PROGRESS REPORT

LEVEL I & II

MODULE PROGRESS

_____ Review

_____ Provide feedback

MATH RECORDS

_____ Up-to-date

_____ Review time included

_____ Taken tests for credit

LEVEL II ONLY

LOG

_____ Up-to-date

_____ Contains info on activities, questions about plans, reactions

_____ Provide feedback

_____ Outside activities

LEVEL III ONLY

_____ Provide assistance in skill areas

_____ Discuss progress for week

_____ Redesign study program

_____ Discuss new objectives

_____ Check feedback records

PARTICIPANT COMMENTS

COORDINATOR COMMENTS

WEEKEND	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	hours

OFF-PROJECT WORK

DAYS IN MODULE

0 1 2 3 4 5 6 7 8 9 10 11

INSTRUCTION

MAXIMUM

YOUR ACTUAL

STUDENT'S ACTUAL

FEEDBACK

MAXIMUM

YOUR ACTUAL

STUDENT'S ACTUAL

2. BASELINE

MAXIMUM

YOUR ACTUAL

STUDENT'S ACTUAL

3. OBJECTIVES

MAXIMUM

YOUR ACTUAL

STUDENT'S ACTUAL

4. FEEDBACK

MAXIMUM

YOUR ACTUAL

STUDENT'S ACTUAL

5. CONTACT

MAXIMUM

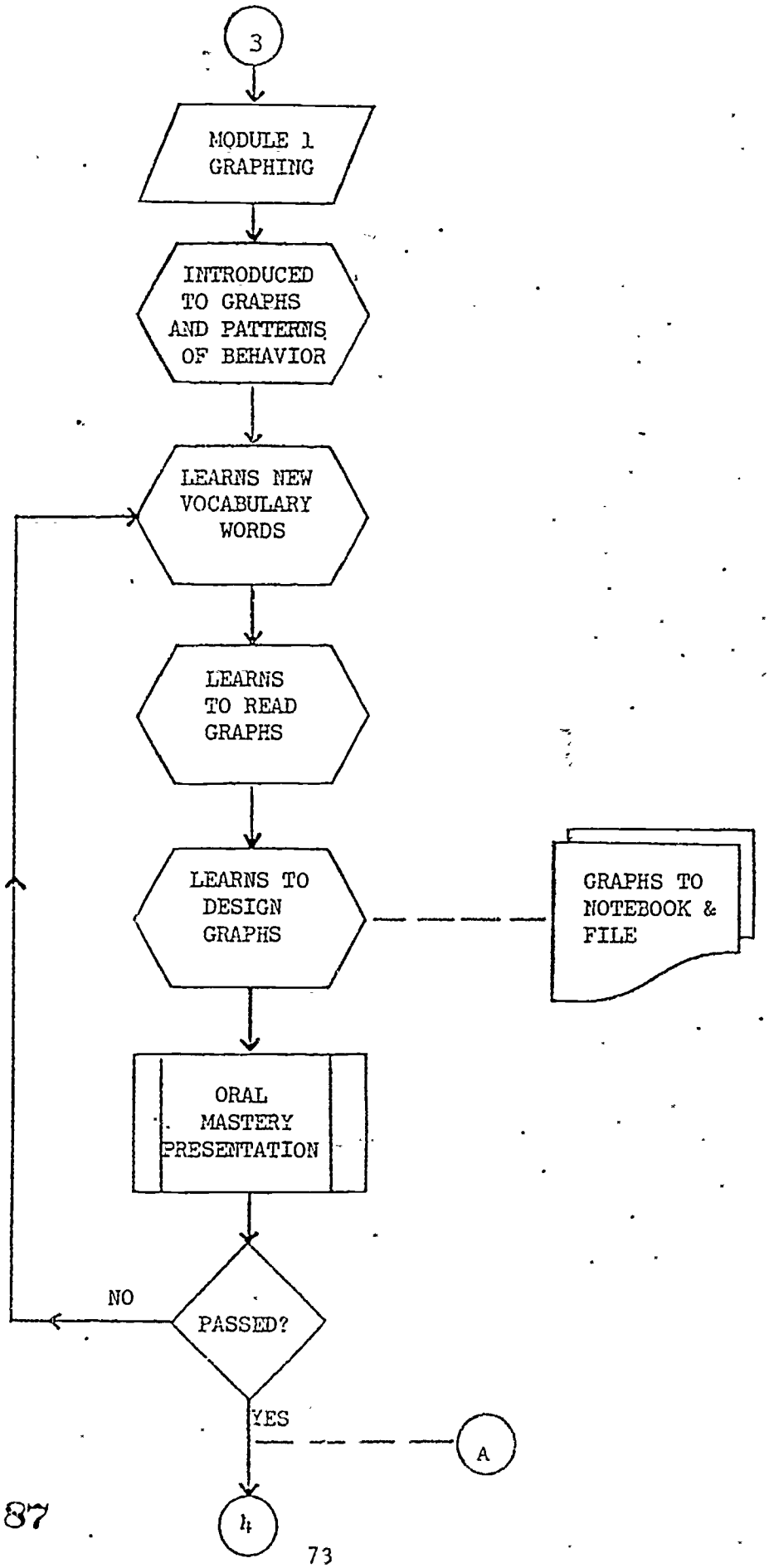
YOUR ACTUAL

STUDENT'S ACTUAL

0 1 2 3 4 5 6 7 8 9 10 11

LEVEL I

MODULE 1: GRAPHING


3
MODULE 1
GRAPHING
INTRODUCED TO GRAPHS AND PATTERNS OF BEHAVIOR
LEARNS NEW VOCABULARY WORDS
LEARNS TO READ GRAPHS
LEARNS TO DESIGN GRAPHS
GRAPHS TO NOTEBOOK & FILE
ORAL MASTERY PRESENTATION
NO
PASSED?
YES
A
4

87

Module 1: Graphing

In Module 1: Graphing Behavior, the student is introduced to graphing. If he has no knowledge in this area, he learns the semi-technical jargon and exercises used in the discussion and construction of graphs. The student follows this by constructing several graphs. He learns that behavior is something that can be observed and recorded.

Upon completion of the Mastery Presentation for the first module, the student receives a type-written copy of his taped oral presentation. From this transcript, the student gets a picture of his own verbal behavior. He becomes more aware of his speaking patterns and uses the transcript to evaluate his organization of material, so he can improve future presentations.

The typed transcript also provides the basis for a written exercise based on the student's own language and expression. This is the editing process required in each module.

LEVEL I, MODULE 1: GRAPHING BEHAVIOR

PEER INSTRUCTOR'S GUIDE

I. STUDENT — DATE BEGUN:

PEER INSTRUCTOR: — DATE OF MP:

PROJECTED DATE OF MP:
(3 days maximum*)

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

A. Notebook
B. Pencil
C. Ruler
D. Graph Paper (20 sheets)
E. Notebook Paper

III. PEER INSTRUCTOR MATERIALS NEEDED:

A. Orienting Experience Graph Packet

B. Graphing Exercise Sheet

C. One extra copy of PI Guide for this module

D. Graph of Time in Module

IV. ORIENTING EXPERIENCE:

SHOW YOUR STUDENT THAT HE ALREADY KNOWS SOMETHING ABOUT GRAPHS AND IS ABLE TO DO SOME READING OF GRAPHS.

A. SHOW HIM GRAPHS OF ASCENDING, DESCENDING AND STABLE PATTERNS AND HAVE HIM TELL YOU WHAT THEY SHOW IN HIS OWN WORDS.

B. HAVE HIM EXPERIMENT WITH GRAPH PAPER, MAKING SEVERAL TYPES OF GRAPHS, AND DISCUSS WITH HIM WHAT THEY MEAN

* If more time is needed, see Coordinator.

V. SKILL ACQUISITION:

A. Vocabulary

The student must learn to pronounce, spell, define and use the following terms.

1. Behavior
2. Graph
3. Horizontal Axis
4. Vertical Axis
5. Ascending Pattern
6. Descending Pattern
7. Stable Pattern

B. Practical Application

The student must learn to:

1. Read graphs and describe what they show.
2. Distinguish ascending, descending and stable patterns.
3. Translate records into graphs.
4. Correct MP Transcripts

VI. MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook up-to-date

1. DAC
2. Corrected MP Transcript for Introduction Module
3. PI Guide for this module
4. Orienting Experience Graph Packet
5. Graphing Exercise Sheet
6. Three student-drawn graphs required by Graphing Exercises
7. Graph paper
8. Mastery Checklist for Introduction Module

LEVEL I, MODULE 1: GRAPHING BEHAVIOR

MASTERY CHECKLIST

I. STUDENT DATE COMPLETED

PEER INSTRUCTOR: DAYS IN MODULE:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY PRESENTATION

A. Notebook

III. EVALUATOR MATERIALS NEEDED:

A. Mastery Checklist

B. Graph Paper

C. Ruler

D. Pencil

E. Tape Recorder, Cassette

IV. PRACTICAL APPLICATION:

	pronunciation	spelling	definition	use	demo. knowledge of patterns
A. BEHAVIOR	___	___	___	___	
B. GRAPH	___	___	___	___	
C. HORIZONTAL AXIS	___	___	___	___	
D. VERTICAL AXIS	___	___	___	___	
E. ASCENDING PATTERN	___	___	___	___	___
F. DESCENDING PATTERN	___	___	___	___	___
G. STABLE PATTERN	___	___	___	___	___

H. STUDENT DEMONSTRATES THAT HE CAN TRANSLATE A RECORD INTO A GRAPH

V. NOTEBOOK ITEMS

___ A. DAC

___ B. Corrected MP Transcript for Level I, Introduction

___ C. Mastery Checklist for Level I, Introduction

___ D. PI Guide for this module

___ E. OE Graph Packet

___ F. Graphing Exercise Sheet

VI. PI MATERIALS

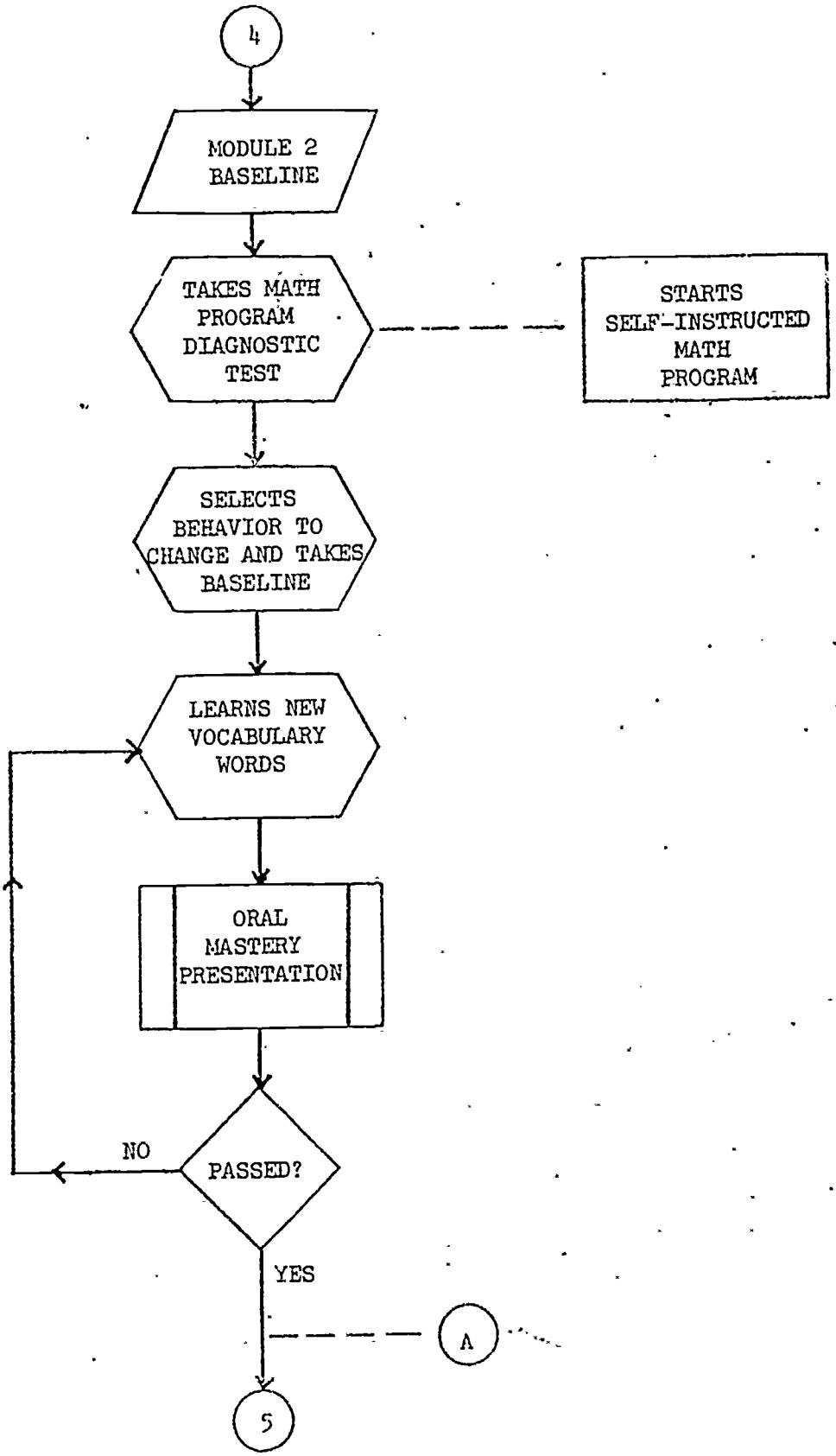
___ A. Graph of Time in Module

EVALUATED BY:

_____ _____

LEVEL I

MODULE 2: BASELINE


4
MODULE 2
BASELINE
TAKES MATH
PROGRAM
DIAGNOSTIC
TEST
STARTS
SELF-INSTRUCTED
MATH
PROGRAM
SELECTS
BEHAVIOR TO
CHANGE AND TAKES
BASELINE
LEARNS NEW
VOCABULARY
WORDS
ORAL
MASTERY
PRESENTATION
NO
PASSED?
YES
A
5

Module 2: Baseline

Module 2: Baseline, introduces the student to the concept of a baseline, a starting point with respect to a goal. The student takes baselines to gauge his standing in two areas:

1. Mathematics
2. A behavior of his own choice

For his baseline in the math program, the student begins by taking a diagnostic test in the math text* to see what material he has already learned. He then begins work on the first unit in the programmed math test. He graphs both his behavior in the math program (number of problems completed) and his behavior of choice (e.g., smoking, weightlifting, money spent, etc.). In this module the student also learns that:

1. Tests can be used for information and feedback.
2. If he scores well on the math diagnostic test, it is not necessary to relearn previously mastered material.
3. He already has some success in math.
4. He can use programmed materials for learning.
5. Progress can be recorded, viz., math records and graphs.
6. He can be the principal agent in teaching himself by using his math book and seeking tutoring.

* Heywood, Arthur H. A First Program in Mathematics. Encino, Ca.: Dickinson Publishing Company, 1972.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE OF MP:

PROJECTED DATE OF MP:
(5 days maximum*)

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

A. Notebook

B. Pencil

C. A First Program in Mathematics by A. H. Heywood

III. PEER INSTRUCTOR MATERIALS NEEDED:

A. One extra copy of PI Guide for this module

B. Math Baseline Packet

C. Graph of Time in Module

IV. ORIENTING EXPERIENCE:

A. MATH

1. HAVE YOUR STUDENT GO THROUGH THE MATH PROGRAM DIAGNOSTIC PROCEDURES.
2. DISCUSS WITH HIM WHAT THE TEST RESULTS MEAN.
3. THE STUDENT WILL BEGIN WORKING ON HIS MATH PROGRAM DURING THIS MODULE AFTER COMPLETING THE ORIENTING EXPERIENCE.

B. STUDENT BEHAVIOR

1. HAVE THE STUDENT CHOOSE A BEHAVIOR OF HIS THAT HE WOULD LIKE TO INCREASE OR DECREASE.
2. EXPLAIN TO HIM THAT HE WILL TAKE A BASELINE ON THIS BEHAVIOR DURING THE MODULE

* If more time is needed, see Coordinator

V. SKILL ACQUISITION:

A. Vocabulary

The student must learn to pronounce, spell, define and use the following terms:

1. Baseline
2. Diagnostic Test
3. Record (noun)
4. Record (verb)

B. Practical Application

The student must learn to:

1. Explain how the OE for the Math Program meets the definitions of the vocabulary words.
2. Record his baseline of the behavior he wants to increase or decrease (minimum of 3 days).
3. Use the math book
4. Use the math record sheet

- -

VI. MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook up-to-date

1. DAC
2. Filled-out baseline forms for Math Program
3. Baseline record for behavior of choice
4. Corrected MP Transcript for Module 1
5. Mastery Checklist for Module 1
6. Math Record Sheet
7. PI Guide for this module

B. Copy of A First Program in Mathematics

MASTERY CHECKLIST

I. STUDENT: DATE COMPLETED:

PEER INSTRUCTOR: DAYS IN MODULE:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook

B. Pencil

C. A First Program in Mathematics

III. EVALUATOR MATERIALS NEEDED:

A. Mastery Checklist

B. Tape Recorder, Cassette

IV. PRACTICAL APPLICATION

	Pronunciation	spelling	definition	demo. OE Math	demo. Behavior
1. BASELINE	___	___	___	___	___
2. DIAGNOSTIC TEST	___	___	___	___	___
3. RECORD (verb)	___	___	___	___	___
4. RECORD (noun)	___	___	___	___	___

5. USE OF MATH BOOK AND RECORD:

___ a. Demonstrate use of Table of Contents

___ b. Work three frames in math book

c. Records this work in his Math Record, in Notebook, to show:

___ 1. How much time spent

___ 2. Number of frames

___ 6. EXPLAINS BASELINE ON BEHAVIOR OF CHOICE

V. NOTEBOOK ITEMS

___ 1. DAC

___ 2. Corrected MP Transcript for Module 1

___ 3. Mastery Checklist for Module 1

___ 4. PI Guide for this module

___ 5. Filled-out Baseline forms for Math Program

___ 6. Math Record Sheet

___ 7. Record of baseline for selected behavior

VI. PI MATERIALS:

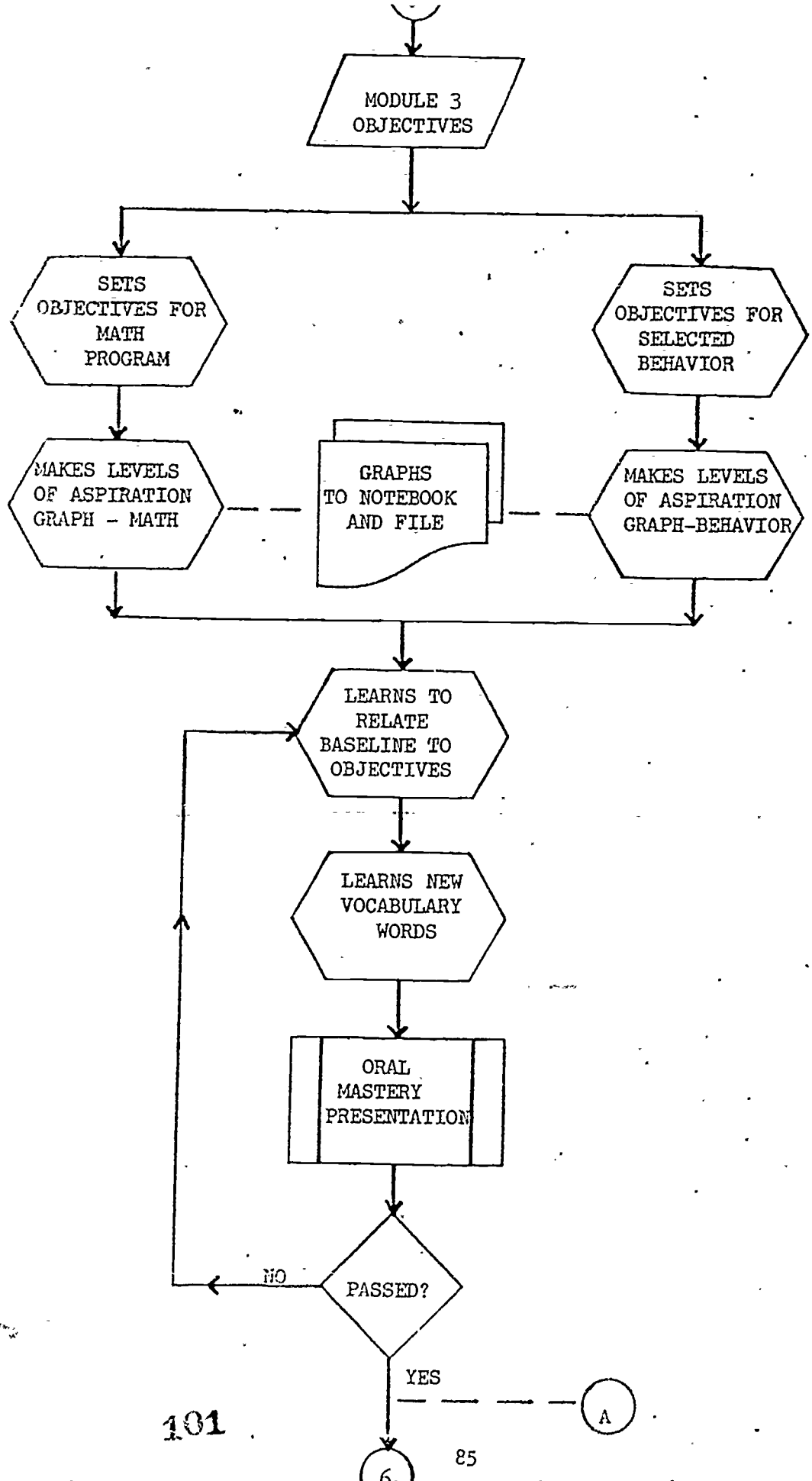
___ 1. Graph of Time in Module

EVALUATED BY:

_____ _____

LEVEL I

MODULE 3: OBJECTIVES


MODULE 3
OBJECTIVES
SETS
OBJECTIVES FOR
MATH
PROGRAM
SETS
OBJECTIVES FOR
SELECTED
BEHAVIOR
MAKES LEVELS
OF ASPIRATION
GRAPH - MATH
GRAPHS
TO NOTEBOOK
AND FILE
MAKES LEVELS
OF ASPIRATION
GRAPH-BEHAVIOR
LEARNS TO
RELATE
BASELINE TO
OBJECTIVES
LEARNS NEW
VOCABULARY
WORDS
ORAL
MASTERY
PRESENTATION
PASSED?
NO
YES
A
6

Module 3: Objectives

Module 3: Objectives, focuses on the individual's capacity to set goals in accordance with his personal abilities. With information gathered in the previous modules, the student becomes acquainted with the concept of setting clear objectives. Utilizing graphs and baseline information on his behavior of choice and his rate of work in math, he sets goals with deadlines representing high, moderate and low levels of aspiration. The student also:

1. Continues graphing math progress.
2. Continues graphing his behavior of choice.
3. Learns that what he may want to accomplish depends upon the amount of time he is willing to spend.
4. Learns to plan for success by accomplishing a little at a time.

Up to this point in the modules the student has not been required to orally demonstrate his knowledge at a conceptual level. In this module the student is required to relate the concept of a baseline to the concept of an objective.

This is a significant step above the learning of definitions and explaining of procedures which made up the first few modules.

Beginning with this module, the transcript of his oral presentation will contain no capitals and no punctuation. He is required to supply them for the final edited copy.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE OF MP:

PROJECTED DATE OF MP:
(5 days maximum*)

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

A. Notebook

B. Pencil

C. Paper

III. PEER INSTRUCTOR MATERIALS NEEDED:

A. One extra copy of this PI Guide

B. Graph of Time in Module

IV. ORIENTING EXPERIENCE:

A. DISCUSS WITH YOUR STUDENT THE RESULTS OF THE DIAGNOSTIC TEST IN MATH, AND THE BASELINE FOR THE SELECTED BEHAVIOR.

B. TELL HIM THAT HE IS GOING TO BE WORKING TO MAKE PROGRESS IN BOTH OF THESE AREAS.

C. DISCUSS WITH HIM WHAT HE THINKS HE CAN ACCOMPLISH IN LEVEL I OF THE CURRICULUM.

D. TELL HIM THE PURPOSE OF THIS MODULE IS TO SET CLEAR OBJECTIVES FOR BOTH OF THESE PROGRAMS.

* If more time is needed, see Coordinator

V. SKILL QCQUISITION:

A. Vocabulary

The student must learn to pronounce, spell, define and use the following terms:

1. Objective
   a. Goal
   b. Deadline
2. Vague Objective
3. Well-defined Objective
4. Levels of Aspiration
   a. Low
   b. Moderate
   c. High

B. Practical Application

The student must learn to:

1. Draw and explain a graph expressing an objective (or 3 Levels of Aspiration) for his behavior of choice, based on:
   a. his baseline
   b. how much he wants to increase or decrease the behavior
2. Plot progress from the math record on a graph and express three Levels of Aspiration, based on:
   a. his baseline
   b. how much time he plans to spend each day on math
3. Apply the vocabulary words to the Math Program and the behavior of choice.

- -

VI. MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook up-to-date

1. DAC
2. Corrected MP Transcript for Module 2
3. Peer Instructor's Guide for this module
4. Math Program graphs and records
5. Behavior of choice graph
6. Mastery Checklist for Module 2

LEVEL I, MODULE 3: OBJECTIVES

MASTERY CHECKLIST

I. STUDENT: DATE COMPLETED:

PEER INSTRUCTOR: DAYS IN MODULE:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook

III. EVALUATOR MATERIALS NEEDED:

A. Mastery Checklist

B. Tape Recorder, Cassette

IV. PRACTICAL APPLICATION

	Pronunciation	Spelling	Definition	Demo. Math	Demo. Behavior
1. OBJECTIVE	___	___	___	___	___
2. GOAL	___	___	___	___	___
3. DEADLINE	___	___	___	___	___
4. VAGUE OBJECTIVE	___	___	___	___	___
5. WELL-DEFINED OBJECTIVE	___	___	___	___	___
6. LOW LEVEL OF ASPIRATION	___	___	___	___	___
7. MODERATE LEVEL OF ASPIRATION	___	___	___	___	___
8. HIGH LEVEL OF ASPIRATION	___	___	___	___	___

9. DEMONSTRATES THE RELATIONSHIP OF BASELINE TO OBJECTIVES IN THE MATH PROGRAM, USING THE GRAPH.

10. EXPLAINS, IN DETAIL, HOW TO TAKE A BASELINE AND SET UP AN OBJECTIVE (OR LEVELS OF ASPIRATION) USING THE GRAPH FOR HIS BEHAVIOR OF CHOICE

V. NOTEBOOK ITEMS

___ 1. DAC

___ 2. Corrected Mastery Transcript from Module 2

___ 3. Mastery Checklist from Module 2

___ 4. PI Guide for Module 3

___ 5. Math Record

___ 6. Math Graph

___ 7. Behavior Graph

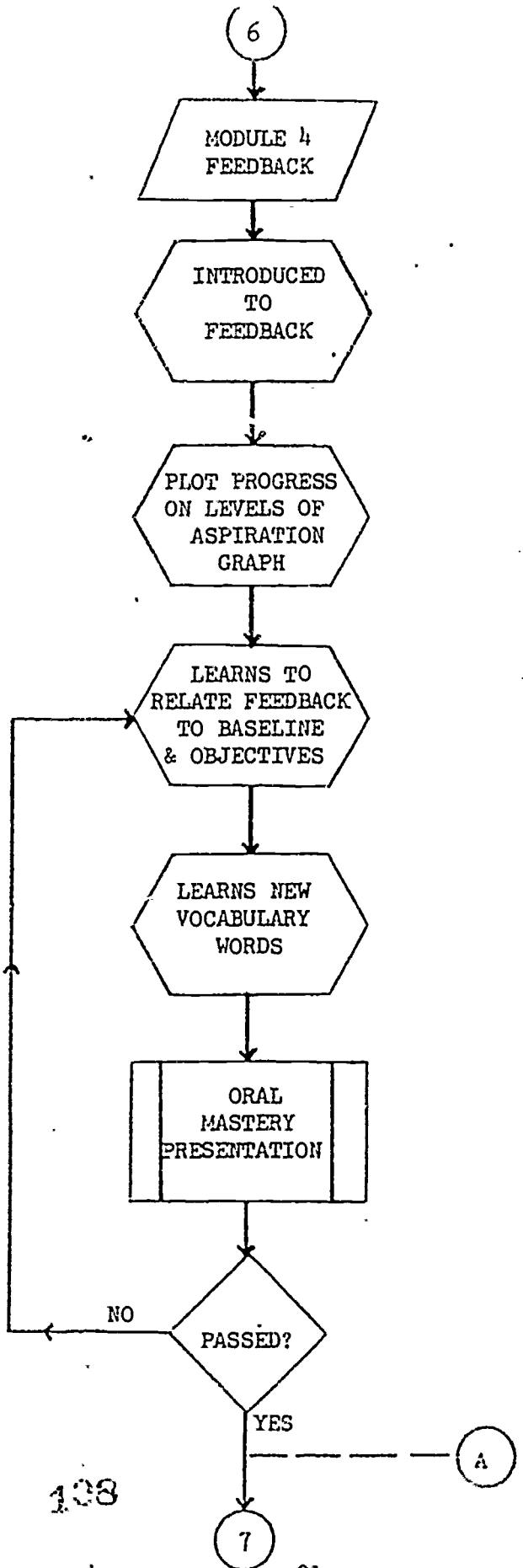
VI. PI MATERIALS

___ 1. Graph of Time in Module

EVALUATED BY:

LEVEL I

MODULE 4: FEEDBACK


6
MODULE 4 FEEDBACK
INTRODUCED TO FEEDBACK
PLOT PROGRESS ON LEVELS OF ASPIRATION GRAPH
LEARNS TO RELATE FEEDBACK TO BASELINE & OBJECTIVES
LEARNS NEW VOCABULARY WORDS
ORAL MASTERY PRESENTATION
PASSED?
NO
YES
A
7

Module 4: Feedback

In Module 4: Feedback, the student learns the importance of continuous information gathering with which he can gauge progress towards an objective. He learns how to use feedback to re-examine plans. If his progress is not meeting his pre-set plan, he reviews his baseline, his expectations, and his effort, and if necessary, restructure his program to set a more realistic deadline.

As in Module 3, the student is required to explain a concept: the relationship of feedback to both baselines and objectives. He explains that he uses a baseline or starting point to help set his objectives. Feedback lets him see whether he is achieving his objectives.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE OF MP:

PROJECTED DATE OF MP:
(6 days maximum*)

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

A. Notebook
   1. Math Program Records
   2. Behavior of Choice Graph
   3. Math Program Graph

B. Pencil

C. Paper

D. A First Program in Mathematics

III. PEER INSTRUCTOR MATERIALS NEEDED:

A. One extra copy of this PI Guide

B. Ruler

C. Graph of Time in Module

IV. ORIENTING EXPERIENCE:

A. USE THE DRAW-A-LINE TECHNIQUE TO ILLUSTRATE ROUGH, MEDIUM AND FINE-GRAINED FEEDBACK TO YOUR STUDENT.

B. DISCUSS WITH YOUR STUDENT IN GENERAL TERMS THE VALUE OF FEEDBACK IN REACHING OBJECTIVES.

* If more time is needed, see Coordinator.

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V. SKILL ACQUISITION:

A. Vocabulary

The student must learn to pronounce, spell, define and use the following terms:

1. Feedback
2. Rough-grained Feedback
3. Medium-grained Feedback
4. Fine-grained Feedback

B. Practical Application

The student must learn to:

1. Explain how his orienting experience with respect to line drawing meet the definitions of the vocabulary words.
2. Plot progress with his selected behavior.
3. Describe the relationship of Feedback to Baseline and Objectives for the selected behavior.
4. Describe the relationship of Feedback to Baseline and Objectives for the Math Program.

VI. MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Pencil

B. Paper

C. Copy of A First Program in Mathematics

D. Notebook up-to-date

1. DAC
2. Corrected MP Transcript for Module 3
3. PI Guide for this module
4. Math Record
5. Math Program Graph
6. Behavior of Choice Graph
7. Mastery Checklist for Module 3

THE DRAW-A-LINE TECHNIQUE

In the draw-a-line technique the Peer Instructor tells the student to draw three lines of different lengths using no measuring devices. Feedback from the instructor varies from very general in the first exercise to very specific in the last.

Exercise 1: The PI tells the student to draw a three inch line. Once the student has attempted this, the P.I. measures the line and tells the student only whether it is "right" or "wrong". The P.I. then has the student attempt to draw the three inch line a few more times, again only indicating whether the line is "right" or "wrong".

Exercise 2: The P.I. tells the student to draw a 5 inch line. The P.I. then measures the line and again tells the student whether it is "too long" or "too short". The student is then instructed to try again until he is fairly close to the correct length. Instructor feedback is limited to "too long" or "too short".

Exercise 3: The P.I. tells the student to draw a seven inch line. The P.I. measures the line once again and this time tells the student by exactly how much the line is too long or too short. The student then tries again until the length is fairly correct.

Once the exercise is completed the P.I. goes over each of the three exercises with the student and uses them to demonstrate the meaning of feedback as well as different qualities of feedback that are possible. As stated to the student, the first exercise is an example of rough-grained feedback with little information from the P.I. as to the correctness of

of the length of the line. With the second line the P.I.'s information is an example of moderately-detailed information. And with the third line, the information from the P.I. is an example of fine-grained feedback where the student has received highly detailed information about the correctness of the length of his line.

MASTERY CHECKLIST

I. STUDENT: DATE COMPLETED:

PEER INSTRUCTOR: DAYS IN MODULE:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook

III. EVALUATOR MATERIALS NEEDED:

A. Tape Recorder, Cassette

IV. PRACTICAL APPLICATION

	Pronunciation	Spelling	Definition	Demonstration OE	MATH	BofC
1. FEEDBACK	___	___	___	___	___	___
2. ROUGH-GRAINED FEEDBACK	___	___	___	___	___	___
3. MEDIUM-GRAINED FEEDBACK	___	___	___	___	___	___
4. FINE-GRAINED FEEDBACK	___	___	___	___	___	___

5. DEMONSTRATES RELATIONSHIP OF FEEDBACK TO BASELINE AND OBJECTIVES IN THE MATH PROGRAM

6. DEMONSTRATES RELATIONSHIP OF FEEDBACK TO BASELINE AND OBJECTIVES USING THE BEHAVIOR OF CHOICE.

V. NOTEBOOK ITEMS

___ 1. DAC

___ 2. Corrected Mastery Transcript for Module 3

___ 3. Mastery Checklist for Module 3

___ 4. PI Guide for Module 4

___ 5. Math Record

___ 6. Math Program Graph

___ 7. Behavior of Choice Graph

IV. PI MATERIALS

___ 1. Graph of Time in Modules

EVALUATED BY:

_____ _____

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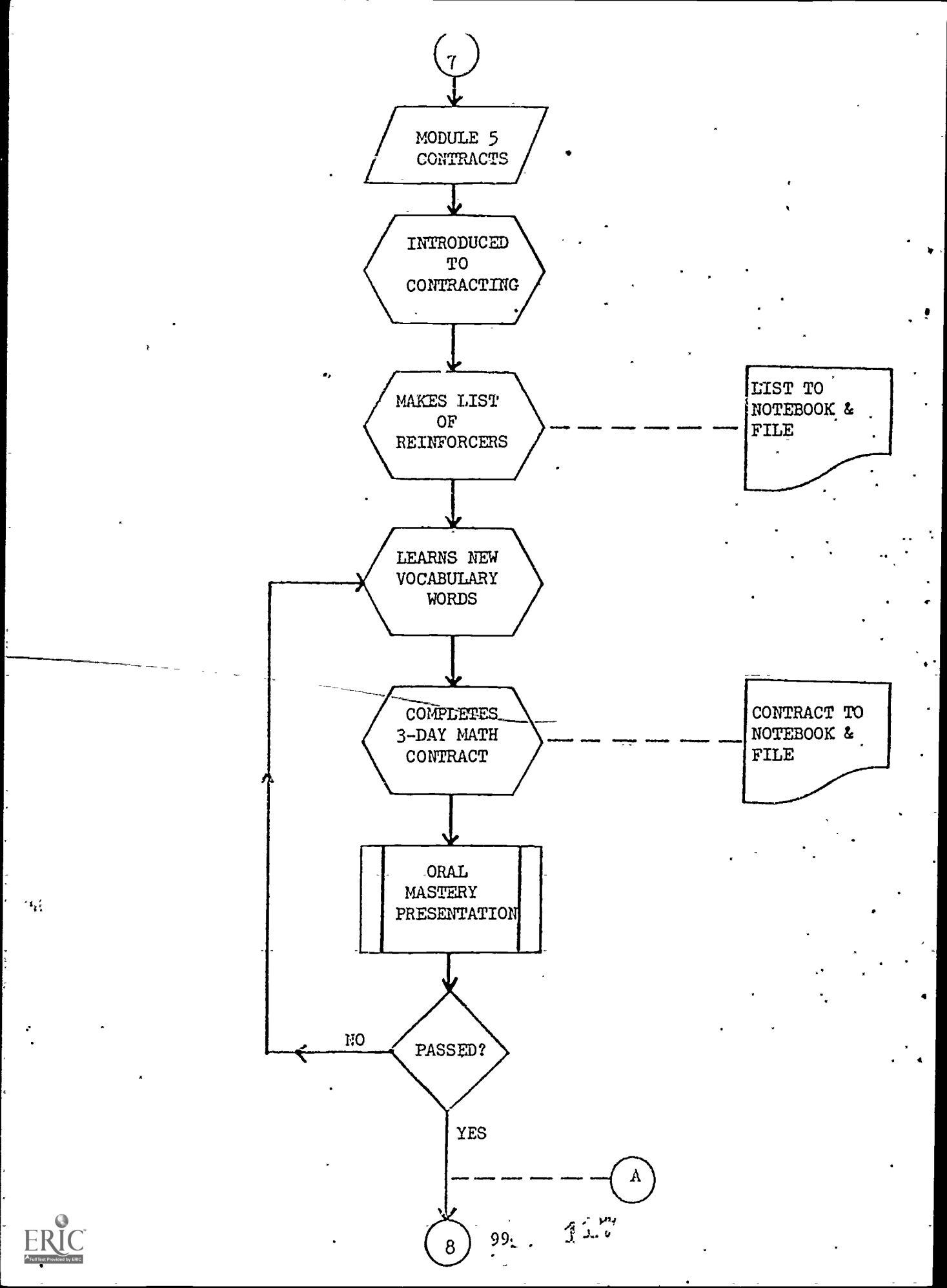
LEVEL I

MODULE 5: PERFORMANCE CONTRACTS


7
MODULE 5 CONTRACTS
INTRODUCED TO CONTRACTING
MAKES LIST OF REINFORCERS
LIST TO NOTEBOOK & FILE
LEARNS NEW VOCABULARY WORDS
COMPLETES 3-DAY MATH CONTRACT
CONTRACT TO NOTEBOOK & FILE
ORAL MASTERY PRESENTATION
PASSED?
NO
YES
A
8

Module 5: Contracts

Module 5: Contracts, is a synthesis of all the previous module work plus the experience of using contracts and reinforcers. Here the student makes a list of things he likes to do, and will later use one or two reinforcers from the list to reward himself for accomplishing more work than he previously thought he could. The student sets up a contract designed to require a higher rate of math work than he had accomplished previously.

The reaching of intermediate objectives (short term goals) and the terminal objective (long term goal) are contingently rewarded. Accordingly, the student learns that meeting intermediate objectives can help accomplish terminal objectives and that his behavior is affected by a "payoff".

LEVEL 1, MODULE 5: PERFORMANCE CONTRACTS

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE OF MP:

PROJECTED DATE OF MP:
(6 days maximum*)

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

A. Feedback Graph for Math Program

B. Notebook

C. Pencil

D. Paper

III. PEER INSTRUCTOR MATERIALS NEEDED:

A. One extra copy of PI Guide

B. Reinforcers Worksheet

C. Graph of Time in Module

IV. ORIENTING EXPERIENCE:

DISCUSS YOUR CONTRACT WITH YOUR STUDENT

* If more time is needed, see Coordinator.

V. SKILL ACQUISITION

A. Vocabulary

The student must learn to pronounce, spell, define and use the following words:

1. Terminal Objective
2. Intermediate Objective
3. Reinforcer
4. Feedback Records
5. Performance Contract

B. Practical Application

The student must learn to:

1. Draw up a list of reinforcers, using the Reinforcer Worksheet.
2. Use the vocabulary words to discuss the Orienting Experience.
3. Explain the four steps of writing a contract
4. Write a 3-day contract for his Math Program. To do this the student must:
   a. Choose Intermediate Objectives higher than his present level of achievement.
   b. Choose reinforcers for his Intermediate and Terminal Objectives from the Reinforcers Worksheet.

   This contract must be completed before the MP.
5. Record his progress in the Math Contract on his Levels of Aspiration graph.
6. Use the vocabulary words to explain his Math Contract and discuss the results.

C. The student may also do a contract for his behavior of choice.

VI. MATERIALS NEEDED FOR MASTERY PRESENTATION

A. Notebook

1. Contract for Math
2. DAC
3. Corrected MP Transcript for Module 4
4. Math Record
5. Math Program Graph
6. PI Guide for this module
7. Mastery Checklist for Module 4
8. Reinforcers Worksheet

MASTERY CHECKLIST

I. STUDENT DATE COMPLETED:

PEER INSTRUCTOR: DAYS IN MODULE:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY PRESENTATION:

A. Notebook

III. EVALUATOR MATERIALS NEEDED:

A. Mastery Checklist

B. Tape Recorder, Cassette

IV. PRACTICAL APPLICATION:

	Pronunciation	Spelling	Definition	Demo. EO	Demo. Math Grap
1. TERMINAL OBJECTIVE	___	___	___	___	___
2. INTERMEDIATE OBJECTIVE	___	___	___	___	___
3. REINFORCER	___	___	___	___	___
4. FEEDBACK RECORDS	___	___	___	___	___
5. PERFORMANCE CONTRACT	___	___	___	___	___

___ 6. HAS A WRITTEN CONTRACT FOR MATH PROGRAM

___ 7. RECORDS PROGRESS OF MATH CONTRACT ON MATH GRAPH

___ 8. USING MATH GRAPH, EXPLAINS HIS CONTRACT, ITS FOUR PARTS, AND THE RESULTS

___ 9. HAS A LIST OF REINFORCERS

V. NOTEBOOK ITEMS

___ 1. DAC

___ 2. Corrected Mastery Transcript for Module 4

___ 3. Mastery Checklist for Module 4

___ 4. PI Guide for Module 5

___ 5. Math Record

___ 6. Math Program Graph

___ 7. Contract for Math

___ 8. Reinforcers Worksheet

IV. PI MATERIALS NEEDED:

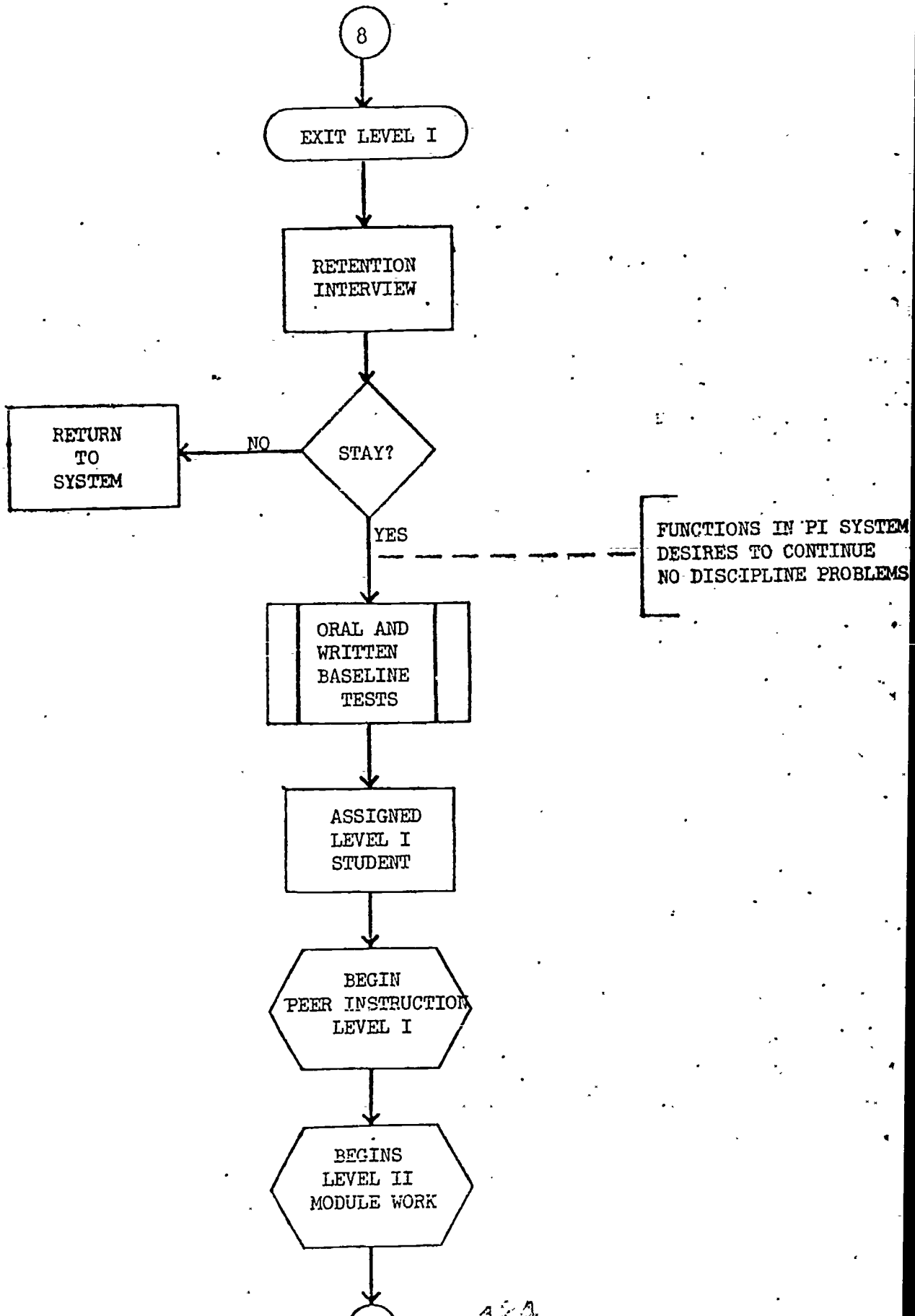
___ 1. Graph of Time in Module

EVALUATED BY:

_____ _____

LEVEL I TO LEVEL II

TRANSITION


8
EXIT LEVEL I
RETENTION INTERVIEW
STAY?
NO
RETURN TO SYSTEM
YES
FUNCTIONS IN PI SYSTEM
DESIRES TO CONTINUE
NO DISCIPLINE PROBLEMS
ORAL AND WRITTEN BASELINE TESTS
ASSIGNED LEVEL I STUDENT
BEGIN PEER INSTRUCTION LEVEL I
BEGINS LEVEL II MODULE WORK
9

Level I to Level II: Transition

At the end of Level I the Project Director meets with the student to review his progress thus far and his plans for continuing in the program. If the student decides to continue, and the staff concur, he is assigned a Level I student to Peer Instruct and begins Level II work simultaneously.

Due to his multiple responsibilities, a student in Level II finds it necessary to schedule his work day in order to effectively teach his student, complete his Level II work and, if he wishes, begin independent studies in self-selected fields.

Like Level I there are some exercises that are done throughout Level II. First of all, the student keeps a daily log. He writes about his daily activities, thoughts, ideas, feelings, and future plans. Secondly, the student goes from a totally oral to a part oral and part written Mastery Presentation (called a Mastery Review in Level II). For each module the student is required to write a paper approximately five-hundred words long, discussing subjects like those in the Suggested Themes for Summary Report (see page). The Level II participant continues filling out a Daily Activity Checklist.

The summary report, log, and specific exercises of each module become focal points for discussion in the Mastery Review. Instead of a carefully rehearsed oral presentation, the Level II student is required to have organized his thoughts and ideas sufficiently to be able to discuss and answer questions about his plans for work in Levels II and III. In Level II the evaluations serve as sessions to aid a participant in his preparations for individual study in Level III.

GUIDELINE FOR DAILY LOG

A daily record of Level II activities will be kept which will include results of consultations with the Profile Consultant, Resource Consultants, counseling services at Monterey Peninsula College or Ft. Ord, correspondence, telephone calls, etc.

The Log should also include personal attitudes, observation, reflections on self and student, difficulties encountered in modules and peer instruction, thoughts on solutions, suggestions from or to staff and peers.

The primary use of the log is to give you daily practice with your written expression. The more you attempt to express your ideas, thoughts and feelings, the more the log will aid the development of your written expression. Your log will be reviewed weekly by a staff member and at each Mastery Review. Feedback will be provided to help you use your log more effectively, and when necessary, specific materials will be suggested to help you work on your problems with expression.

SUGGESTED THEMES FOR SUMMARY REPORT

The Summary Report is a chance to practice written communication. You may write about anything you wish, related to the modules, the project in general, or your experiences and interests related to the project. If you do not have anything you wish to write about, you should use one of the themes suggested below.

MODULE I: PROFILE

A look at your personal future, near and distant. How has this project influenced your plans?

How your use of time is related to what you accomplish.

How you make decisions about career selection.

Attitudes towards learning and school.

Testing.

MODULE II: SKILLS AND RESOURCES

Why basic skills are important.

Difficulties you have with learning.

Self-management.

The importance of organization.

Your responsibilities and the responsibilities of the project staff.

MODULE III: BASELINE AND OBJECTIVES

The importance of having objectives.

Do reinforcers work?

The importance of feedback.

Reactions to the project and how you would improve the program.

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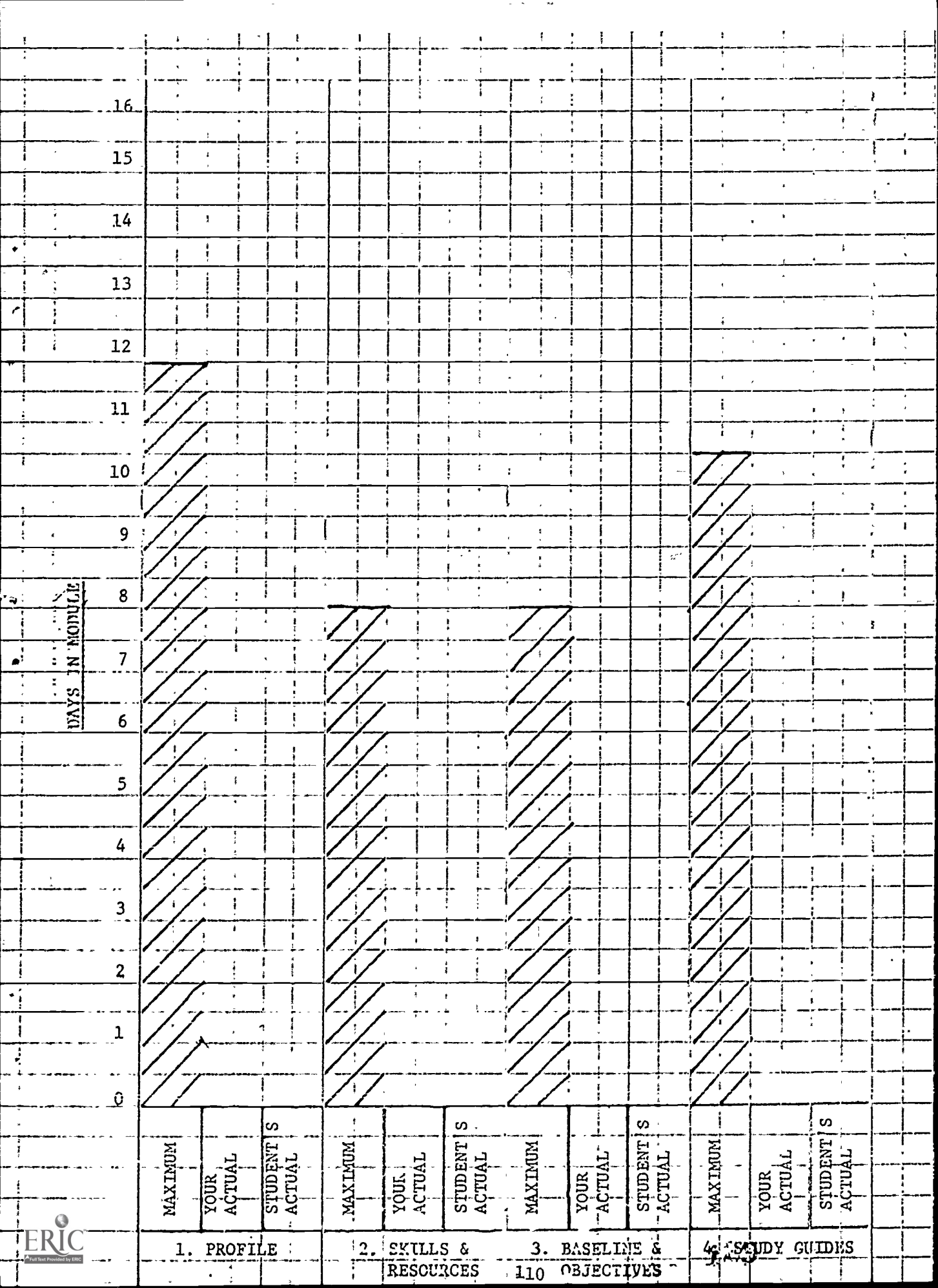
MODULE IV: STUDY GUIDES

How do you expect your study program will work out in Level III?

What things are you better able to do now than before you entered this project?

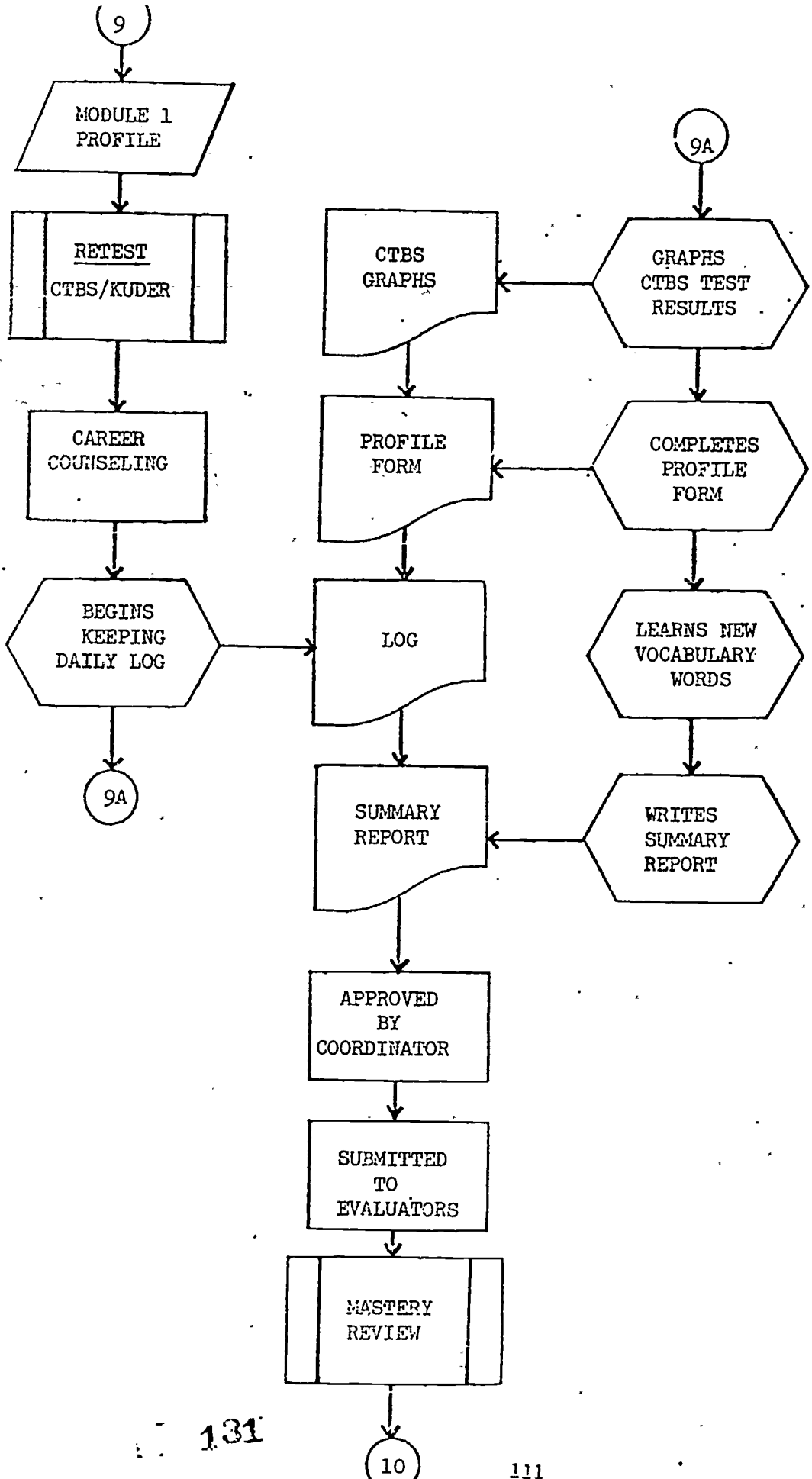
What preparations do you need to make before you can "get to work?"

What have you learned about yourself as a student?


16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
DAYS IN MODULE
MAXIMUM
YOUR ACTUAL
STUDENT'S ACTUAL
MAXIMUM
YOUR ACTUAL
STUDENT'S ACTUAL
MAXIMUM
YOUR ACTUAL
STUDENT'S ACTUAL
MAXIMUM
YOUR ACTUAL
STUDENT'S ACTUAL
1. PROFILE
2. SKILLS & RESOURCES
3. BASELINE & OBJECTIVES
4. STUDY GUIDES

LEVEL II

MODULE 1: PROFILE


9
MODULE 1 PROFILE
RETEST CTBS/KUDER
CAREER COUNSELING
BEGINS KEEPING DAILY LOG
9A
9A
CTBS GRAPHS
GRAPHS CTBS TEST RESULTS
PROFILE FORM
COMPLETES PROFILE FORM
LOG
LEARNS NEW VOCABULARY WORDS
SUMMARY REPORT
WRITES SUMMARY REPORT
APPROVED BY COORDINATOR
SUBMITTED TO EVALUATORS
MASTERY REVIEW
10

Level II

Module 1: Profile

In this module a new focus emerges. The subject matter the student uses is himself. The student collects a large amount of feedback on his personal interests, aptitudes, and progress.

He begins the module by retaking the Comprehensive Test of Basic Skills (CTBS).[1] He then graphs his initial and present scores, so he can check his progress in the basic skills. He retakes the Kuder Preference Record,[2] a career interest inventory, to further his perspective on possible career choices.

In addition, the nearby community college (Monterey Peninsula College) serves as a career resource center. The student goes to MPC Counseling Center and takes their "Career Counseling Inventory" (CCI).[3] Within a few days he receives a computer printout listing 100 possible career choices ranked in the order of the student's ability to meet the following demands for each career:

1. Interest
2. Aptitude
3. Willingness to spend time on career preparation
4. Temperament
5. Physical demands.

The use of the college system does three things for the student:

---

[1]Comprehensive Test of Basic Skills, Form Q, Level 4, California Test Bureau, Del Monte Research Park, Monterey, California 93940.

[2]Kuder Preference Record, Vocational Form C, Science Research Associates, Inc., 259 E. Erie Street, Chicago, Ill. 60611.

[3]Counseling Center, Monterey Peninsula College, 980 Fremont Avenue, Monterey, California 93940.

1. Exposes him to a college setting.
2. Has him deal with a new authority figure (a college counselor) to discuss and review his Career Counseling Inventory.
3. Provides an opportunity for him to review and reflect on his career interests with peers and a staff member.

After completing all this work, the student enters the information on a single sheet, the Profile Form. Besides his CTBS, Kuder, and CCI scores, he gathers data on his time use in Level I and selects three career interest areas that appeal most to him. This sheet contains the basic feedback with which he can assess his assets, interests and deficiencies for each desired career.

When the student's Profile Form and Summary Report are complete and his log up-to-date, he has a Mastery Review during which the significance of this work is discussed. The student is made familiar with resources at the project and in the community which might help him clarify and develop his career and skill interests.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE COMPLETED:

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

1. Daily Log Book
2. Pencil
3. Ruler
4. Graph Paper

III. PEER INSTRUCTOR MATERIALS NEEDED:

1. Copy of CTBS scores
2. Extra copy of PI Guide for this module

IV. ORIENTING EXPERIENCE:

STUDENT HAS A CONSULTATION WITH THE PROFILE CONSULTANT TO DISCUSS TESTING AND THEN RETAKES THE CTBS. STUDENT GOES TO MPC TO TAKE THE CAREER COUNSELING INVENTORY.

IF THE STUDENT HAS NOT ALREADY DONE SO, HE SHOULD REGISTER FOR MATH CREDITS AT MPC-FT. ORD, AND AFTER THAT FOR PD290 AT MPC. HE CAN ADD PD290 WHEN HE GOES TO TAKE THE CAREER COUNSELING INVENTORY.

V. SKILL ACQUISITION:

A. Vocabulary (student must look up words in dictionary)

The student must spell and use the following words appropriately in the Mastery Review:

1. Profile
2. Consultation
3. Inventory
4. Aptitude
5. Percentile
6. Achievement

B. Practical Application

The student must learn to:

1. Practice written communication by keeping a daily log recording his activities and thoughts about himself, about his work in the module, and his plans for Level III.

2. Make graphs of CTBS test scores:

   a. Reading (Subtests & Total)
   b. Language (Subtests & Total)
   c. Arithmetic (Subtests & Total)
   d. Study Skills (Subtests & Total)

3. Use the Profile Form:

   a. CTBS
   b. Career Interest Areas
   c. Aptitude Areas
   d. Total Weekly Hours (DAC codes 1-11)

4. Write a Summary Report that is legible, understandable, and has correct spelling.

VI. MATERIALS TO BE SUBMITTED BEFORE MASTERY REVIEW:

A. Career Information Profile

B. CTBS Graphs

C. Profile Form

D. Daily Log

E. Written Summary Report

3-5

PROFILE FORM

NAME _____ DATE _____

CTBS

	1	2	3
DATE TAKEN			
Vocabulary			
Comprehension			
READING TOTAL			
Mechanics			
Expression			
Spelling			
LANGUAGE TOTAL			
Computation			
Concepts			
Application			
MATHEMATICS TOTAL			
TOTAL BATTERY			
Ref. Materials			
Graphic Matl's			
STUDY SKILLS TOTAL			

TOTAL WEEKLY HOURS

Codes 1-11

Week 1 _____

Week 2 _____

Week 3 _____

Week 4 _____

Week 5 _____

Week 6 _____

Week 7 _____

CAREER INTEREST AREAS

1. _____

2. _____

3. _____

APTITUDE AREAS

KUDER

1. _____ %
2. _____ %
3. _____ %
4. _____ %
5. _____ %
6. _____ %
7. _____ %
8. _____ %
9. _____ %
10. _____ %

MPC INVENTORY

1. _____ %
2. _____ %
3. _____ %
4. _____ %
5. _____ %
6. _____ %
7. _____ %
8. _____ %
9. _____ %
10. _____ %

MASTERY CHECKLIST

I. STUDENT DATE TURNED IN:

PEER INSTRUCTOR: DATE OF MASTERY REVIEW:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY REVIEW:

1. Notebook
2. Log
3. Summary Report
4. Profile Form

II. EVALUATOR MATERIALS NEEDED:

1. Mastery Checklist
2. Typed copy of Summary Report

IV. PRACTICAL APPLICATION:

	Spelling	Demo. Usage	Pronunciation
1. PROFILE	___	___	___
2. CONSULTATION	___	___	___
3. INVENTORY	___	___	___
4. APTITUDE	___	___	___
5. PERCENTILE	___	___	___
6. ACHIEVEMENT	___	___	___

*7. SUMMARY REPORT

___ a. Understandable

___ b. Legible

___ c. Words spelled correctly

*8. LOG

___ a. Up-to-date

___ b. Discussed with evaluator

*9. CTBS GRAPHS

___ a. Reading (Subtests & Total)

___ b. Language (Subtests & Total)

___ c. Arithmetic (Subtests & Total)

___ d. Study Skills (Subtests & Total)

___ *10. PROFILE FORM CORRECTLY FILLED IN

___ *11. CAREER INFORMATION PROFILE

___ 12. REGISTERED FOR MATH CREDITS (MPC-FT. ORD) If desired

___ 13. REGISTERED FOR PD290 (MPC) If desired

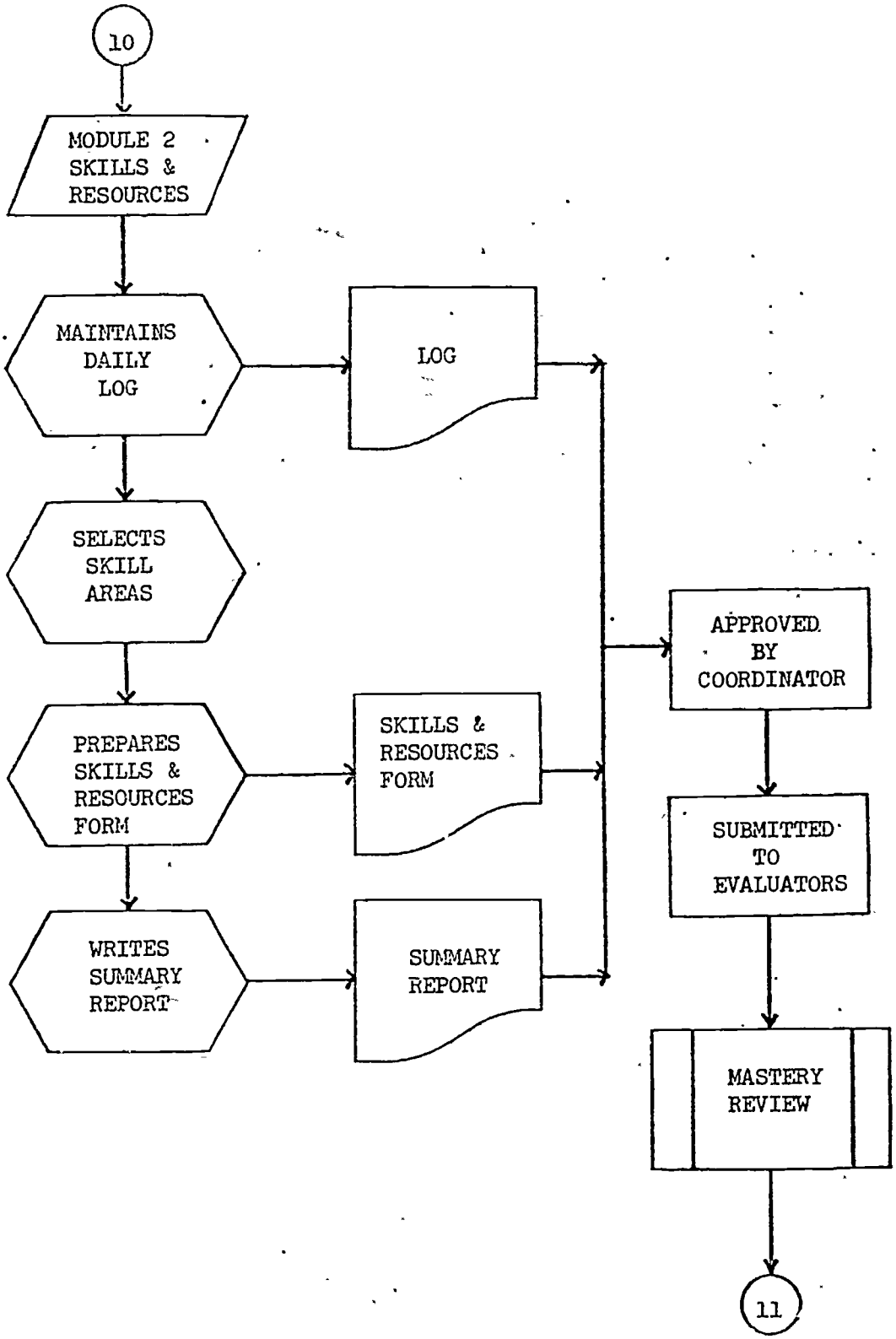
EVALUATED BY:

_____ _____

*These items must be turned in to the evaluator for review before the presentation.

LEVEL II

MODULE 2: SKILLS AND RESOURCES


10
MODULE 2 SKILLS & RESOURCES
MAINTAINS DAILY LOG
LOG
SELECTS SKILL AREAS
PREPARES SKILLS & RESOURCES FORM
SKILLS & RESOURCES FORM
WRITES SUMMARY REPORT
SUMMARY REPORT
APPROVED BY COORDINATOR
SUBMITTED TO EVALUATORS
MASTERY REVIEW
11

Level II

Module 2: Skills and Resources

Using information entered on the Profile Form (completed in Module 1), the student concentrates on identifying enabling skills that he must develop if he is to enter his career interest areas. The student fills out the Skill & Resources Form that:

1. Identifies what skills are basic to his career interests.
2. Focuses on past experience for each of the specific skills.
3. Develops and organizes resources for learning these skills (i.e., programmed materials, GED materials, classes, tutors, etc.). This is done with assistance from a staff member.

With this work, the student has taken the first step to establish a learning program that will meet his personal interests and needs. When the participant's Skills & Resources Form and Summary Report are complete and his Log up-to-date, the student has his Mastery Review.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE COMPLETED:

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

1. Daily Log
2. Profile Form
3. Skills & Resources Form

III. PEER INSTRUCTOR MATERIALS NEEDED:

1. Copy of PI Guide for this module
2. Copy of Skills & Resources Form

IV. ORIENTING EXPERIENCE:

USING THE PROFILE FORM, THE PEER INSTRUCTOR AND THE STUDENT DISCUSS THE PARTICIPANT'S CAREER INTEREST AREAS AND MAKE A LIST OF THE SKILLS THE PARTICIPANT MUST DEVELOP IN ORDER TO QUALIFY FOR THESE CAREERS, OR TO ENTER A SCHOOL TO BE TRAINED FOR THESE CAREERS.

IF THE PARTICIPANT IS INTERESTED IN SEVERAL CAREERS, CHECK TO SEE WHAT SKILLS THESE CAREERS HAVE IN COMMON. USE THE SCORES ON THE CTBS FOR GUIDANCE.

YOUR COORDINATOR WILL HELP YOU CLARIFY THESE SKILLS OR DIRECT YOU TO THE RESOURCES.

V. SKILL ACQUISITION:

A. Practical Application

The student must learn to:

1. Fill out the Skills & Resources Form for 5 skills

   To do this, the student must identify the following items in as much detail as possible:

   a. Skill needed

   b. Past experience with this skill

   c. Materials needed

   d. Staff assistance needed

2. Maintain his log

3. Write a Summary Report

VI.. MATERIALS TO BE SUBMITTED BEFORE MASTERY REVIEW:

1. Daily Log
2. Skills & Resources Form
3. Summary Report

SKILLS & RESOURCES FORM

INTEREST AREA: _____

SKILL NEEDED:

A. PAST EXPERIENCES WITH THIS SKILL (Pleasant/Unpleasant):

B. MATERIALS:

	Available	Needed
a. _____	___	___
b. _____	___	___
c. _____	___	___
d. _____	___	___

C. ASSISTANCE NEEDED:

SKILL NEEDED:

A. PAST EXPERIENCES WITH THIS SKILL (Pleasant/Unpleasant):

B. MATERIALS:

	Available	Needed
a. _____	___	___
b. _____	___	___
c. _____	___	___
d. _____	___	___

C. ASSISTANCE NEEDED:

MASTERY CHECKLIST

I. STUDENT: DATE TURNED IN:

PEER INSTRUCTOR: DATE OF MASTERY REVIEW:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY REVIEW:

1. Skills & Resources Form
2. Log
3. Summary Report

III. EVALUATOR MATERIALS NEEDED:

1. Mastery Checklist
2. Typed copy of Summary Report

IV. PRACTICAL APPLICATION

1. SUMMARY REPORT

___ a. Understandable

___ b. Legible

___ c. Words spelled correctly

2. LOG

___ a. Up-to-date

___ b. Discussed with evaluator

3. SKILLS & RESOURCES FORM

___ a. Identification of at least five skills on the Skills & Resources Form

___ b. Had identified the following for each of the five skills:

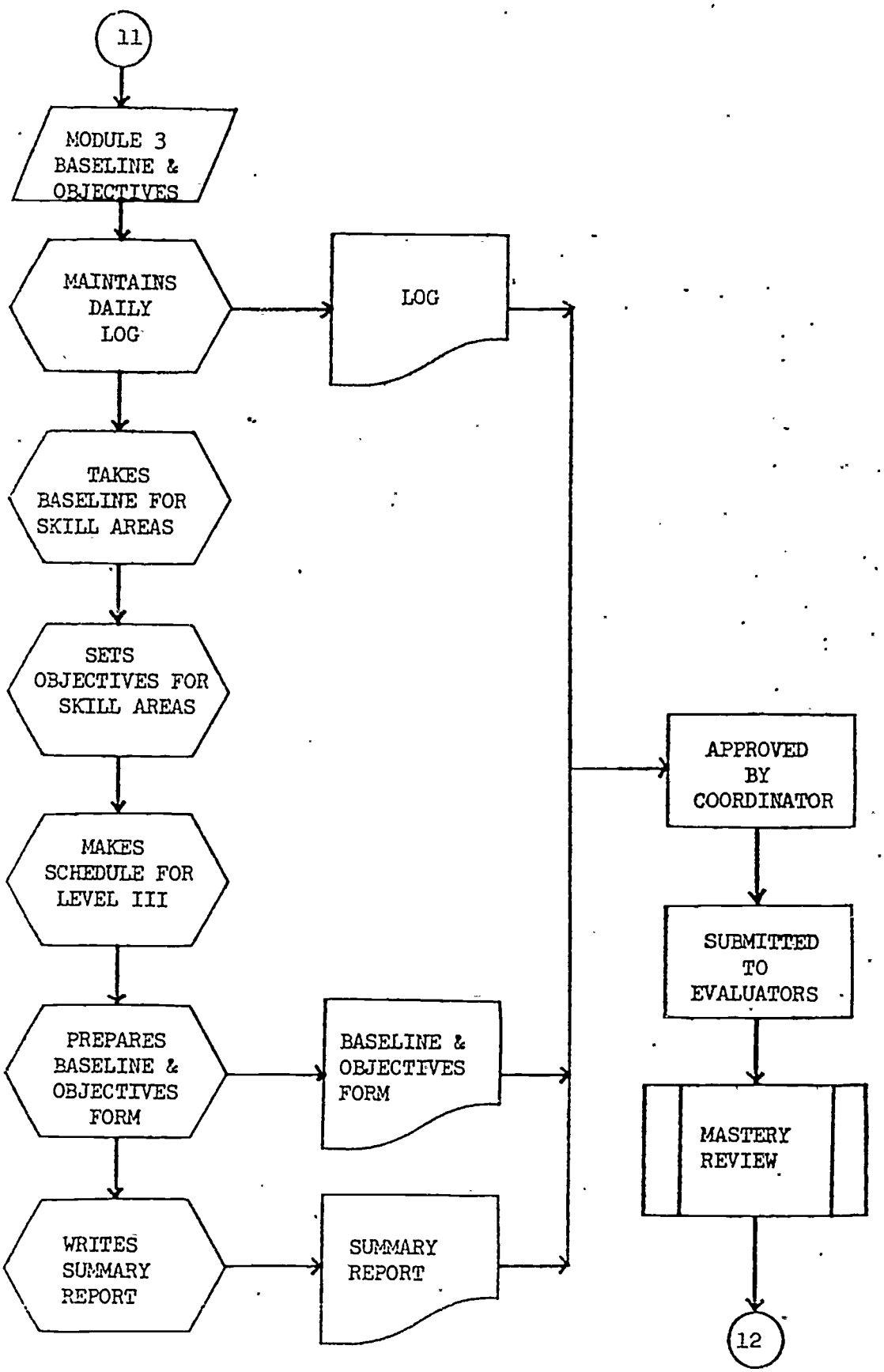
	1	2	3	4	5
1. Skill Needed	___	___	___	___	___
2. Past Experience	___	___	___	___	___
3. Materials Needed	___	___	___	___	___
4. Assistance Needed	___	___	___	___	___

EVALUATED BY:

_____ _____

LEVEL II

MODULE 3: BASELINE AND OBJECTIVES


11
MODULE 3 BASELINE & OBJECTIVES
MAINTAINS DAILY LOG
LOG
TAKES BASELINE FOR SKILL AREAS
SETS OBJECTIVES FOR SKILL AREAS
MAKES SCHEDULE FOR LEVEL III
PREPARES BASELINE & OBJECTIVES FORM
BASELINE & OBJECTIVES FORM
WRITES SUMMARY REPORT
SUMMARY REPORT
APPROVED BY COORDINATOR
SUBMITTED TO EVALUATORS
MASTERY REVIEW
12

Level II

Module 3: Baseline and Objectives

Since the student has already identified the needed skills and available resources, he takes the next step by establishing baselines (work rates) for each skill and sets up terminal objectives. These are estimates of the amount of work he thinks he can complete before he terminates participation in Project ABEL.

At this point the student is very conscious of the need for optimizing his schedule. He can do this by establishing a beneficial work environment. Using data from the Profile Form, he can estimate what time he will have available for studying. All this information goes on the Baseline and Objectives Form. Completing this, his log, and another Summary Report, the student takes his Mastery Review and goes on to the last module of Level II, and of the program.

PEER INSTRUCTOR'S GUIDE

I. STUDENT DATE BEGUN:

PEER INSTRUCTOR: DATE COMPLETED:

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

1. Daily Log
2. Skills & Resources Form
3. Baseline & Objectives Form
4. Profile Form

III. PEER INSTRUCTOR MATERIALS NEEDED:

1. Copy of PI Guide for this module
2. Copy of Baseline & Objectives Form

IV. ORIENTING EXPERIENCE:

THE PI AND THE STUDENT DISCUSS FOR EACH OF THE SKILLS LISTED ON THE STUDENT'S SKILLS & RESOURCES FORM:

1. WHAT TYPES OF BASELINES CAN BE TAKEN
2. WHAT OBJECTIVES ARE REASONABLE
3. HOW WORK COULD BE BEST SCHEDULED IN LEVEL III

V. SKILL ACQUISITION:

1. Fill out a Baseline & Objectives Form for each of the five skills.

   To do this, the student must:

   a. Define the skill needed.

   b. Establish a baseline for each of the skill areas, using the materials he plans to work with.

   c. Estimate the amount of time he will work on this skill in Level III

   d. Establish three Levels of Aspiration for each skill, using the information from the baseline he took.

   e. Describe work conditions that best suit him for each skill.

2. Maintain his log.

3. Write a Summary Report

VI. MATERIALS TO BE SUBMITTED BEFORE MASTERY REVIEW:

1. Daily Log
2. Baseline & Objectives Form
3. Summary Report

BASELINE & OBJECTIVES FORM

1. SKILL NEEDED:

2. BASELINE (other than CTBS):

3. TIME NEEDED (hours per day or per week):

4. TERMINAL OBJECTIVES: Levels of Aspiration (End of Level III):

HIGH:

MODERATE:

LOW:

5. WORK CONDITIONS THAT SUIT YOU BEST:

MASTERY CHECKLIST

I. STUDENT: DATE TURNED IN:

PEER INSTRUCTOR: DATE OF MASTERY REVIEW:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY REVIEW:

1. Notebook
2. Log
3. Summary Report
4. Baseline & Objectives Form for five skill areas

III. EVALUATOR MATERIALS NEEDED

1. Mastery Checklist
2. Typed copy of Summary Report

IV. PRACTICAL APPLICATION:

1. Baseline & Objectives Form filled out correctly and clearly:

	1	2	3	4	5
a. Skill identified	____	____	____	____	____
b. Baseline identified	____	____	____	____	____
c. Time estimated	____	____	____	____	____
d. Levels of Aspiration	____	____	____	____	____
e. Work conditions specified	____	____	____	____	____

2. Summary Report

___ a. Understandable

___ b. Legible

___ c. Words spelled correctly

3. Log

___ a. Up-to-date

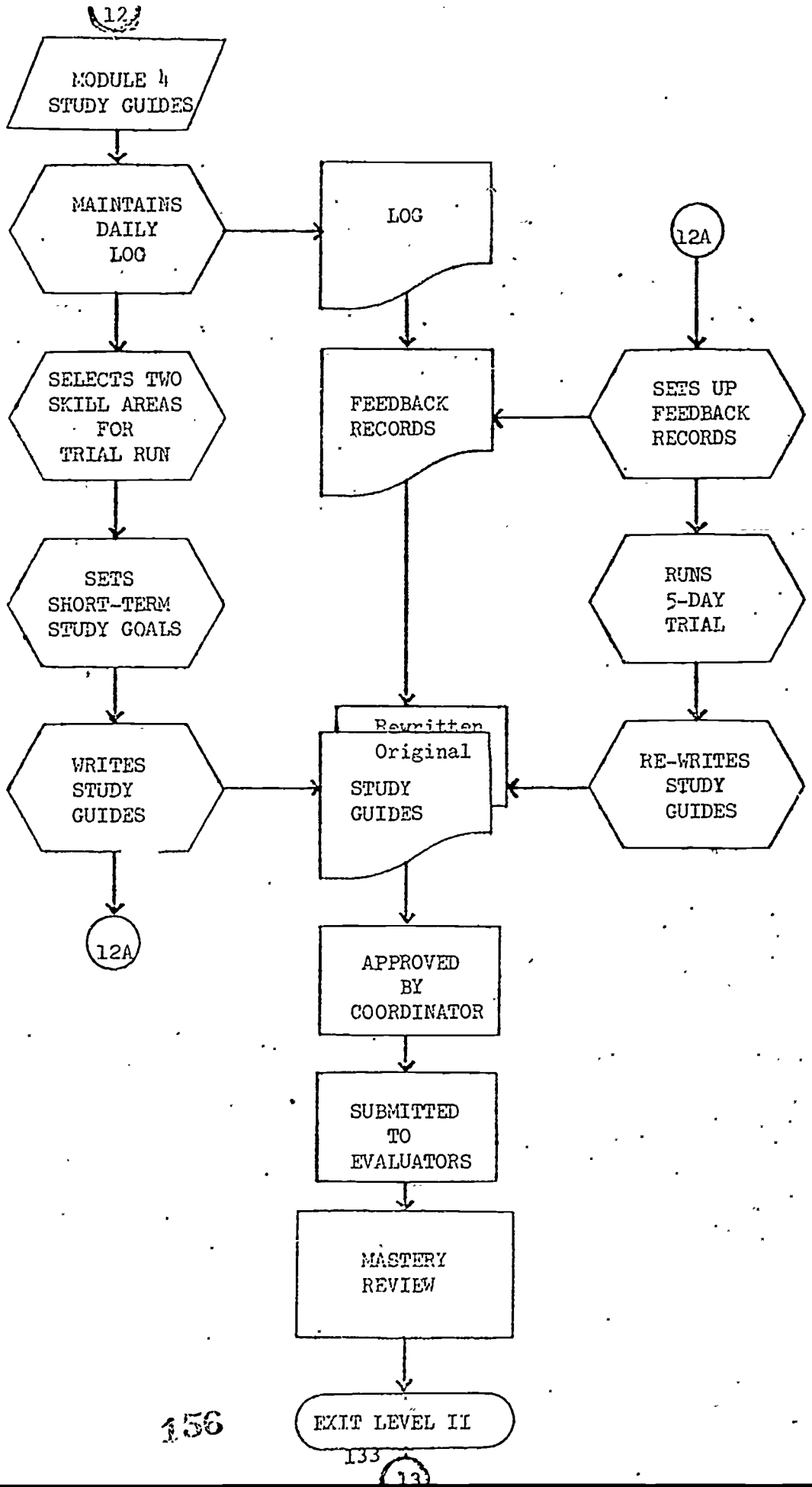
___ b. Discussed with evaluator

EVALUATED BY:

_____ _____

LEVEL II

MODULE 4: STUDY GUIDES


12
MODULE 4
STUDY GUIDES
MAINTAINS
DAILY
LOG
LOG
12A
SELECTS TWO
SKILL AREAS
FOR
TRIAL RUN
FEEDBACK
RECORDS
SEES UP
FEEDBACK
RECORDS
SETS
SHORT-TERM
STUDY GOALS
RUNS
5-DAY
TRIAL
WRITES
STUDY
GUIDES
Rewritten
Original
STUDY
GUIDES
RE-WRITES
STUDY
GUIDES
12A
APPROVED
BY
COORDINATOR
SUBMITTED
TO
EVALUATORS
MASTERY
REVIEW
EXIT LEVEL II
13

Level II

Module 4: Study Guides

The final module is a one week trial run in two skill areas chosen by the student. Using his baseline data, the student sets objectives in two of his skills for a four day period. He decides whether to use a reinforcer to help him complete his work. To meet the module requirements, he must set up and keep feedback records, usually in the form of a graph, to show how well he succeeds in reaching his objectives.

During the trial run the student is constantly evaluating his study program and learns to deal with any problems that may arise. At the end of the period he and his coordinator evaluate his trial run, draw up new study guides, and make needed changes.

For this module the participant is required to complete his study guides, carry out his four day program, enter in his log daily comments pertaining to his program, and write his final Summary Report. At his last Mastery Review he discusses his trial run with the evaluator(s).

After passing the last module, the student designs study guides and develops feedback records for the remaining skill areas he did not practice in Module 4. This completes Level II, and the participant moves into Level III/Independent Study.

PEER INSTRUCTOR'S GUIDE

I. STUDENT: DATE BEGUN:

PEER INSTRUCTOR: DATE COMPLETED:

II. STUDENT MATERIALS NEEDED FOR OE AND SA:

1. Daily Log Book
2. Skills & Resources Form
3. Baseline & Objectives Form
4. Reinforcer Worksheet

III. PEER INSTRUCTOR MATERIALS NEEDED:

1. Copy of PI Guide for this module
2. Copies of Study Guides

IV. ORIENTING EXPERIENCE:

DISCUSS WITH YOUR STUDENT SOME OF THE STUDY GUIDES YOU HAVE MADE. USING YOUR STUDENT'S BASELINE & OBJECTIVES FORM, HELP HIM SELECT THE TWO SKILL AREAS HE WANTS TO BEGIN WORKING ON IN THIS MODULE. EXPLAIN THAT THESE ARE THE SAME STUDY GUIDES HE WILL BE USING FOR HIS WORK IN LEVEL III.

V. SKILL ACQUISITION

The student must learn to:

1. Fill out a Study Guide for two skill areas for five days.

   To do this, the student must:

   a. State Levels of Aspiration for each skill area

   b. Specify study time

   c. Make plans for assistance

   d. Set up appropriate feedback records (these records must be approved by the Coordinator before the student begins his program).

2. Maintain his log

   During the trial run, the log should include, in detail:

   a. Progress made each day

   b. Use of time

   c. Problems, if any, meeting objectives

3. Complete the program outlined in his study guides.

4. Use feedback session with his Coordinator to evaluate his program.

5. Rewrite the study guide for his next period of work.

6. Write a Summary Report

VI. MATERIALS TO BE SUBMITTED BEFORE MASTERY REVIEW:

1. Baseline & Objectives Form for skill areas

2. Log

3. Completed Study Guides for this module

   a. Original

   b. Rewritten

4. Summary Report

STUDY GUIDE

SKILL AREA:

NUMBER OF DAYS:

DATE BEGUN:

DATE OF REVIEW:

---

1. MATERIALS:

2. INTERMEDIATE OBJECTIVES:
(Levels of Aspiration)

For ___ Days

Reinforcer

HIGH: _____

MODERATE: _____

LOW: _____

Not Needed _____

3. STUDY TIME (For ____ Days):

Estimated _____

Actual _____

4. PLANS FOR ASSISTANCE:

5. FEEDBACK RECORDS (attach):

6. PARTICIPANT'S EVALUATION (comments on the progress you have made, your use of time, proposed changes):

7. COORDINATOR'S FEEDBACK:

MASTERY CHECKLIST

I. STUDENT: DATE TURNED IN:

PEER INSTRUCTOR: DATE OF MASTERY REVIEW:

EVALUATORS:

II. STUDENT MATERIALS NEEDED FOR MASTERY REVIEW

1. Notebook
2. Log
3. Summary Report
4. Study Guides
   a. Original
   b. Rewritten

III. EVALUATOR MATERIALS NEEDED:

1. Mastery Checklist
2. Typed copy of Log
3. Letter for Credit at MPC

IV. PRACTICAL APPLICATION:

1. Rewritten Study Guides filled out correctly:

	1	2
a. Skill Area	_____	_____
b. Intermediate objectives identified	_____	_____
c. Reinforcers specified	_____	_____
d. Study time specified	_____	_____
e. Plans for assistance specified	_____	_____
f. Feedback records complete	_____	_____

2. Log

___ a. Up-to-date

b. Trial run described

___ Progress each day

___ Use of time

___ Problems you had meeting objectives

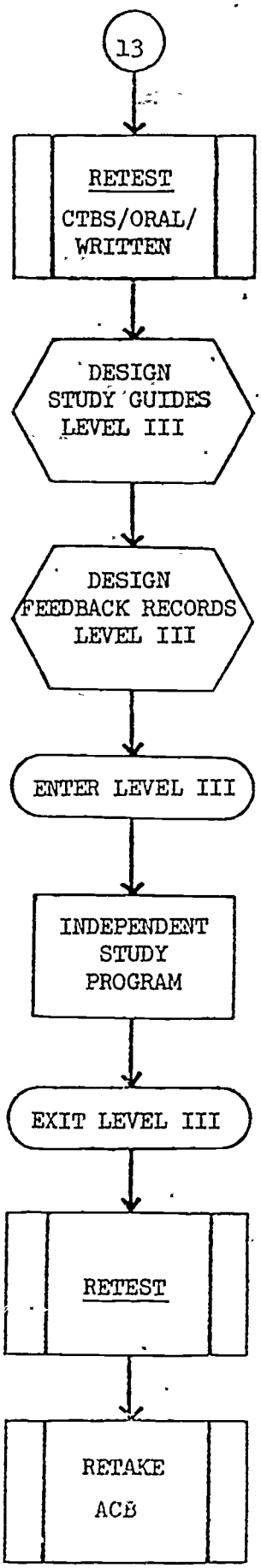
EVALUATED BY:

_____ _____

LEVEL III

INDEPENDENT STUDY

LEVEL III



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Level III

The participant enters a new situation where he has the primary responsibility for his study program. He will select the areas of study based on career and goal interests and will make the final decision about how best to improve these skills.

The project requires that he:

1. Serve as a peer instructor for a Level II student (part-time function)
2. Keep a Level III Daily Activity Checklist
3. Meet with his coordinator to review his study program and alter it if necessary.
4. Supply the staff with whatever records he has that could be used for data purposes.

Some examples of activities that participants have chosen are:

1. Working alone with programmed or guided study materials.
2. Working with a tutor in small groups.
3. Taking courses at the local junior college.
4. Enrolling in a refresher course for a G.E.D.
5. Earning a high school diploma.
6. Getting training for a new military skill.
7. Learning a new sport.
8. Reading (magazines and novels)
9. Learning to play an instrument
10. Learning to read music.

STUDY GUIDE

SKILL AREA: DATE BEGUN:

NUMBER OF DAYS: DATE OF REVIEW:

---

1. MATERIALS:

2. INTERMEDIATE OBJECTIVES: For ___ Days
(Levels of Aspiration)

Reinforcer

HIGH: _____

MODERATE: _____

LOW: _____

Not Needed _____

3. STUDY TIME (For ____ Days):

Estimated _____

Actual _____

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4. PLANS FOR ASSISTANCE:

5. FEEDBACK RECORDS (attach):

6. PARTICIPANT'S EVALUATION (comments on the progress you have made, your use of time, proposed changes):

7. COORDINATOR'S FEEDBACK:

LEVEL III

NAME:

	8				9				10				11				12				13				14				15				16	
	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15	30	45	00	15
M																																		
T																																		
W																																		
Th																																		
F																																		

DATE:

	CODES		MONDAY HR/MIN	TUESDAY HR/MIN	WEDNESDAY HR/MIN	THURSDAY HR/MIN	FRIDAY HR/MIN	WEEKLY TOTAL HR/MIN		
SKILL DEVELOPMENT	(A)	RECORD KEEPING	/	/	/	/	/	/	(A)	
	(B)		/	/	/	/	/	/	(B)	%
	(C)		/	/	/	/	/	/	(C)	%
	(D)		/	/	/	/	/	/	(D)	%
	(E)		/	/	/	/	/	/	(E)	%
	(F)		/	/	/	/	/	/	(F)	%
	(G)		/	/	/	/	/	/	(G)	%
SPORTS	(H)	PEER INSTRUCTION	/	/	/	/	/	/	(H)	
PI	(I)	SPORTS PROGRAM	/	/	/	/	/	/	(I)	
MTGS	(J)	W/COORDINATOR	/	/	/	/	/	/	(J)	
	(K)	W/MATERIALS ADVSR	/	/	/	/	/	/	(K)	
	(L)		/	/	/	/	/	/	(L)	
OTHER	(M)	MEALS	/	/	/	/	/	/	(M)	
	(N)	BREAKS	/	/	/	/	/	/	(N)	
	(O)	MILITARY DUTY	/	/	/	/	/	/	(O)	
	(Q)		/	/	/	/	/	/	(Q)	
		% EFFECTIVENESS	%	%	%	%	%			

LEVEL III

NAME:

DATE:

WEEKLY PROGRESS REPORT

LEVEL I & II

MODULE PROGRESS

_____ Review

_____ Provide feedback

MATH RECORDS

_____ Up-to-date

_____ Review time included

_____ Taken tests for credit

LEVEL II ONLY

LOG

_____ Up-to-date

_____ Contains info. on activities, questions about plans, reactions

_____ Provide feedback

_____ Outside activities

LEVEL III ONLY

_____ Provide assistance in skill areas

_____ Discuss progress for week

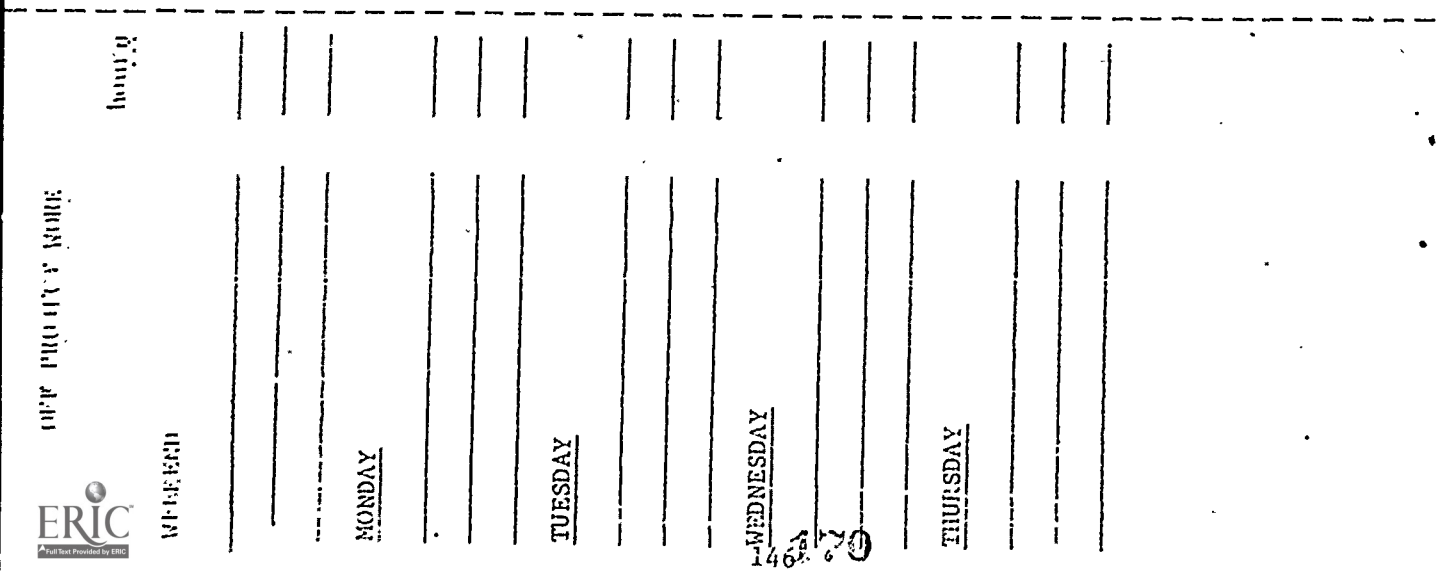
_____ Redesign study program

_____ Discuss new objectives

_____ Check feedback records

PARTICIPANT COMMENTS

COORDINATOR COMMENTS



APPENDIX B

INDIVIDUAL PARTICIPANT SCORES

AND MINI-CASE REPORTS

Participant Code #1

A vacilated between intensive periods of basic skill work and worries about his daughter and his drinking problems. His solution to both of these problems was a study of the Bible, which he pursued daily. Although his work in the project showed improvement and persistence, his drinking began to catch up with him in the form of tickets for drunken driving. After his second offense he was asked to leave the project.

PARTICIPANT CODE #: 1 Time on Project 10 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	7.4	7.4	0.0
READING, Comprehension	5.5	7.3	1.8
READING, TOTAL	6.5	7.4	0.9
LANGUAGE, Mechanics	6.8	6.1	-.7
LANGUAGE, Expression	4.5	6.6	2.1
LANGUAGE, Spelling	6.4	8.0	1.6
LANGUAGE, TOTAL	5.8	6.7	0.9
ARITHMETIC, Computation	9.2	9.3	0.1
ARITHMETIC, Concepts	9.6	8.3	-1.3
ARITHMETIC, Applications	8.11	10.2	1.8
ARITHMETIC, TOTAL	9.2	9.1	-0.1
- - -TOTAL BATTERY	7.1	7.9	0.8
ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	98	109	11
Motor Maintenance (MM)	111	102	-06
Clerical (CL)	90	109	19
Skilled Technical (ST)	92	107	15
General Technical (GT)	80	96	16
WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	94	105	09
Performance IQ	97	106	09
Full Scale IQ	95	106	09

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 1

Time on Project 10 months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Basic Math Course	2	1	2	2	7
Algebra Course	1	2	1	2	6
Bible Reading	1	1	1	2	5
Reading Improvement	2	1	2	2	7
Poem & Essay Writing	1	2	1	2	6
Writing Skills Program	2	2	2	2	8
Spelling Program	2	2	2	2	8
GED Preparation	1	2	1	1	5
Studying Law	1	1	1	2	5
Daily Sports Activity	0	0	0	0	0

Number of Activities 10

Total Activity Score 57

Participant Code #2

U was satisfied with his MOS as a cook and talked about wanting to go to work drilling oil wells after he left the Army. His involvement in the project allowed him to test out his ability and interests in different areas, and he had the knowledge and potential to complete most of the work, but seemed to lack the energy and staying power demanded.

His involvement and interaction with other participants usually found him being the center of many jokes, and because of the attention he could muster, he usually behaved in a reinforcing manner.

At times, he would act stubborn and unyielding, which seemed to allow him some control over uncertain situations.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 2 Time on Project 8 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	5.1	6.5	I.4
READING, Comprehension	4.2	7.0	2.8
READING, TOTAL	4.6	6.7	2.1
LANGUAGE, Mechanics	3.2	5.0	1.8
LANGUAGE, Expression	4.0	4.6	0.6
LANGUAGE, Spelling	5.1	4.0	1.1
LANGUAGE, TOTAL	3.8	4.5	0.7
ARITHMETIC, Computation	4.3	7.3	3.0
ARITHMETIC, Concepts	5.4	7.3	1.9
ARITHMETIC, Applications	6.0	6.6	0.6
ARITHMETIC, TOTAL	4.5	7.1	2.6
- - -TOTAL BATTERY	3.9	6.0	2.1

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	105	92	-13
Motor Maintenance (MM)	107	94	-13
Clerical (CL)	64	85	21
Skilled Technical (ST)	67	92	25
General Technical (GT)	59	94	35

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	88	89	01
Performance IQ	107	107	00
Full Scale IQ	96	96	00

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 2

Time on Project 8 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
GED Preparation Course	2	1	1	1	5
Pleasure Reading	1	1	1	2	5
Reading Improvement	2	1	1	2	6
Reading Program with Staff	1	1	0	1	3
Still Life Painting Course: JC	1	1	0	1	3
Modern Art Course: JC	1	1	0	1	3
Beginning German: JC	1	2	0	1	4
Chess	1	2	1	2	6

Number of Activities 8

Total Activity Score 35

Participant Code #3

D did not have any goals for the future, and the lack of direction was apparent in his participation. Though he was here a full year, it was only for the last couple of months that he worked more than a third of the time on developing his basic skills.

D's primary interests were affirming his masculinity and his relationships with his peers. Much of his time in the project was spent discussing and expressing these orientations with his buddies.

D was a likeable guy and got along well with the other participants. For himself, it seems the project was a convenient place to spend one year of his Army tour.

PARTICIPANT CODE #: 3 Time on Project 12 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	4.7	5.3	0.6
READING, Comprehension	5.2	5.7	0.5
READING, TOTAL	5.0	5.5	0.5
LANGUAGE, Mechanics	5.4	10.0	4.6
LANGUAGE, Expression	4.9	4.2	-0.7
LANGUAGE, Spelling	4.1	4.0	-0.1
LANGUAGE, TOTAL	4.8	5.5	0.7
ARITHMETIC, Computation	7.7	8.2	0.5
ARITHMETIC, Concepts	6.7	7.3	0.6
ARITHMETIC, Applications	8.9	9.2	0.3
ARITHMETIC, TOTAL	7.7	8.3	0.6
- - -TOTAL BATTERY	5.9	6.6	0.7

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	63	92	29
Motor Maintenance (MM)	70	100	30
Clerical (CL)	90	92	02
Skilled Technical (ST)	92	92	00
General Technical (GT)	87	80	-07

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	86	92	06
Performance IQ	100	107	07
Full Scale IQ	91	98	07

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 3

Time on Project 12

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Improving Reading	2	1	1	2	6
Improving Spelling	2	2	2	2	8
GED Preparation Class	1	2	0	1	4
Pleasure Reading	1	1	1	2	5
Basic Math Course	1	1	0	2	4
MOS Correspondence Course	1	0	0	2	3
Sports Activity	0	0	0	0	0
Chess	1	1	1	2	5

Number of Activities 8

Total Activity Score 35

Participant Code #4

The outstanding quality of B was his confusion and need for reassurance from the staff. For much of the time he was here, he wanted some adult to talk to about his troubled past and his present difficulties with peers. Five or six times while he was here he came to work shaking after a sleepless night, and would end up crying.

With emotional needs as strong as this, he did not accomplish as much basic skill work as he otherwise could have.

So B left the project saying he wanted to do a regular Army job. He has since begun an OJT program for a new skill - photography - and has contacted us to thank us for helping him work out his emotional problems. He says he is functioning well in his job, has taken care of some old family problems, and has a few friends. When he came back to visit, we experienced him much less demanding and easier to be with.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 4 Time on Project 8 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	7.6	8.0	0.4
READING, Comprehension	7.0	6.7	-.3
READING, TOTAL	7.3	7.3	0.0
LANGUAGE, Mechanics	8.6	7.2	-.6
LANGUAGE, Expression	5.4	10.0	4.6
LANGUAGE, Spelling	6.4	6.1	-.3
LANGUAGE, TOTAL	6.6	7.6	1.0
ARITHMETIC, Computation	6.8	7.9	1.1
ARITHMETIC, Concepts	9.0	7.3	-1.7
ARITHMETIC, Applications	9.3	9.2	-.1
ARITHMETIC, TOTAL	8.7	8.1	-.6
- - -TOTAL BATTERY	7.5	7.5	0.0

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	84	--	--
Motor Maintenance (MM)	90	--	--
Clerical (CL)	77	--	--
Skilled Technical (ST)	83	--	--
General Technical (GT)	87	--	--

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	90	93	03
Performance IQ	98	101	03
Full Scale IQ	93	96	03

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 4

Time on Project 8 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Reading Improvement	2	1	1	2	6
Basic Math Course	2	2	1	2	7
Algebra Course	1	2	0	2	5
Home Designing	1	2	2	2	7
Writing Essays	1	1	1	2	5
Spelling Improvement	1	1	1	2	5
Pleasure Reading	1	1	1	2	5
Humanities Course: JC	1	0	0	0	1
Sports	0	0	0	0	0
Math Course: JC	1	0	0	0	1

Number of Activities 10

Total Activity Score 42

Participant Code #5

J's involvement in the project for the first seven months was minimal. After having a discussion with the project director about his leaving the project, J contracted a program which was directed toward attaining his GED.

J's need to be involved and interact with other members of the project was apparent. He spent much of his time getting involved in other people's problems and petty squabbles. The usual pattern was to team up with another person to make it seem as though they were both being wronged.

The semi-structured classes, that he attended at the Education Center while studying for his GED, were more satisfying and rewarding than most of the project work J did. Upon completion of the GED course, J decided to postpone taking the GED exam until after attending another six week course at Fort Ord, because he felt that he was not satisfactorily prepared.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 5 Time on Project 10 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	9.4	9.3	-0.1
READING, Comprehension	6.4	11.1	4.7
READING, TOTAL	7.9	10.2	2.3
LANGUAGE, Mechanics	4.5	9.1	4.6
LANGUAGE, Expression	9.2	7.3	-1.9
LANGUAGE, Spelling	3.5	5.4	1.9
LANGUAGE, TOTAL	5.5	6.6	1.1
ARITHMETIC, Computation	5.8	6.9	1.1
ARITHMETIC, Concepts	5.4	6.9	1.5
ARITHMETIC, Applications	6.0	7.2	1.2
ARITHMETIC, TOTAL	5.8	6.9	1.1
- - -TOTAL BATTERY	6.4	7.5	1.1

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	82	95	13
Motor Maintenance (MM)	95	99	04
Clerical (CL)	100	105	05
Skilled Technical (ST)	86	88	02
General Technical (GT)	87	102	15

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	90	96	06
Performance IQ	97	103	06
Full Scale IQ	92	99	07

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 5

Time on Project 10 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
GED Preparation Course	2	2	1	1	6
Reading: Improvement	2	1	2	2	7
Spelling Improvement	2	2	2	2	8
Basic Math Course	1	2	0	2	5
Pleasure Reading	1	1	2	2	6
Chess	1	1	1	2	5

Number of Activities 6

Total Activity Score 37

Participant Code #6

K was an intelligent participant, but something inside held him back. What was troubling him never came out in the few discussions he had with the staff.

What we did see was a man who was very silent, often not answering when someone spoke to him. K spent a great deal of his time reading books and newspapers. He frequently had difficulty getting on with his module work, though when he did it, the work was often of high quality. He and the other participants got on well, and except for his slow pace, he had no conflicts with the staff.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 6 Time on Project 6 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	8.0	9.3	1.3
READING, Comprehension	6.7	7.6	0.9
READING, TOTAL	7.3	8.7	1.4
LANGUAGE, Mechanics	7.3	7.2	-.1
LANGUAGE, Expression	6.8	10.0	3.2
LANGUAGE, Spelling	10.2	13.6	3.5
LANGUAGE, TOTAL	8.3	10.3	2.0
ARITHMETIC, Computation	6.0	9.3	3.3
ARITHMETIC, Concepts	7.1	8.7	1.6
ARITHMETIC, Applications	4.6	7.2	2.6
ARITHMETIC, TOTAL	5.8	8.8	3.0
- - -TOTAL BATTERY	7.1	8.9	1.8

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	86	98	12
Motor Maintenance (MM)	78	90	12
Clerical (CL)	102	103	01
Skilled Technical (ST)	90	101	11
General Technical (GT)	92	92	00

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	95	103	08
Performance IQ	92	96	04
Full Scale IQ	94	100	07

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 6 Time on Project 6 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Basic Math Course	2	1	2	2	7
Readings to Black History	1	1	1	2	5
Study of Racism Course: JC	1	2	0	1	4
Black History Course: JC	1	2	0	1	4
Improving Spelling	2	1	0	2	5
Chess and Sports Activity	0	0	0	0	0

Number of Activities 6

Total Activity Score 25

Participant Code #7

L was an active and hard working participant. He put his time to good use without being distracted by personal problems or other participants.

L had some difficulty in his early work in the project. He found the requirements on him for oral presentations to be a high hurdle. Over several months he steadily improved to where the staff noticed this improvement in his casual conversations as well as his work.

L accomplished the goal of changing his MOS, but the rest of his plans for the future were vague. This situation, while it didn't stop him from working on his basic skills, did diminish his desire to get more education and to achieve as much as he could.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 7 Time on Project 13 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	6.2	6.3	0.1
READING, Comprehension	4.9	2.6	-2.3
READING, TOTAL	5.9	4.4	-1.5
LANGUAGE, Mechanics	4.5	5.3	0.8
LANGUAGE, Expression	4.0	3.8	-0.2
LANGUAGE, Spelling	5.4	7.0	1.6
LANGUAGE, TOTAL	4.6	5.8	1.2
ARITHMETIC, Computation	6.5	7.3	0.8
ARITHMETIC, Concepts	6.1	5.0	-1.1
ARITHMETIC, Applications	7.2	7.7	0.5
ARITHMETIC, TOTAL	6.5	6.8	0.3
- - -TOTAL BATTERY	6.4	6.1	-0.3

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	88	82	-06
Motor Maintenance (MM)	95	94	-01
Clerical (CL)	85	92	-07
Skilled Technical (ST)	70	90	20
General Technical (GT)	75	96	21

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	89	91	2
Performance IQ	77	86	9
Full Scale IQ	83	88	6

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 7

Time on Project 13 months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Mechanic AIT School	2	2	2	0	6
Program Spelling	2	2	2	2	8
Spelling List Study	2	1	1	2	6
Reading Improvement Program	2	2	0	2	6
2nd Reading Improvement Program	1	2	1	2	6
Developing the Reading Habit	2	2	2	2	8
Basic Math Course	2	1	0	2	5
Daily Sports Activity	0	0	0	0	0
Basic Skills Course: JC	1	2	0	1	4
MOS Test Preparation	1	2	2	2	7

Number of Activities 10

Total Activity Score 56

Participant Code #8

P was the brightest of all participants in the project. Although he had an AFQT score of 27, all other test data shows that he was above average in intelligence.

The module activities and material were easy for him to grasp, but time spent on personal reflection and depression sometimes hindered his completion of module work. Other periods of intense concentration produced achievements in module and skill development work.

P planned on a career in teaching; this interest was apparent by his willingness to assist other participants in module, math and algebra work.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 8 Time on Project 9 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	13.5	13.6	19*
READING, Comprehension	12.2	13.6	17
READING, TOTAL	13.0	13.6	21
LANGUAGE, Mechanics	13.6	13.6	*
LANGUAGE, Expression	11.5	13.6	44
LANGUAGE, Spelling	13.6	13.6	09
LANGUAGE, TOTAL	13.6	13.6	08
ARITHMETIC, Computation	11.9	13.6	38
ARITHMETIC, Concepts	13.6	13.6	02
ARITHMETIC, Applications	13.6	13.4	-01
ARITHMETIC, TOTAL	13.6	13.6	08
- - -TOTAL BATTERY	13.5	13.6	17

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	104	111	07
Motor Maintenance (MM)	96	115	19
Clerical (CL)	111	127	16
Skilled Technical (ST)	111	122	11
General Technical (GT)	110	120	10

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	105	109	04
Performance IQ	101	118	17
Full Scale IQ	103	113	10

* Centile Changes: Participant topped G.E. scale

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 8 Time on Project 9 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Typing Program	2	1	2	2	7
Basic Math Course	2	2	2	2	8
Algebra Math Course	2	2	1	2	7
Unit Clerk OJT	2	1	2	1	6
Language Improvement Program	2	2	1	2	7
Pleasure Reading & Chess	1	1	1	2	5
Synectics	1	1	0	1	3
Daily Sports Activity	0	0	0	0	0

Number of Activities 8

Total Activity Score 36

Participant Code #9

J spent one year, one month in Project Abel and accomplished very little. He usually wandered about aimlessly and spent his time chatting with the other participants. He had a constant and overriding concern about these relationships with his peers. J showed little interest in the program learning activities or outside education. When he did, it was sporadic and rarely sustained.

During the second six months of J's stay, his mother tragically died, and J took over the care of his two younger brothers. This absorbed most of his time and the majority of his interest. He demonstrated good sense in caring for his brothers and always acted responsibly towards them.

The length of J's stay was a result of his family difficulties. It was understood he could remain as long as necessary to work out the arrangements for his two brothers. Eventually J got adoption matters straighted out and placed his brothers with their grandmother. He then voluntarily left the program for another Army assignment. As he put it, "Let's stop wasting each other's time."

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 9 Time on Project 13 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	8.0	9.3	1.3
READING, Comprehension	6.1	6.4	0.3
READING, TOTAL	7.1	7.9	0.8
LANGUAGE, Mechanics	5.0	7.2	2.2
LANGUAGE, Expression	7.3	5.0	-2.3
LANGUAGE, Spelling	5.9	7.4	1.5
LANGUAGE, TOTAL	6.0	6.6	0.6
ARITHMETIC, Computation	7.8	7.3	2.5
ARITHMETIC, Concepts	7.1	5.6	-1.5
ARITHMETIC, Applications	6.0	7.3	1.2
ARITHMETIC, TOTAL	5.3	5.4	0.1
- - -TOTAL BATTERY	6.1	6.6	0.5

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	93	--	--
Motor Maintenance (MM)	94	--	--
Clerical (CL)	78	--	--
Skilled Technical (ST)	85	--	--
General Technical (GT)	84	--	--

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	93	94	00
Performance IQ	105	104	-01
Full Scale IQ	98	98	00

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 9

Time on Project 13 months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Daily Sports Activity	0	0	0	0	0
Basic Math Course	1	1	0	2	4
Basic English Course: JC	1	1	0	1	3
Writing Autobiography	1	1	0	2	4
Reading Improvement	2	2	2	2	8

Number of Activities 5

Total Activity Score 19

Participant Code #10

F made some progress during his six months in the program, particularly in basic math. He worked very hard to complete the modules and took pride in this hard work. But his drive ran down during the last couple of months, and he decided to leave.

F found his immediate interests were not those of schooling. He had joined the Army to get away from home and school, and he found for the present what he wanted was to have good times and adventure (a pattern that is similar to his involvement in high school and junior college).

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 10 Time on Project 5 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	6.8	5.6	-1.2
READING, Comprehension	4.5	8.0	3.5
READING, TOTAL	5.7	6.7	1.0
LANGUAGE, Mechanics	4.5	8.4	3.9
LANGUAGE, Expression	4.5	5.0	0.5
LANGUAGE, Spelling	6.8	8.6	1.8
LANGUAGE, TOTAL	5.3	7.2	1.9
ARITHMETIC, Computation	8.3	9.5	1.2
ARITHMETIC, Concepts	6.7	10.3	3.6
ARITHMETIC, Applications	7.2	4.0	-3.2
ARITHMETIC, TOTAL	7.7	8.4	0.7
- - -TOTAL BATTERY	6.3	7.4	0.9

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	92	94	09
Motor Maintenance (MM)	95	86	-09
Clerical (CL)	97	109	12
Skilled Technical (ST)	96	106	10
General Technical (GT)	80	100	20

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	96	94	-02
Performance IQ	97	107	10
Full Scale IQ	96	100	4

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 10 Time on Project 5 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Basic Math Course	2	1	2	2	7
Spelling Improvement	2	1	2	2	7
Beginning Piano Course	2	1	0	1	4
Music Appreciation Course	1	1	0	1	3
Daily Sports Activity	0	0	0	0	0

Number of Activities 5

Total Activity Score 21

Participant Code #11

J volunteered for this project so he could work on improving his basic skills. He was planning on a career in telephone or railroad work and had an MOS as a field wireman.

He got along well with the other participants and the staff, and frequently talked about his satisfaction with being in the Army and having a chance to learn some new things and interact with different people.

This experience was also enlightening in that it was evident that J learned new things about himself and about life away from home.

The staff was consistently impressed with J's efficiency in designing study programs and by the long hours he spent studying.

PARTICIPANT CODE #: 11 Time on Project 10 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	9.7	12.0	2.3
READING, Comprehension	8.9	9.5	0.6
READING, TOTAL	9.3	11.1	1.8
LANGUAGE, Mechanics	13.6	13.6	---
LANGUAGE, Expression	9.9	10.7	0.8
LANGUAGE, Spelling	7.1	6.6	-0.5
LANGUAGE, TOTAL	9.0	9.7	0.2
ARITHMETIC, Computation	4.3	7.6	3.3
ARITHMETIC, Concepts	8.7	8.7	0.0
ARITHMETIC, Applications	7.2	8.8	1.6
ARITHMETIC, TOTAL	7.4	8.1	0.7
- - -TOTAL BATTERY	8.3	9.0	0.7

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	97	78	-19
Motor Maintenance (MM)	94	94	00
Clerical (CL)	95	97	02
Skilled Technical (ST)	94	96	02
General Technical (GT)	94	84	-10

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	92	99	07
Performance IQ	96	106	10
Full Scale IQ	93	102	09

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 11 Time on Project 10 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
ACB Preparation	2	2	2	2	8
Spelling Improvement	2	1	2	2	7
Typing Program	2	1	1	2	6
Reading Improvement	2	2	1	2	5
Swimming	2	1	2	2	7
Pleasure Reading	1	1	1	2	5
Sociology Course	1	2	2	1	6
Basic Math Course	1	2	0	2	5

Number of Activities 8

Total Activity Score 49

Participant Code #12

T entered the project during the planning phase and then volunteered to be one of the first participants to go through the modules. He was the only member of the original group to stay. It was a little difficult for T to accept the structure that came along with the module work, after spending the first year working under a less structured atmosphere.

He considered himself somewhat above the other participants, because of his lengthy participation and rank, but he still had good working relationships with the other participants. He developed a close relationship with the Project NCO and spent much time with him, studying to pass the test for the Advanced Infantry Badge and preparing for his MOS test and going to the NCO Academy.

He registered for classes at MPC, and after attending a few classes felt more positive about going to college and about his ability to master the required material.

T's dramatic success in areas where he expected to fail helped to improve his attitude toward learning.

PARTICIPANT CODE #: 12 Time on Project 12 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	7.4	9.3	1.9
READING, Comprehension	7.0	13.3	6.3
READING, TOTAL	7.2	10.8	3.6
LANGUAGE, Mechanics	6.3	8.4	2.1
LANGUAGE, Expression	6.8	6.1	-0.7
LANGUAGE, Spelling	7.9	13.6	5.7
LANGUAGE, TOTAL	7.0	12.1	5.1
ARITHMETIC, Computation	6.4	10.7	4.3
ARITHMETIC, Concepts	7.5	13.6	6.1
ARITHMETIC, Applications	8.9	10.8	1.9
ARITHMETIC, TOTAL	7.1	12.4	5.3
- - -TOTAL BATTERY	7.0	10.7	3.7

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	81	78	-03
Motor Maintenance (MM)	90	84	-06
Clerical (CL)	100	109	09
Skilled Technical (ST)	--	80	--
General Technical (GT)	80	106	26

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	92	89	-03
Performance IQ	89	102	13
Full Scale IQ	90	94	04

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 12

Time on Project 12 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Pleasure Reading	1	1	1	2	5
GT Improvement Course	2	2	2	0	6
Criminal Law Course: JC	2	2	2	1	7
Ethnic Studies Course: JC	2	2	2	1	7
Basic Math Course	1	1	0	2	4
Advanced Infantry Badge Program	1	2	2	1	6
MOS Study	1	2	2	2	7

Number of Activities 7

Total Activity Score 42

Participant Code #13

D came into the project wanting to be an auto mechanic. After being here a few months, his interests turned to electronics. He enrolled in a correspondence course in electronics, but did not complete any course work, because a request for reassignment came through, and he decided to leave the project.

D's personal problems hampered his work, and he expended much energy deliberating and discussing them with other participants. Two of his problems were marital and drinking, and these created others.

Even with these distractions, he was still able to complete all the modules and the college math course within his six months of participating in the project.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 13 Time on Project 6 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	7.4	6.8	-.6
READING, Comprehension	7.0	8.0	1.0
READING, TOTAL	7.2	7.3	0.1
LANGUAGE, Mechanics	5.9	6.4	0.5
LANGUAGE, Expression	5.4	7.1	1.7
LANGUAGE, Spelling	7.1	8.0	0.9
LANGUAGE, TOTAL	6.1	7.0	0.9
ARITHMETIC, Computation	6.2	8.7	2.5
ARITHMETIC, Concepts	7.1	8.3	1.2
ARITHMETIC, Applications	8.0	9.6	1.6
ARITHMETIC, TOTAL	7.0	8.8	1.8
- - -TOTAL BATTERY	6.9	7.7	0.9

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	105	90	-15
Motor Maintenance (MM)	107	103	-04
Clerical (CL)	102	93	-09
Skilled Technical (ST)	91	80	-09
General Technical (GT)	90	92	02

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	87	88	01
Performance IQ	90	97	07
Full Scale IQ	87	91	04

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 13 Time on Project 6 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Basic Math Course	2	1	1	2	6
Algebra Course	2	2	0	2	6
Studying for GED	1	1	0	2	4
Spelling Improvement	1	1	0	2	4
Chess and Pleasure Reading	1	1	1	2	5
Daily Sports Activity	0	0	0	0	0

Number of Activities 6

Total Activity Score 25

Participant Code #14

E was constantly a marginal participant in the project. He had difficulties with writing, oral communication and concentration that the staff was never able to help him with. He was almost dropped from the project twice, but both times the staff decided to try different approaches to working with him rather than asking him to leave. He was not able to function in the peer instructional system without staff help, and was only a peer instructor for a short time. His personal habits, particularly his hygiene and social mannerisms caused him isolation from his peers.

Except for some minor improvement in writing and spelling, we observed no changes in his behavior.

PARTICIPANT CODE #: 14 Time on Project 10 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	7.4	8.3	0.9
READING, Comprehension	6.1	5.5	-0.6
READING, TOTAL	6.8	7.0	0.2
LANGUAGE, Mechanics	5.0	7.8	2.8
LANGUAGE, Expression	6.8	6.8	0.0
LANGUAGE, Spelling	5.1	9.8	4.7
LANGUAGE, TOTAL	5.5	8.3	1.8
ARITHMETIC, Computation	12.7	11.9	-0.8
ARITHMETIC, Concepts	7.1	8.7	1.6
ARITHMETIC, Applications	8.4	9.3	0.9
ARITHMETIC, TOTAL	9.3	9.8	0.5
- - -TOTAL BATTERY	7.3	8.4	0.9

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	98	74	-24
Motor Maintenance (MM)	94	89	-05
Clerical (CL)	87	87	00
Skilled Technical (ST)	103	83	-20
General Technical (GT)	91	90	-01

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	83	92	09
Performance IQ	87	86	-01
Full Scale IQ	84	89	05

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 14 Time on Project 10 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Reading Improvement	2	2	1	2	7
Spelling Improvement	2	2	1	2	7
Pleasure Reading	1	1	1	2	5
Synectics Study Group	1	2	0	1	4
Daily Sports Activity	0	0	0	0	0
Basic Math Course	2	1	1	2	6

Number of Activities 6

Total Activity Score 29

Participant Code #15

B was one of the first participants to try out the modules; from the beginning he took an active interest in working with the staff to solve design problems. In Level III he served in staff roles as a coordinator and evaluator.

There were two main skill areas that B was interested in developing - written expression and reading music. He accomplished a great deal in both of these areas.

He openly expressed a general change in self-confidence because of his learning to read music and his success in a junior college English course.

Another aspect that changed in B was his outlook on how to negotiate his way through life. During his stay in the project, B initiated and pursued a re-examination of his perspectives. When he first entered the program, B's inclinations were to be opportunistic and uninvolved.

This lengthy self-examination resulted in some changes he made. At the time he left the program, B was considered one of the most responsible participants by both the military and civilian staffs. Furthermore, B looked upon himself as someone who could and would pursue personal goals and was confident of his ability to deal with the institution and individuals necessary to achieve his goals.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 15 Time on Project 14 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	7.4	8.6	1.2
READING, Comprehension	7.0	11.1	4.1
READING, TOTAL	7.2	9.7	2.5
LANGUAGE, Mechanics	6.8	13.6	6.8
LANGUAGE, Expression	5.8	8.6	2.8
LANGUAGE, Spelling	6.8	5.4	-1.4
LANGUAGE, TOTAL	6.4	8.1	1.7
ARITHMETIC, Computation	4.8	6.8	2.0
ARITHMETIC, Concepts	7.1	9.3	2.2
ARITHMETIC, Applications	9.7	9.3	-0.4
ARITHMETIC, TOTAL	6.4	8.1	1.7
- - -TOTAL BATTERY	6.6	8.4	1.8

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	111	92	-19
Motor Maintenance (MM)	98	98	00
Clerical (CL)	107	100	-07
Skilled Technical (ST)	--	98	--
General Technical (GT)	82	84	02

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	89	90	01
Performance IQ	97	99	02
Full Scale IQ	93	93	00

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 15

Time on Project 14 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Reading Improvement	2	2	2	2	8
Electric Bass Practice	1	1	1	2	5
Learning to Read Music					
Vol. 1 of Method	2	2	2	2	8
Vol. 2 of Method	1	2	1	2	6
Basic English Class: JC	2	2	2	2	8
Composition Class: JC	1	2	1	1	5
Chess and Pleasure Reading	1	1	1	2	5
Basic Math Course	1	2	0	2	5
Sports	0	0	0	0	0
Synectics Study Group	1	1	1	1	4

Number of Activities 10

Total Activity Score 54

Participant Code #16

J was a hard worker who preferred a quiet spot to himself to concentrate on his studies. He worked most of the day at his desk. To relieve this isolation, J relished debate. An opportunity to contest opinions was sure to get involvement.

In the year he spent at Project Abel, J completed a great deal of work all on his own, including four school courses. His desire to work frequently clashed with project requirements, to which he often objected. He would point out his purpose was to work and nothing should be allowed to interfere - a tough point to rebut. During the last half of the program, J remained entirely on his own, working with very little involvement with the staff.

J got along with the other participants, though most of the time he did "his own thing". J did develop close ties with another participant and spent alot of time with him in amicable argument. It is the staff's impression that these kinds of discussion served an educational purpose that can't be measured. For J it was an extra advantage due to his Virgin Islands' dialect.

PARTICIPANT CODE #: 16 Time on Project 13 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	5.8	9.3	3.5
READING, Comprehension	6.1	7.6	1.5
READING, TOTAL	6.7	8.7	2.0
LANGUAGE, Mechanics	5.4	3.8	-1.6
LANGUAGE, Expression	4.5	4.6	0.1
LANGUAGE, Spelling	6.4	3.6	-1.8
LANGUAGE, TOTAL	5.4	3.9	-1.5
ARITHMETIC, Computation	7.2	13.6	6.4
ARITHMETIC, Concepts	8.4	10.3	1.9
ARITHMETIC, Applications	10.9	12.4	1.5
ARITHMETIC, TOTAL	8.3	12.8	3.5
- - -TOTAL BATTERY	6.9	8.1	1.2

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	73	111	38
Motor Maintenance (MM)	75	102	27
Clerical (CL)	101	123	22
Skilled Technical (ST)	--	107	--
General Technical (GT)	98	116	18

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	87	96	09
Performance IQ	92	94	02
Full Scale IQ	89	95	07

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 16

Time on Project 13 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Electronics Correspondence Course	2	2	1	2	7
Basic Math Course	1	2	2	2	7
Beginning Piano Course: JC	1	1	2	0	4
Electronics Course: JC	1	2	2	1	6
GT Improvement Course	1	1	2	1	5
Reading Improvement	1	1	1	2	5
Synectics Study Groups	1	2	1	1	5
Algebra Course	1	2	0	2	5
Chess	1	1	1	2	5

Number of Activities 9

Total Activity Score 49

Participant Code #17

The first things anyone noticed about R were his severe stammer and his apparent unsureness about himself. This hesitancy extended to R's educational and career goals, though when he left, R had brought into focus one short-range target - wanting to become a clerk for the remainder of his service time.

R was highly motivated towards the work in Project Abel, though he had episodes where he experienced difficulty working. On these occasions, R would slack off from his normal efficiency, and about one-half of his time taking long breaks, reading newspapers, and chatting with the staff and participants.

R spent his time working to improve his basic skills which were already at a better than average level when he entered. He succeeded in improving. R attempted two junior college courses, which he dropped, even though he was capable of doing the work. Unfortunately he wasn't able to overcome his difficulties with getting organized and staying motivated in a classroom situation.

In contrast to his manner, R had strong opinions about fairness and making situations sensible and sensitive to both himself and other individuals. He expressed himself on these points, even though the attention he got made him very uncomfortable. By expressing his concerns, R contributed to alot of useful changes in the program and made it much easier for the other participants to do the same. R did increase his self-assertiveness while here, and the other men in the project responded by respecting him and being his friend.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 17 Time on Project 12 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	10.0	12.0	2.0
READING, Comprehension	10.3	11.1	0.8
READING, TOTAL	10.2	11.4	1.2
LANGUAGE, Mechanics	8.6	11.2	2.6
LANGUAGE, Expression	7.3	9.5	2.2
LANGUAGE, Spelling	10.2	11.1	0.9
LANGUAGE, TOTAL	8.9	10.6	1.7
ARITHMETIC, Computation	8.9	13.6	4.7
ARITHMETIC, Concepts	10.5	13.6	3.1
ARITHMETIC, Applications	9.3	10.2	0.9
ARITHMETIC, TOTAL	9.4	13.3	3.9
TOTAL BATTERY	9.4	11.5	2.1

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	98	102	04
Motor Maintenance (MM)	88	95	07
Clerical (CL)	115	109	06
Skilled Technical (ST)	--	100	--
General Technical (GT)	97	100	03

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	89	98	09
Performance IQ	87	100	13
Full Scale IQ	87	99	12

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 17

Time on Project 12 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Speech Class: JC	1	2	0	1	4
Sociology Class: JC	1	1	0	1	3
Basic Math Course	2	2	2	2	8
Daily Sports Activity	2	2	1	1	6
Synectics Study Group	1	2	1	1	5
Reading Improvement	2	2	2	2	8
Writing Improvement	1	2	0	2	5
Pleasure Reading	1	1	1	2	5

Number of Activities 8

Total Activity Score 44

Participant Code #18

C was one of the first participants to go through the modules, and took an active part in the revisions of the curriculum format.

His unusual ability to control social situations was contrasted dramatically by his difficulties with reading and test taking. His main goal in the project was to obtain a high school diploma. He had dropped out of high school to support his mother and brothers and sisters. After two semesters of working at the project during the day and attending night school four nights a week, he hearned his diploma.

Since C had only a few months left in the Army, he continued in the project after he received his diploma. His plans were to work on reading and algebra, but he got very involved in Oriental poetry and karate, and spent only a little time with algebra or his specific reading problems.

PARTICIPANT CODE #: 18 Time on Project 15 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	5.3	8.3	2.9
READING, Comprehension	3.3	5.7	2.4
READING, TOTAL	4.2	7.1	2.9
LANGUAGE, Mechanics	5.9	5.3	-.6
LANGUAGE, Expression	6.4	7.1	0.7
LANGUAGE, Spelling	4.7	7.4	2.7
LANGUAGE, TOTAL	5.5	6.4	0.9
ARITHMETIC, Computation	5.6	8.1	2.5
ARITHMETIC, Concepts	8.0	9.5	0.5
ARITHMETIC, Applications	4.6	5.3	0.9
ARITHMETIC, TOTAL	5.8	8.1	1.3
- - -TOTAL BATTERY	5.0	7.2	2.2

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	77	109	32
Motor Maintenance (MM)	74	96	22
Clerical (CL)	81	102	21
Skilled Technical (ST)	--	98	--
General Technical (GT)	78	102	24

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	92	90	-02
Performance IQ	76	85	09
Full Scale IQ	84	87	03

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 18 Time on Project 15 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
U.S. History Course: High School					
1st Semester	1	2	2	1	6
2nd Semester	1	2	2	1	6
Basic Math Course	1	2	2	2	7
GED Preparation	1	2	2	2	7
Pleasure Reading	1	2	1	2	6
Algebra Course	1	0	0	2	3
Synectics Study Group	1	2	1	1	5
Discussion Groups	1	1	0	2	4
Daily Sports Activity	0	0	0	0	0

Number of Activities 9

Total Activity Score 44

Participant Code #19

S was clearly the participant who worked the hardest and achieved the most while he was in the project. Although the staff had recommended he put off beginning college, he started as soon as he could. By using tape recorders and spending long hours studying, he was successful.

Throughout his time in the project, he was either studying or playing tennis. He had little interest in the other activities that participants engaged in outside of the project, but becuase of his friendliness and physical strength, he maintained the respect of the participants.

He was a great help to the staff, filling in as a peer instructor and serving as an evaluator.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 19 Time on Project 15 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	6.5	9.3	2.8
READING, Comprehension	6.7	8.0	1.3
READING, TOTAL	6.7	8.8	2.1
LANGUAGE, Mechanics	5.9	10.0	4.1
LANGUAGE, Expression	6.4	8.9	2.5
LANGUAGE, Spelling	7.9	9.2	1.3
LANGUAGE, TOTAL	6.7	8.7	2.0
ARITHMETIC, Computation	8.3	10.2	1.9
ARITHMETIC, Concepts	9.6	9.0	-0.6
ARITHMETIC, Applications	7.8	9.2	1.4
ARITHMETIC, TOTAL	8.6	9.4	0.8
- - -TOTAL BATTERY	7.3	9.1	1.8

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	98	101	03
Motor Maintenance (MM)	99	106	07
Clerical (CL)	77	107	29
Skilled Technical (ST)	95	112	17
General Technical (GT)	82	96	06

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	94	100	06
Performance IQ	84	96	12
Full Scale IQ	89	98	09

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 19 Time on Project 15 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Electronics Correspondence Course	1	2	0	2	5
Drama Appreciation Course: JC	1	2	2	1	6
U. S. History Course: JC	1	2	2	1	6
Basic Math Course	2	2	2	2	8
Music Appreciation Course: JC	1	2	2	1	6
Beginning Tennis Course: JC	1	1	2	1	5
2nd U. S. History Course: JC	2	2	2	1	7
Intermediate Tennis: JC	1	1	2	1	5
Psychology Course: JC	2	2	2	1	7
2nd Basic Math Course	2	2	2	2	8
Typing Course: JC	2	2	2	1	7
2nd Electronics Course: JC	1	2	2	1	6
Geology Course: JC	2	2	2	1	7
Advanced Tennis Course: JC	2	2	2	1	7
Pleasure Reading	1	1	1	2	7
Reading Improvement	2	2	2	2	8
Vocabulary Study	1	2	1	2	6
Synectics Study Group	1	1	1	1	4
GT & MOS Test Preparation	1	2	1	2	6
Sports	0	0	0	0	0

Number of Activities 20

Total Activity Score 117

Participant Code #20

J came into the project so he could improve the skills he would need to be a telephone worker. He worked very hard in the early part of the project.

He decided to try and get his high school diploma and took a course in preparation for this. His continual refusal to work with some basic multiplication and addition problems, however, made it impossible for him to take the GED exam before he left the project.

After J completed the module work, he realized he would soon be transferred and lost most of his interest in studying. For the last few weeks he was almost totally occupied with the problems of buying a new car.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 20 Time on Project 6 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	8.6	8.7	0.1
READING, Comprehension	7.0	5.7	-1.3
READING, TOTAL	7.8	7.3	-0.5
LANGUAGE, Mechanics	4.1	7.2	3.1
LANGUAGE, Expression	6.8	6.6	-0.2
LANGUAGE, Spelling	6.4	6.6	0.2
LANGUAGE, TOTAL	5.7	6.7	1.0
ARITHMETIC, Computation	2.9	3.5	0.6
ARITHMETIC, Concepts	3.1	3.2	0.1
ARITHMETIC, Applications	3.3	7.2	3.9
ARITHMETIC, TOTAL	2.4	4.4	2.0
- - -TOTAL BATTERY	5.2	6.1	0.9

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	100	72	-28
Motor Maintenance (MM)	80	90	10
Clerical (CL)	92	79	-13
Skilled Technical (ST)	70	67	-03
General Technical (GT)	75	66	-09

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	87	90	03
Performance IQ	77	85	08
Full Scale IQ	82	87	05

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 20 Time on Project 6 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
GED Preparation Class	1	1	1	1	4
Music Appreciation Course: JC	1	2	0	0	3
Beginning Piano Course: JC	1	2	0	0	3
Basic Math Course	1	2	0	2	5
Improving Spelling	1	1	0	2	4
Daily Sports Activity	0	0	0	0	0

Number of Activities 6

Total Activity Score 19

Participant Code #21

F came into the project wanting to work on basic skills and changing his MOS to electronics. After doing some research, he found he could not change his MOS unless he was an E-5. He decided he would try electronics as a vocational goal, rather than sticking to an Army career.

He considered his past accomplishments in school to be poor, but now with a definite interest in electronics, he worked in skill areas that would help him achieve his goal. Of all the activities F engaged in, none interested him more than an electronics course at the local junior college.

Upon leaving the project F was reassigned to Korea, and since has completed a college course in Math for Electronics and is currently attending courses in broadcasting and advanced electronics.

F was a very easy going person and did not have overriding personal concerns that interferred with project activities. He got along very well with all participants and staff and worked diligently in the developmental activities he was engaged in.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 21 Time on Project 10 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	10.3	10.7	.4
READING, Comprehension	8.9	8.4	- .5
READING, TOTAL	9.6	9.7	.1
LANGUAGE, Mechanics	7.3	11.2	3.9
LANGUAGE, Expression	6.8	11.6	4.8
LANGUAGE, Spelling	6.8	6.1	- .7
LANGUAGE, TOTAL	6.9	9.2	2.3
ARITHMETIC, Computation	8.7	12.1	3.4
ARITHMETIC, Concepts	10.0	9.9	.1
ARITHMETIC, Applications	7.2	7.7	.5
ARITHMETIC, TOTAL	8.9	9.7	.8
- - -TOTAL BATTERY	8.4	9.5	1.1

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	105	113	9
Motor Maintenance (MM)	108	119	11
Clerical (CL)	102	102	00
Skilled Technical (ST)	96	96	00
General Technical (GT)	96	90	06

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	89	91	2
Performance IQ	110	111	1
Full Scale IQ	98	99	1

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 21

Time on Project 10 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Reading Improvement	2	1	2	2	7
Electronics Course: JC	2	2	2	2	8
Basic Math Course	1	1	2	2	6
Synectics Study Group	1	2	1	1	5
Pleasure Reading	1	1	1	2	5

Number of Activities 5

Total Activity Score 31

Participant Code #22

D spent eighteen months in the project and worked very diligently in a number of self-developmental activities. He also became an Assistant Staff Coordinator and evaluator. He was dependable and impartial in his dealing with other participants, and this made him a good choice to serve as an assistant staff member.

D had a drinking problem for which he was arrested three times. He spent alot of time recalling past incidents in which he got into fights or observed violent conflicts between other people. The staff occasionally learned of D's involvement in altercations, and there was a consistent pattern of these incidents occurring after he had been drinking heavily.

D had a clean Army record, and the only reflection of his personal problems, while on the job, was time off for court appearances and his boasting about his violent experiences.

PARTICIPANT CODE #: 22 Time on Project 18 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	9.2	12.0	2.8
READING, Comprehension	8.2	12.5	4.3
READING, TOTAL	8.7	12.2	3.5
LANGUAGE, Mechanics	8.6	9.1	0.5
LANGUAGE, Expression	7.8	10.7	2.9
LANGUAGE, Spelling	10.2	9.2	1.0
LANGUAGE, TOTAL	8.1	9.9	1.8
ARITHMETIC, Computation	6.8	8.4	1.6
ARITHMETIC, Concepts	7.5	8.3	0.8
ARITHMETIC, Applications	6.7	6.6	0.1
ARITHMETIC, TOTAL	6.9	8.0	1.1
- - -TOTAL BATTERY	7.6	9.3	1.7

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	84	86	-02
Motor Maintenance (MM)	82	80	-02
Clerical (CL)	110	100	-10
Skilled Technical (ST)	--	92	--
General Technical (GT)	95	96	01

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	89	99	10
Performance IQ	94	115	21
Full Scale IQ	90	106	16

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 22 Time on Project 18 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Police Investigation Correspondence Course	1	2	1	2	6
Pleasure Reading	2	2	1	2	7
Assistant Staff Member	1	1	1	1	4
Firearms Course: JC	1	1	2	1	5
Indian Experience Course: JC	1	2	0	1	4
Criminal Psychology Course: JC	2	2	2	1	7
Patrol Procedure Course: JC	2	1	2	1	6
GED Preparation Class	1	2	2	1	6
GED Self-Study	2	2	2	2	8
Basic Math Course	2	2	1	2	7
Reading Police Novels and History	1	1	2	2	6
Daily Sports Activity	0	0	0	0	0

Number of Activities 12

Total Activity Score 66

Participant Code #23

J took full advantage of the project to make up for some deficits in his education. With the exception of the time when he was getting married, his full attention and efforts have been directed towards improving his basic skills. For some reason his progress doesn't show up on the test batteries. This points up an enigma about J. He doesn't always seem to gain as much as he should from what he learns.

Around the project J has been very easy to work with. He has been willing and eager to seek aid from staff members with his work. At times, we have encouraged him to work more on his own when it was clearly within his capability, which he did.

J got along fine with the other participants and was the one man who chose to stay on after the termination of the project operation. He is doing this, so he can finish his course work and get more tutoring from the staff.

PSYCHOMETRIC EVALUATION FORM

PARTICIPANT CODE #: 23 Time on Project 9 Months

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	6.5	7.4	0.9
READING, Comprehension	6.1	5.1	-1.0
READING, TOTAL	6.4	6.4	0.0
LANGUAGE, Mechanics	6.8	5.3	-1.5
LANGUAGE, Expression	3.6	6.1	2.5
LANGUAGE, Spelling	5.4	5.1	-0.3
LANGUAGE, TOTAL	5.3	5.3	0.0
ARITHMETIC, Computation	5.3	5.3	0.0
ARITHMETIC, Concepts	6.1	5.6	-0.5
ARITHMETIC, Applications	5.4	6.6	1.2
ARITHMETIC, TOTAL	5.2	5.2	0.0
- - -TOTAL BATTERY	5.4	5.5	0.1

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	90	95	05
Motor Maintenance (MM)	113	100	-13
Clerical (CL)	56	82	26
Skilled Technical (ST)	70	103	23
General Technical (GT)	62	87	15

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	91	--	--
Performance IQ	86	--	--
Full Scale IQ	88	--	--

2384

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 23

Time on Project 6 months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Basic English Skills Course	2	2	1	1	6
Learning Multiplication Tables	1	2	2	2	7
Learning Addition & Subtraction	1	2	2	2	7
Basic Math Course	2	2	2	2	8
Reading Improvement	2	2	2	2	8
Phonics Study	1	2	0	2	5
MOS Correspondence Course	1	1	1	2	5
Daily Sports Activity	0	0	0	0	0

Number of Activities 8

Total Activity Score 46

238 B

Participant Code #24

B was eager to make up for lost ground. He was born and raised in the Philippines and attended elementary and high school on the islands. From the beginning he admitted that he did not learn much in the Philippines because of a poor attitude. Now with a positive attitude he was ready to work on improving his basic skills.

He had a pronounced language problem, both verbal and written, but was able to pass the entrance requirements for the project. After B entered the project, the staff debated as to his ability to learn and communicate module material. But as B continued his participation, it was evident that his ability to communicate improved.

Toward the end of B's participation conflicts with his parents over his proposed marriage caused a decrease in interest and participation. He left the project after completing Level II to join his wife, a WAC, at another military installation.

PARTICIPANT CODE #: 24 Time on Project 8 Months

PSYCHOMETRIC EVALUATION FORM

COMPREHENSIVE TEST OF BASIC SKILLS (CTBS)	PRE (GRADE EQUIV.)	POST (GRADE EQUIV.)	CHANGE
READING, Vocabulary	6.5	6.5	0.0
READING, Comprehension	4.9	4.1	-0.8
READING, TOTAL	5.7	5.3	-0.4
LANGUAGE, Mechanics	5.9	6.8	0.9
LANGUAGE, Expression	3.2	3.1	-0.1
LANGUAGE, Spelling	7.1	6.6	-0.5
LANGUAGE, TOTAL	5.4	5.4	0.0
ARITHMETIC, Computation	6.0	8.2	2.2
ARITHMETIC, Concepts	7.5	7.3	-0.2
ARITHMETIC, Applications	3.3	7.2	3.9
ARITHMETIC, TOTAL	5.6	7.9	2.3
- - -TOTAL BATTERY	5.5	6.3	0.8

ARMY CLASSIFICATION BATTERY (ACB)	PRE (STANDARD SCORE)	POST (STANDARD SCORE)	CHANGE
Electronics Repair (EL)	82	88	06
Motor Maintenance (MM)	85	93	08
Clerical (CL)	82	96	14
Skilled Technical (ST)	--	67	--
General Technical (GT)	58	59	01

WECHSLER ADULT INTELLIGENCE SCALE (WAIS)	PRE (IQ)	POST (IQ)	
Verbal IQ	78	80	02
Performance IQ	94	102	08
Full Scale IQ	84	89	05

PARTICIPANT ACTIVITY EVALUATION FORM

Participant Code # 24

Time on Project 8 Months

Activity	Relevance	Difficulty	Goal Attainment	Self-Regulatory	Sum
Reading Improvement	1	2	0	2	5
Basic Math Course	1	2	1	2	6
Daily Sports Activity	0	0	0	0	0
Typing Program	1	1	0	2	4
Synectics Study Group	1	2	0	1	4
Pleasure Reading	1	1	0	2	4

Number of Activities 6

Total Activity Score 23

APPENDIX C

CORRELATION MATRIX

Appendix C

CORRELATION MATRIX

Variable	
1	Reading Vocabulary
2	Reading Vocabulary Change
3	Reading Comprehension
4	Reading Comprehension Change
5	Language Total
6	Language Total Change
7	Arithmetic Computation
8	Arithmetic Computation Change
9	Total Battery
10	Total Battery Change
11	WAIS Verbal
12	WAIS Verbal Change
13	WAIS Performance
14	WAIS Performance Change
15	WAIS Full Scale
16	WAIS Full Scale Change
17	ACB-GT
18	ACB-GT Change
19	Time on Project
20	Number of Activities
21	Activity Total Score
22	Activity/Time
23	Arithmetic Total
24	Arithmetic Total Change
25	AFQT

Appendix C

CORRELATION MATRIX

Upper Number is r
Lower Number is n

	.050	.025	.010	.005
For n=23, d.f=21	.352	.413	.482	.526
n=22, d.f=20	.360	.423	.492	.537
n=24, d.f=22	.344	.404	.472	.515

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
2	-0.06 23																								
3	0.80 23	0.21 23																							
4	-0.01 23	0.23 23	-0.02 23																						
5	0.68 23	0.38 23	0.82 23	0.13 23																					
6	0.29 23	-0.05 23	0.24 23	0.46 23	0.32 23																				
7	0.22 23	-0.04 23	-0.08 23	-0.10 23	-0.04 23	0.20 23																			
8	0.04 23	0.55 23	0.33 23	0.27 23	0.39 23	0.00 23	-0.16 23																		
9	0.70 23	0.18 23	0.82 23	-0.00 23	0.79 23	0.29 23	0.47 23	0.29 23																	
10	0.01 23	0.49 23	0.13 23	0.72 23	0.30 23	0.61 23	-0.07 23	0.52 23	0.06 23																
11	0.04 23	0.14 23	0.03 23	0.36 23	0.28 23	0.31 23	-0.03 23	0.09 23	-0.14 23	-0.22 23															
12	0.35 22	0.31 22	0.40 22	-0.14 22	0.36 22	-0.29 22	0.33 22	-0.01 22	0.46 22	-0.11 22	-0.06 23														
13	0.14 23	-0.16 23	0.12 23	0.24 23	-0.01 23	-0.04 23	0.13 23	0.18 23	0.07 23	0.01 23	0.15 24	0.01 23													
14	0.09 22	0.21 22	0.23 22	0.32 22	0.42 22	0.31 22	-0.11 22	0.01 22	0.26 22	0.29 22	0.38 23	0.16 23	-0.28 23												
15	0.14 23	-0.10 23	-0.13 23	-0.34 23	0.15 23	0.14 23	0.08 23	0.15 23	0.15 23	0.05 23	0.46 24	0.08 23	0.82 24	0.04 23											
16	0.29 22	0.33 22	0.41 22	0.09 22	0.52 22	-0.02 22	0.17 22	0.01 22	0.50 22	0.07 22	0.21 23	0.74 23	0.19 23	0.77 23	0.10 23										
17	0.55 23	0.29 23	0.63 23	0.12 23	0.62 23	0.13 23	0.40 23	0.34 23	0.79 23	0.09 23	0.40 24	0.45 23	0.19 24	0.23 23	0.36 24	0.47 23									
18	-0.44 23	0.01 23	-0.53 23	0.34 23	-0.54 23	0.13 23	-0.17 23	0.12 23	-0.51 23	0.33 23	0.19 24	-0.39 23	-0.13 24	0.00 23	-0.03 24	-0.27 23	-0.42 24								
19	-0.03 23	0.68 23	0.11 23	0.31 23	0.19 23	0.12 23	0.18 23	0.20 23	0.23 23	0.31 23	-0.01 24	0.21 23	-0.10 24	0.28 23	-0.12 24	0.29 23	0.24 24	-0.04 24							
20	-0.25 23	0.50 23	0.03 23	0.09 23	0.12 23	0.03 23	0.05 23	-0.05 23	0.14 23	0.12 23	0.15 24	0.25 23	-0.30 24	0.37 23	-0.12 24	0.38 23	0.01 24	0.00 24	0.57 24						
21	-0.13 23	0.53 23	0.13 23	0.16 23	0.19 23	0.09 23	0.10 23	0.01 23	0.26 23	0.17 23	0.18 24	0.30 23	-0.26 24	0.38 23	-0.10 24	0.42 23	0.05 24	0.03 24	0.61 24	0.96 24					
22	-0.28 23	-0.18 23	-0.11 23	-0.22 23	-0.08 23	-0.15 23	-0.22 23	-0.30 23	-0.16 23	-0.24 23	0.18 24	0.01 23	-0.27 24	0.14 23	-0.02 24	0.11 23	-0.30 24	0.08 24	-0.47 24	0.43 24	0.33 24				
23	0.22 23	0.12 23	0.33 23	0.03 23	0.31 23	0.17 23	0.78 23	0.12 23	0.75 23	0.01 23	0.06 23	0.36 22	0.15 23	0.08 22	0.18 23	0.32 22	0.59 23	0.24 23	0.26 23	0.23 23	0.35 23	-0.07 23			
24	-0.01 23	0.35 23	0.20 23	0.41 23	0.24 23	0.33 23	-0.20 23	0.73 23	0.06 23	0.77 23	-0.08 23	-0.03 22	-0.08 23	0.17 22	-0.18 23	0.07 22	0.06 23	0.28 23	0.03 23	-0.16 23	-0.12 23	-0.24 23	-0.11 23		
25	0.43 22	0.58 22	0.57 22	0.08 22	0.65 22	0.13 22	0.17 22	0.61 22	0.61 22	0.34 22	0.01 23	0.29 22	0.03 23	0.20 22	0.04 23	0.36 22	0.75 23	-0.41 23	0.39 23	-0.12 23	0.10 23	-0.36 23	0.33 22	0.38 22	