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DETERMINING ULTIMATE PROFICIENCY LEVELS

ATTAINABLE BY LOW-ABILITY MILITARY PERSONNEL

Basic Research Project 21

July 1974

Final Report
HumRRO FR-WD(C)-74-2

Prepared for the

U.S. ARMY RESEARCH INSTITUTE
FOR THE BEHAVIORAL AND SOCIAL SCIENCES

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Basic Research 21 is a project to expand the proficiency levels attainable by personnel now test-classified as low ability. Statistically, these men are the category which causes the highest rate of discipline and attrition problems. This report represents the conclusion of a contract with ARI. A history of the evolution of the model to its current state can be found in Chapter III A description of the structure and function of the model in its present state appears in Chapter I, and data currently available is presented in Chapter II.

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INTRODUCTION: PROBLEM STATEMENT

The U. S. Army has been among the leaders in developing efficient and cost-effective techniques for assigning mass personnel to diverse job areas on an individual basis. Ample evidence has been accumulated through experimentation with a range of evaluative methods to suggest that psychometric testing and screening for training assignments is one of the most valuable techniques. Individuals who score low on these paper and pencil instruments would appear to be as limited in the skills they could attain in the Army as in the training they might receive within civilian training/education institutes.

To a great extent, however, the problem of maximum utilization of personnel suggests that these psychometric predictions have been premised on a) a fixed training system, and b) a fixed capability on the part of the low-scoring trainee to increase his learning proficiency and propensity.

Basic Research Task #21 (BR-21) is a project to expand the proficiency levels attainable by personnel now test-classified as low ability. Statistically, these men - about the lower one-fifth of the distribution of mental ability in the enlistee ranks - are the category which causes the highest rate of discipline and attrition problems. Because of the tight civilian job market and the Volunteer Army's training and educational opportunities, it has been projected that Category IV individuals will continue to constitute about 20% of incoming volunteers. Development and expansion of training strategies to meet the particular needs of this sizeable enlistee pool will almost certainly increase their retention in and usefulness to the military.

Two research premises have offered BR-21 a starting point from which to test alternative combinations of socio-psychological elements which best support increased learning proficiency and propensity for further self-motivated individual development. First, previous HumRRO research has demonstrated that under certain carefully designed conditions many men of low-measured aptitude can, 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, TR 72-35, and VOLAR, TR 72-7.) Second, other mastery-learning and functional-evaluation research (Bloom (3), Block (2), Airasian (1), and others) has shown that the discrepancies in learning-time between individuals can be significantly reduced by judicious design and organization of curriculae and learning environments.

Such demonstrations of releasing this "hidden potential" in relatively circumscribed training atmospheres raises a critical question. How much additional potential, both in terms of degree and scope, still remains dormant in these men because behavioral science has not yet devised the proper social-psychological-curriculum formulae 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 thousands of troops to be eligible for a broader range of training assignments, and hence give personnel administration officers greater versatility 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.

Although this report represents the conclusion of a contract with the Army Research Institute (ARI), the project itself is actually only in the first stages of a formal tryout of the system. A history of the evolution of the model to its current state can be found in Chapter III. Included in the introduction to that chapter is a list of suggested guidelines for establishing similarly oriented programs. A description of the structure and function of the model in its present state appears in Chapter I, data currently available is presented in Chapter II, and Chapter IV summarizes our plans and programs for the current fiscal year.

CHAPTER I: DESCRIPTION OF THE MODEL

A. General Considerations

Our basic assumptions concerning low aptitude personnel are (1) they lack the experience of success with personal organizational skills; (2) they cannot effectively utilize available resources to productively interact with the world around them; (3) they display limited abilities in the basic skills.

The debilitating effect of these negative factors on individuals and the social institutions of which they are a part is well known. Numerous studies report that these marginal men are most likely to create additional problems for staff in many institutional settings. For the individual it often reflects a major reason why he enlists in the Army. None of the men who came into BR-21 had any marketable skill in the civilian arena. With the exception of two who could be considered "false CAT IV's", their basic skills are at a seventh to eighth grade level. Of the few who had attempted career entry through apprenticeship, only one had succeeded. The work of institutional personnel delegated to interact with these men is often made more difficult, time consuming and frustrating because many CAT IV personnel are highly dependent individuals. Reviewing our initial interviews, it is clear that the Army was perceived as a possible remedy to this situation. The ease with which we have been able to recruit further illustrates the social responsibility, for their future, which many men have handed over to the Army.

As a result of our interaction with men in the planning phase it became clear that our efforts should be directed at enabling them to become better self managers by providing an environment designed to help them move from a basic state of dependency to autonomy while simultaneously acquiring basic skills. Therefore, the project is specifically designed to provide participants

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with a successful individualized experience with personal organizational skills, skills to utilize resources for self-development, and basic skills, in such a format that they would retain these abilities 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.

The program we designed is more than a special training/education curriculum. The staff is required to assume the roles of tutor, educational technologist, counselor and friend. This emphasis on staff support for and attitudes toward participants is no idle conceptualization of ideal conditions for an optimal environment in which to develop self-management skills. 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 Section E below.

B. Selection and General Characteristics of Participants

Participants in BR-21 are Army enlistees, selected from a pool of men who are completing Advanced Infantry Training at Fort Ord, California. Because of their uniformly low Army aptitude scores all participants have common specialist MOS's available at Fort Ord; cooks, supply clerks and drivers. Records are screened to identify possible candidates. Initially anyone is considered eligible who is:

1. AFQT score of below 30 (Category IV)

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

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

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

At this briefing, carried on by the civilian staff, the men are given an explanation of the project goals, the nature of experimental work, and the peer instructional system. Current participants are utilized to answer informal questions and provide input to the interview committee, on those they consider to be seriously interested.

During the same evening, individual interviews are held by two civilian staff members and the Staff Sergeant. To be selected an interviewee must demonstrate:

1. An active interest in self-improvement

2. 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. Self-protective inquiry into his role in the project

5. Understanding of the voluntary nature of the program.

To judge his interest in self-improvement the interviewers have the participant discuss his educational history and plans for the future. Candidates most likely to be chosen will discuss dissatisfaction with his educational history, have a view of the Army as a chance to remedy this and express some career interest towards which they can upgrade themselves in this project. Candidates whose needs are being met by their present situation in the Army are not likely to be selected.

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

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

The men currently participating in the project present the following composite picture: He is slightly over 20 years old, has completed 11.6 years of high school where most of his grades were marginal, has a full scale Weschler-Bellvue IQ of 91, and an AFQT score of 23. His language, reading and mathematic basic skills have a grade equivalency of slightly below eighth grade. He has had little vocational experience outside of marginal or after-school jobs.

C. Organizing Concepts

The current operational model is designed to incorporate eight inter-related concepts. All 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. A brief description of each of these concepts follows:

1. Performance-Based Instruction

The premise of this method of instruction is that the most effective learning occurs when the participant becomes actively engaged in the process of learning. To bring the participant to active participation, the purpose of instruction has to be thought of as equipping him with skills and capabilities. The subject-matter curriculum is inappropriate in this context, because it stresses what information and facts are to be presented to participants to digest and memorize. Performance-based instruction translates the subject matter into the skills and capabilities that the participant is to acquire as a result of instruction.

2. Absolute Criterion

When a participant has learned to perform a skill, there must be some standard against which his performance is evaluated. For self-evident reasons, partial success in performance of a skill is unacceptable. Either a participant knows how to perform a skill or he does not. Under performance-based instruction, the standard is absolute. When a participant is unable to perform a skill, he receives additional training until such time as he demonstrates that he is proficient in that skill.

3. Functional Context

If the conditions for learning are arranged so that the participant sees the usefulness of that instruction and can apply it in solving a problem and in relating technical information to application in a concrete setting, that instruction takes place in a functional context. For example, learning in a functional context takes place when a student sees the effect of an abstract principle in a specific and actual situation, and when a particular skill is related to its utility in solving a real-life problem. Functional context refers to the application of technical and abstract information in a situation where the participant can see its importance and relation to the skill he is learning.

4. Individualization

One of the main variables in learning is the amount of time allowed for a participant to learn. Instruction that has an arbitrary time limit ignores the fact that participants learn at different rates. Instruction that permits the participant to learn at the rate in the style or approach necessary for him to acquire a skill is termed individualized instruction. The methods of individualized instruction should offer the participant the opportunity to practice, repeat, and review the skill to the extent necessary for him to learn. The HumRRO developed Peer Instruction system is utilized extensively in the model as a primary individualization technique.

5. Feedback

When the participant is actively engaged in learning a skill, he has to handle, and to practice with, the instructional materials. This situation has obvious advantages to the training manager, instructor, and participant. All know how the participant is learning, because there is ready evidence in

the nature of the participant's performance. All can easily assess where the participant is having problems and where additional practice and instruction are necessary. This immediate knowledge of the results of instruction are called feedback.

6. Quality Control

A training system must have empirical evidence that the participants have learned what was intended for them to learn. Through performance-based instruction, a training system has a direct means of verifying the quality of its instruction. Because participants have learned skills, what they are able to do as a result of instruction is readily observable. Data on all participants' performances can be gathered so that the strengths and weaknesses of the entire training system can be identified.

7. Basic Skill Tutoring

It is clear that improvement in the basic skills is prerequisite to the participants achieving other goals. The feedback the staff provides for written and oral communication, the feedback from the math program, and retaking the Comprehensive Test of Basic Skills makes the participants aware of their levels of achievement in basic skills and also makes the need for improvement obvious. At the same time, this facilitates more realistic goal setting, a problem with earlier participants.

8. Listening-Speaking-Reading-Writing Approach to Language Development

Taking cues from teaching English as a second language and the work of FLIT, an ongoing HumRRO basic literacy research effort, careful attention is paid to the sequencing of language development work with participants. The modules move from listening, speaking activities into the men's editing of

their spoken word. This is all the language work they are asked to do in the
first two months of the program. The transition to reading is done through
the use of available newspapers, magazines and programs like the S.R.A.
Reading for Understanding. For written practice the men keep a daily log.
and write summary reports in Level II.

An organization of language development work has used this principle
as a guideline and with individuals for whom the transitions are too great
adjustments are made to allow more time or to back-up to a level at which a
person is ready to function.

L-S-R-W has been very effective in helping pinpoint the type of language
development activities that a person can best spend his time with.

These eight concepts coupled with the notion of a supportive environment,
at first highly structured and then gradually less and less structured, are
the components making up the structure of the model.

D. <u>Levels and Modules</u>

Structurally the model is divided into three sequential levels. Over
his six month participation in the project the participant moves through these
levels assuming increased responsibility for his time application and the
content of his work, and as a Peer Instructor and older member of a team
for consulting with newer members.

In Level I, the module work consists of primarily learning the vocabulary
and skills he will need to organize his study program. The participant
learns the skills of graphing, taking baselines, setting objectives, and
getting feedback. Figure 1, Overview of the Three Levels of Operation, on
page 13 presents the levels and modules schematically. These

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skills are applied to his review of basic mathematics (Heywood, Arthur, A First Program in Mathematics).

In Level II, participants begin peer instructing and are responsible for arranging their schedule to accommodate this responsibility and to complete the four modules of Level II. Beginning with a retaking of the Comprehensive Test of Basic Skills, for feedback on his progress in this area, and with a visit to Monterey Peninsula College for a career counseling process, he begins identifying career interest areas and the skills he needs to develop to meet entry level requirements. Once he has specified these skills, the express function of Module 2, he gathers materials, takes baselines on the materials and prepares the study guides that will insure accurate records for feedback. His working program for Level III is now established.

In Level III, the student has no modules to complete. It is at this level that the organizational skills learned in Levels I and II are to be applied and hopefully brought to fruition in enabling the participant to design and manage his own developmental program. He works on his individual study program at the project site and in the community, and uses the staff on demand. He is 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 is assured by the need to have his Daily Activity Checklist signed off by the coordinator and by his responsibility to let project and military staff know his destination and time of return when he leaves the project.

FIGURE 1: OVERVIEW OF THE THREE
LEVELS OF OPERATION

MODULE PHASES

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

LEVEL III

BEGIN LEVEL III**

Peer Instructor of Level II
Curriculum

Self-Selected Improvement
Program

(Time estimate – 2-1/2 mo. total)

END LEVEL II

LEVEL II

BEGIN LEVEL II**

Peer Instructor of Level
I Curriculum
Level II Student

MODULES

1 Profiles
2 Skills &
  Resources
3 Objectives
  & Resource
4 Study Guide
5 Rptg Data

MODULE
PHASES

OE	SA	MP

Math & Sports

(Time estimate – 2 mo. total)

END LEVEL I

LEVEL I

MODULES

0 Intro to
  Module
  Structure
1 Graphing
2 Baseline
3 Objectives
4 Feedback
5 Contracts
6 Summary

MODULE
PHASES

OE	SA	MP

Math & Sports

(Time estimate – 1-1/2 mo.)

* See   for Curriculum Content
** Dual responsibilities in Levels II & III
   Peer Instruction & Module Study (self-selected
   improvement program–Level III) occur simultaneously.

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A sports program is 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 that option is now built into their day.

For the reader interested in the step by step analyses of each level and module, schematic flow charts and detailed information appears in Appendix A.

E. Staff-Participant Interaction

It is made clear to participants entering the project that their primary responsibility in the project is skill development, and that upon completing the modules, they will use these new skills in working on development in areas that reflect their career interests and personal needs. In addition they are taught to recognize the importance of keeping records of their work for data purposes and for use as personal feedback.

Operationally, they have responsibilities as peer instructors as well as learners. Because of problems scheduling incoming participants with the dates when participants in the project were ready to tutor, and because a whole day is not required to act as a peer-instructor, these roles, except for being a Level I student, now overlap. Participants must schedule their time as student and as peer-instructors, with work in basic skill development.

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

Beyond this, the staff is examining staff roles the participants might be able to assume. At present we have participants serving in four roles:

1. Evaluator for Level I Modules

2. Team Coordinator

3. Recruiter

4. Math Tutor

These are all considered experimental, particularly the role as Team Coordinator, since this person is 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 are three other teams with staff professionals as coordinators, there is support for this participant in this staff role, particularly when it comes to basic skill tutoring.

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

1. Successful work in an independent study program, which can be continued. (Staff roles are part time.)

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.

With the use of Peer Instruction, the staff is freed from the role of transmitting the information in the curriculum, once the system is primed. Only in the event of illness or a particular learning difficulty that the peer instructor cannot solve does the professional staff step into this role.

Each heirarchical team of students is assigned to a professional staff person who acts as a coordinator. As a participant progresses through the program his responsibilities increase accordingly. This is shown schematically below:

Role	Responsibilities
Level I Participant	Complete the Modules of Level I
Level II Participant	Complete Modules of Level II Decide on Needed Skills Peer Instructor for Level I Student
Level III Participant (Entry)	Independent Study Peer Instructor for Level II Student Maintain Study Guides Maintain Daily Activity Checklist
Level III Participant (Advanced)	Independent Study Program Senior Participant Consultant for Less Experienced Team Members Maintain Study Guides Maintain Daily Activity Checklist
Coordinator (Professional Staff)	Tutoring, Daily Data Collection, Counseling, Resolving Conflicts, Providing Feedback and Support.

In the event that a participant acting as a Peer Instructor is ill or on leave, the participant at the next level or the coordinator is expected to fill in.

As a coordinator, the staff person meets 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 may have for the program. In this role he is responsible for seeing that people do not fall too far behind without some intervention, for seeing that inter-personal problems within his team are worked out, and for keeping the staff informed of the progress of the individuals on his team.

Each staff person is capable of providing basic skill tutoring, acting as an evaluator, helping design independent study programs, providing feedback on participant progress with their programs, and counseling for decision-making problems. Each staff person is also responsible for overseeing that accrued data is kept by team members and for providing help in the basic skills. There are, however, staff persons assigned to have major responsibility and expertise in these basic skill areas, to develop resource material for these, and to back-up staff with less competence. Because the professional staff has more school experience, and specific project training in managing people with authoritity problems, and in interpersonal communication, they are able to play these roles effectively.

What is unique about the staffing in this situation is that the staff does not have any formal teaching roles, but acts primarily as resource persons, tutors and counselors, available to provide interaction and support when it is needed. The use of peer instruction, programmed materials in the basic skills, community resources, and encouraging the men to develop and manage their own resources allows for his role to work effectively.

Central to the problem of Staff-Participant interaction is the process and style through which decisions are made about the program, individuals, and the total invironment of the project from day to day, so that participant study programs can be managed effectively by the staff.

To insure continued committment to the program and to individual study programs, group problem solving approaches are used.[1] Modifications based

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[1]For specifics on this see Fry, John P., Performance Counseling Workshop, HumRRO Consulting Report CR-D5-72-2.

on participant input are encouraged.

Small group meetings are held each week to air individual concerns. If a small group wishes, a large meeting takes place. Participants discuss interpersonal grievances, problems with program design, desired changes, and individual progress.

Underlying the entire staff-participant interaction is the awareness that the participants are sensitive to actions they consider to be inter-personal or organizational abuses of authority. They will call work to a halt if they feel unfairly treated by a staff person or by some program demand. Within their role as soldiers they are often 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 become obvious and we must counteract their interference in the day-to-day operation. Most often problems arise if they feel taken for granted, their opinions deemed irrelevant, or that authority figures are exceeding their legitimate bounds.

Recognizing the immediacy with which they withdraw to minimal work and/or to the search for peer support for the loss of respect, the staff has been required to focus on their own behavior in this area, and to explicitly define their areas of authority. These areas extend 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 affects of staff behavior in their weekly meetings all serve to help keep problems with authority at a minimum.

It is in this area particularly that staff training in self understanding has been particularly important. It is customary that such supports and attitudes are the first conditions to be sacrificed when it comes to an implementation effort, and in the military setting they are usually replaced with punitive constraints. It is our contention that neglecting their core importance for reasons of expediency and lack of training will doom the practical, task-focused mission as well.

CHAPTER II: EVALUATION

A. Introduction

The major thrust of the project has been to provide participants with
encounters and experiences which will increase the likelihood that they will
successfully engage in internally prompted and long-term self-developmental
activities. Previous sections of this report have described the structure and
operation of a model (a learning environment) design to bring about these
changes. The basic strategy that has finally evolved is based on the premise
of a fairly highly structured initial or entry environment which gradually
becomes less and less structured as a participant proceeds through the levels
to the exit point where, presumably, he is essentially autonomous in his
choice of activities. During this process, in addition to increasing
self-responsibility (self-organizational skills) a participant is also,
presumably, improving his basic skills (language, math, reading, etc.) so
that given an increased interest in self-development he will have enabling
tools available. Since the final operational stage of the project is in
its first stages, evaluation data is necessarily sketchy and incomplete. The
schema presented in Figure 2 is designed to aid the reader in seeing the
connections among the classes of data following.

FIGURE 2

PROJECT PERFORMANCE CRITERIA LEVELS

```
                          ┌─────────────────────────┐
TERMINAL                  │        ENHANCED         │
OBJECTIVE                 │  VOCATIONAL/EDUCATIONAL  │
                          │       CAPABILITY        │
                          └─────────────────────────┘
                                      ▲
                                      │
                          ┌─────────────────────────┐
                          │ UNSUPPORTED (NON-SYSTEMATIC) │              EXIT
  - - - - - - - - - - - - │                         │ - - - - - - -
                          │     SELF-DEVELOPMENT     │            LEVEL III
                          │        BEHAVIOR          │
                          └─────────────────────────┘
                                      ▲
                                      │
ENABLING     ┌──────────┐   ┌──────────────────┐   ┌──────────────┐  LEVEL II
OBJECTIVE    │ ENHANCED │   │ SUPPORTED SELF-  │   │  MEASURED    │
             │ SELF-    │ ◄─│   DEVELOPMENT    │─► │  GAIN IN     │
             │ CONCEPT  │   │    BEHAVIOR      │   │  GENERATIVE  │
             └──────────┘   └──────────────────┘   │  (BASIC)     │
                        ▲                           │  SKILLS      │
                       ╱                            └──────────────┘
             ┌──────────────────┐                                   LEVEL I
             │ TRAINING IN      │
             │ SELF-ORGANIZATIONAL │
             │ SKILLS           │
             └──────────────────┘
                                                                    ENTER
```

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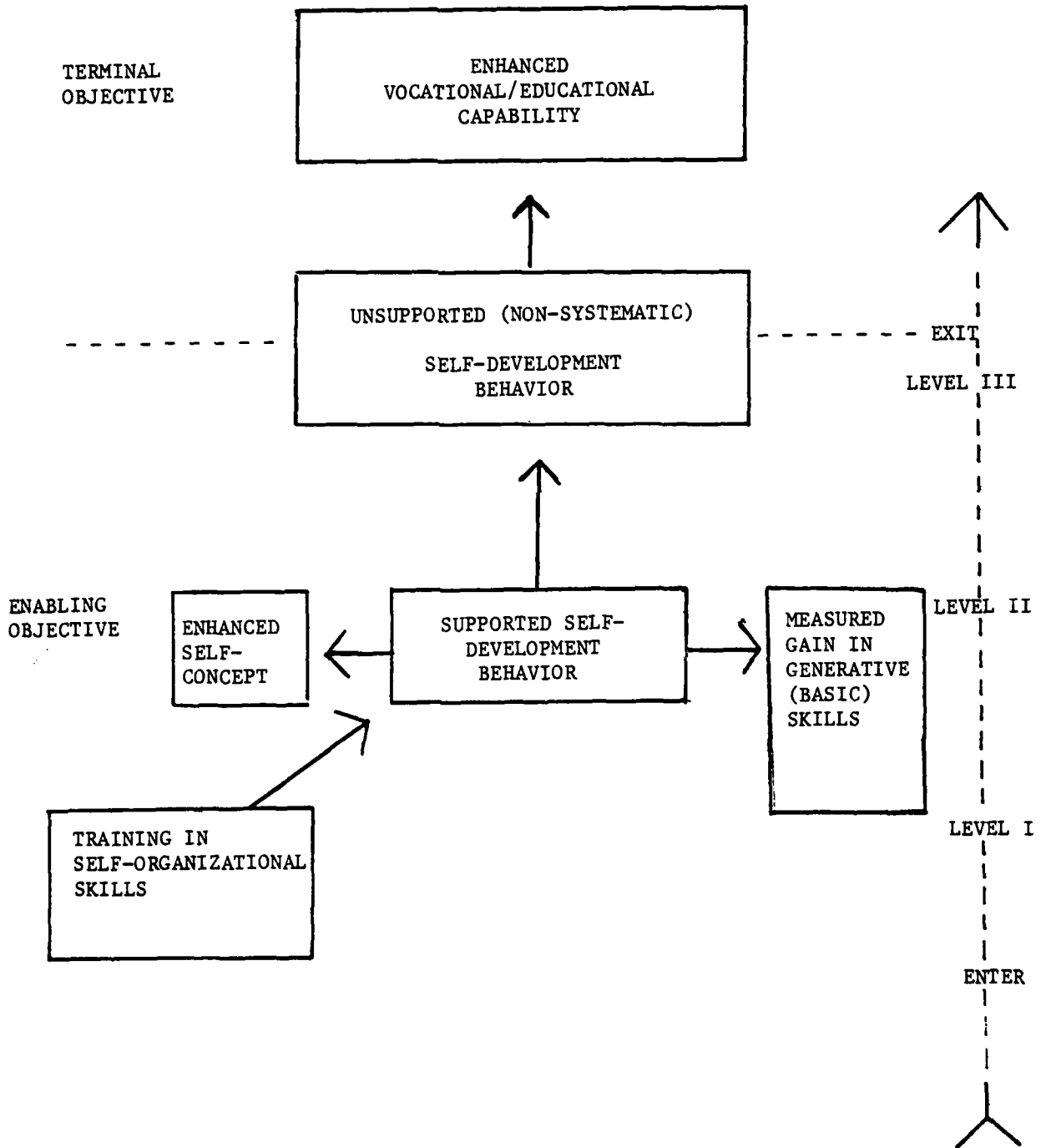
B. Self-Developmental Activity

It is not possible, at this time, to report anything concerning
attainment of the terminal criteria - behavior after leaving the project.
Moving down to the next level, as can be seen in the schema, the next
performance criteria would be evidence of self-developmental behavior by
participants just on the verge of completion or just recently "graduated"
participants. Behavioral evidence is to be seen by the activities and time
and resource management of participants in the latter stages of Level III.

At this writing eight participants are now at Level III. The time
they have been in Level III ranges from four days to nineteen days. It is
worth noting that five of the eight men are utilizing over 100 per cent of the
designated time they are to supposedly spend on self-developmental behavior.
What this means is that in an average week (all data is prorated to a five
day week) these men are devoting time beyond the usage of the full "working"
day to these activities. The least efficient time utilizer in this Level
III group averages about 22.5 hours per week. The most efficient averages
49 hours per week. Even the lower limit, the 22.5 hours, is impressive
since it must be recognized that there is virtually no requirement or
demand for any self-developmental activity at this level. It is too early
to draw any conclusions or inferences from this information but indications
that participants can devote from 4 to 10 unsupervised and unrequired hours
a day on learning activities is encouraging. It is at this point that the
training in self-organizational skills through Levels I and II is expected
to bear fruit. The mastering of the individual modules at these lower
levels is intrinsic evidence of their acquisition, but the critical question
is whether these skills can be appropriately utilized at Level III and beyond.

A more definitive answer will be available as more participants reach Level III but these partial results are most encouraging.

Referring again to the schema, the next performance level is focused on supported self-developmental behavior; the module mastery, math and literacy activities described in detail in Section III above. Table A shows for each current participant, the mean amount of time spent per week on the listed activities. Also shown is the proportion of available study/work time each participant devotes, overall, to self-developmental activities. This proportion is referred to as the efficiency index. An eight week period of time (roughly April and May of this year) was selected as representative of the total time engaged in the project.

Comments on data shown in Table A:

1. Participants devote an average of almost 18 hours per week (range 13-19 hours) during Level I involved in learning activities. Although no accurate baseline data is obtainable it is certain that this is a substantial change from the amount of time they had previously spent during any given week on learning activities.

2. The amount of time spent on learning activities drops appreciably from Level I to Level II; from an average 17.8 hours to 10.6 hours. The major contributors to this drop are the facts that eleven of the fifteen Level II participants are engaged as peer instructors, and it is at this level that all participants must make choices and decisions about career areas and skills they would like to develop. This "decision" time is not counted as work time. A sample of time devoted to teaching reveals a mean of 2.8 hours per week, which added to the 10.6 results in a total of 13.4 hours is still approximately four hours below the Level I mean of 17.8 hours.

-23-

TABLE A

MEAN TIME PER WEEK SPENT ON PROJECT ACTIVITIES (HOURS)*

Participants Numbers	Organizational Skill Study	Math Skills	Reading Skill Development	Efficiency Index** (Percent)
Level I: 1	16	3	0	94
2	12	4	0	94
3	12	2	5	92
4	11	3	0	78
5	12	1	0	88
6	13	2	0	91
Level II: 7	14	1	1	85
8	9	3	1	77
9	7	2	3	89
10	6	1	2	76
11	6	0	5	78
12	11	2	5	89
13	6	4	1	84
14	6	0	1	83
15	10	0	2	89
16	9	4	1	89
17	9	0	0	75
18	7	2	4	86
19	8	2	6	91
20	9	0	2	

3. The efficiency index mean of 90% (range of 78 to 94%) at Level I

reflects a very high rate of dilligence. It does not, of course, indicate

whether this time was utilized in the most effective manner—that is, whether

learning during this time of application was optimal - but it clearly indicates

that the environmental props provided by the Project enable low aptitude

men to apply themselves to studying at a much higher rate than thought possible.

The drop off of this rate at Level II (to 78%) is, in part, due to the time

participants devote to teaching others, but might also be due to a normal

"let-down" after an initial maximal effort.

4. Most of the time spent during Level I is devoted to the mastering of

the self-organizational skills. Thus, five of the six participants at Level I

during the time sample spent no time on reading skills and the group averaged

2.5 hours per week on math. At Level II, participants averaged 2.3 hours

per week on reading and 1.6 hours on math per week.

C. Basic Skill Development

A second enabling objective is the improvement in basic cognitive skills.

To measure this, each participant is administered the Comprehensive Test of

Basic Skills as part of the test battery taken upon entry into the Project.

The test, a standardized paper and pencil multiple choice instrument, has

four basic parts; reading, language, arithmetic and study skills. The

specific sub-skills appear below in Table B. Of the twenty participants

currently in the project, four are not included in the analysis of change in

basic skills because they have been in the project less than two months. Of

the remaining sixteen, seven have been in the project less than seven months

and nine have been in nine or more months, having been originally assigned when

the project was still in a planning phase. Data analysis was performed, there-

fore, on the total group (N = 9) in order to discern whether there were trends

-25-

related to length of stay on the project. The expected change, of course, would be increased growth in basic skills as a function of Project length of stay.

The data is presented in tabular form in Table B and in graphic form in Figures 3, 4, 5 and 6. Following is a summary of the data as presented in Table B:

1. For the participant group as a whole:

    1.1 The mean change on the Total score for each skill area is statistically significant.[2]

    1.2 The group as a whole is at the 7th grade level of achievement in the basic skills upon entry into the project.

    1.3 The largest particular gains are in reading comprehension, language mechanics and arithmetic computation, three skills specifically emphasized in the Project.

2. For participants who have been in the project seven or less months:

    2.1 As a group they _initially_ score slightly higher than the long-term group on 12 of the 13 scores listed in Table B; their total battery baseline mean is 8.2 as compared to a 7.1 mean grade equivalence for those who have been on the project over nine months. At the time of the most recent testing, the "short term" group mean Total Battery score is 8.6 in contrast to the 8.8 mean score of the "long term" group. The significant factor, however, is the mean change; .4 a year for the "short term" group and 1.7 years for the "long term" group.

---

[2] In the ensuing discussion "significant" denotes a statistically significant difference at the .01 level of probability, using a one-sided test.

TABLE B

COMPREHENSIVE TEST OF BASIC SKILLS: GRADE LEVEL EQUIVALENTS

Skill	Baseline Grade Equivalent: Total Group N = 16	X̄ Change Total Group	Baseline Grade Equivalent: Less Than 9 months In Project N = 7	X̄ Change	Baseline Grade Equivalent: More Than 9 Months In Project N = 9	X̄ Change
Reading Vocabulary	8.2	+.7(1)	8.5	+.6	8.0	+1.2*
Reading Comprehension	7.6	+1.8*	8.2	+.4	7.1	+3.0*
Reading Total	7.9	+1.2*	8.4	-.1	7.5	+2.0*
Arithmetic Computation	7.5	+1.7*	8.0	+1.1*	7.1	+2.2*
Arithmetic Concepts	8.4	+1.1*	8.9	+.3	8.0	+1.8*
Arithmetic Application	8.2	+.6	8.8	=.4	7.7	+1.4*
Arithmetic Total	7.9	+1.3*	8.6	+.4	7.3	+1.9*
Language Mechanics	7.3	+1.8*	7.7	+1.1	7.0	+2.4*
Language Expression	6.7	+1.3	6.4	+.8	6.8	+1.6
Language Spelling	7.5	+.9	8.0	+1.0	7.0	+.8
Language Total	7.2	+1.2*	7.4	+.9	6.9	+1.4*
Total Battery	7.6	+1.1*	8.2	+.4	7.1	+1.7*
Study Skills	8.3	+1.4	9.6	+.9	7.2	+1.8*

(1) Grade equivalents expressed in fractions of a 10 month year; .7 equals seven months; 1.2 equals 1 year and two months.

* Change is significant beyond .01 level; one sided test.

FIGURE 3

GRADE EQUIVILANCE

Figure 4: ARITHMETIC

LATEST ADMIN.

BASE LINE

● Sig. .01 Level

TOTAL

Long Term

Short Term

Total Group

APPLICATION

Long Term

Short Term

Total Group

CONCEPTS

Long Term

Short Term

Total Group

COMPUTATION

Long Term

Total Short Term

Total Group

11.0
10.0
9.0
8.0
7.0
6.0

GRADE EQUIVALANCE

FIGURE 5

LEGEND

LATEST ADMIN.

BASE LINE

LANGUAGE

MECHANICS

EXPRESSION

SPELLING

TOTAL

GRADE EQUIVALENCE

11.0
10.0
9.0
8.0
7.0
6.0
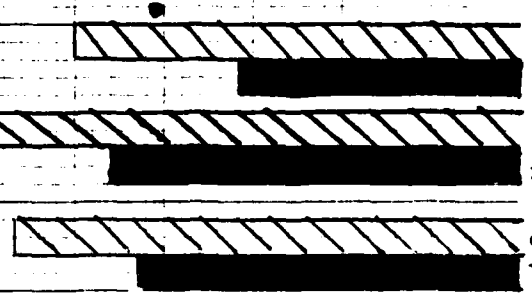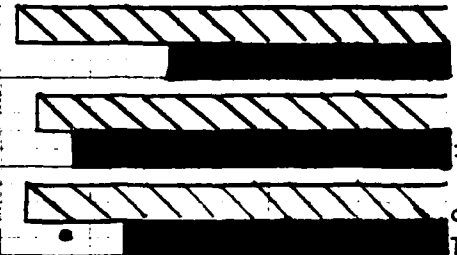
Total Group
Short Termers
Long Termers
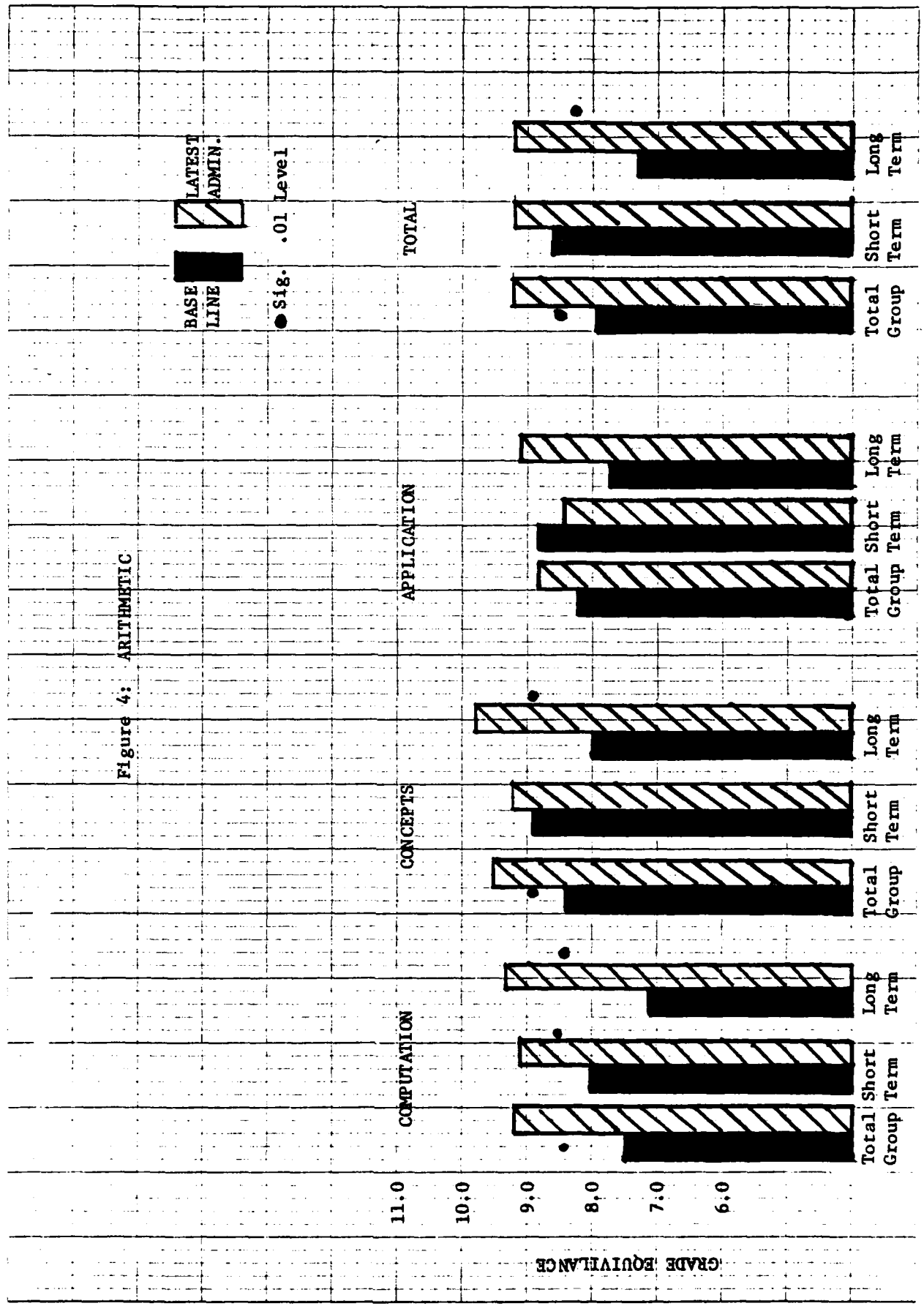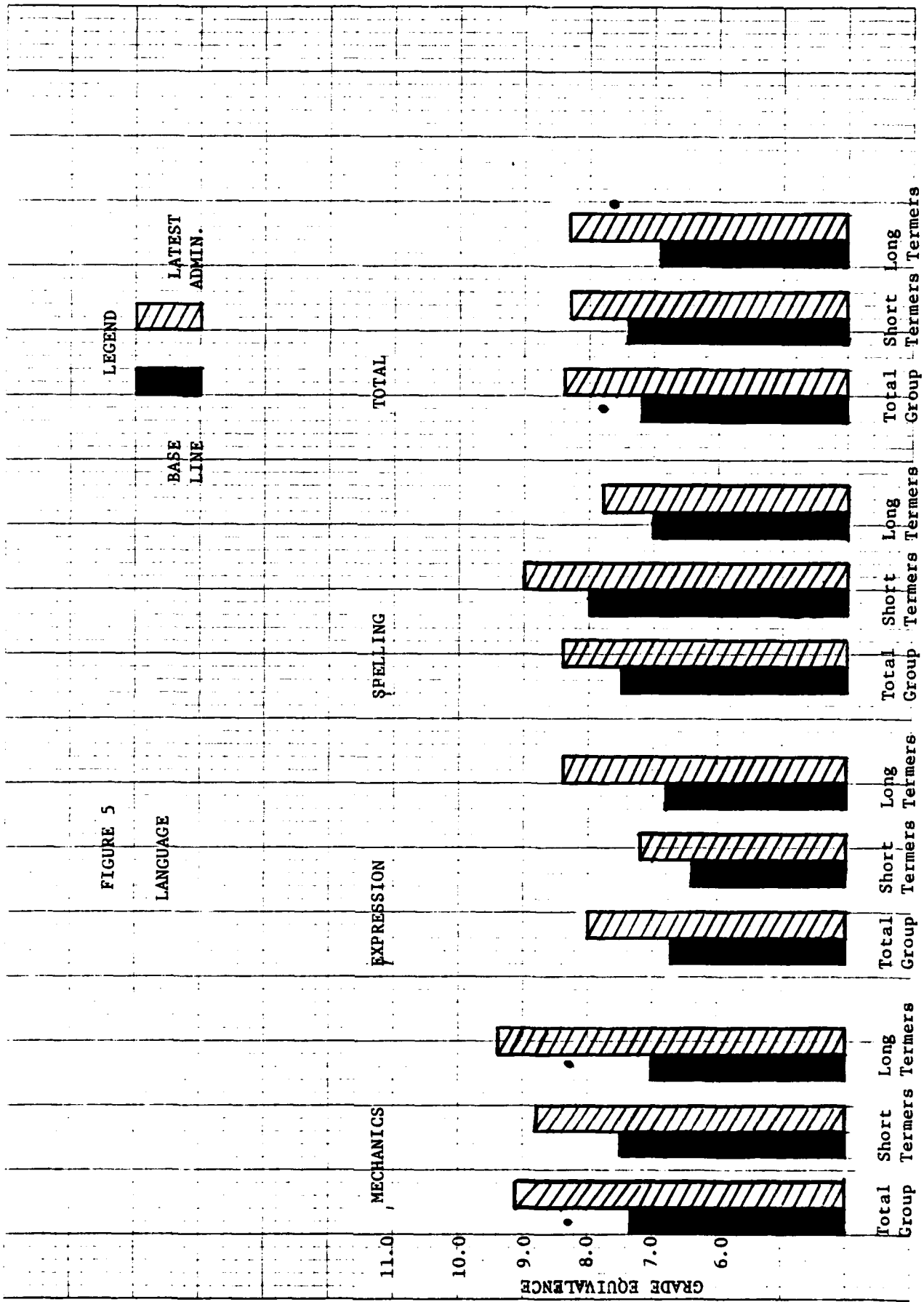
FIGURE 6.

READING

LEGEND

LATEST ADMIN. [hatched]

BASE LINE [solid black]

• : STATISTICALLY SIG. DIFF. (.01 LEVEL)

VOCABULARY

COMPREHENSION

TOTAL

GRADE EQUIVALENCY

11.0
10.0
9.0
8.0
7.0
6.0
5.0
0

Total Group

≤ 9 mos. in Proj.

≥ 9 mos. N =9

Total Group

≤ 7 mos.

≥ 7 mos. ≥ 9 mos.

Total Group

≤ 7 mos.

≥ 7 mos. ≥ 9 mos.

-31-
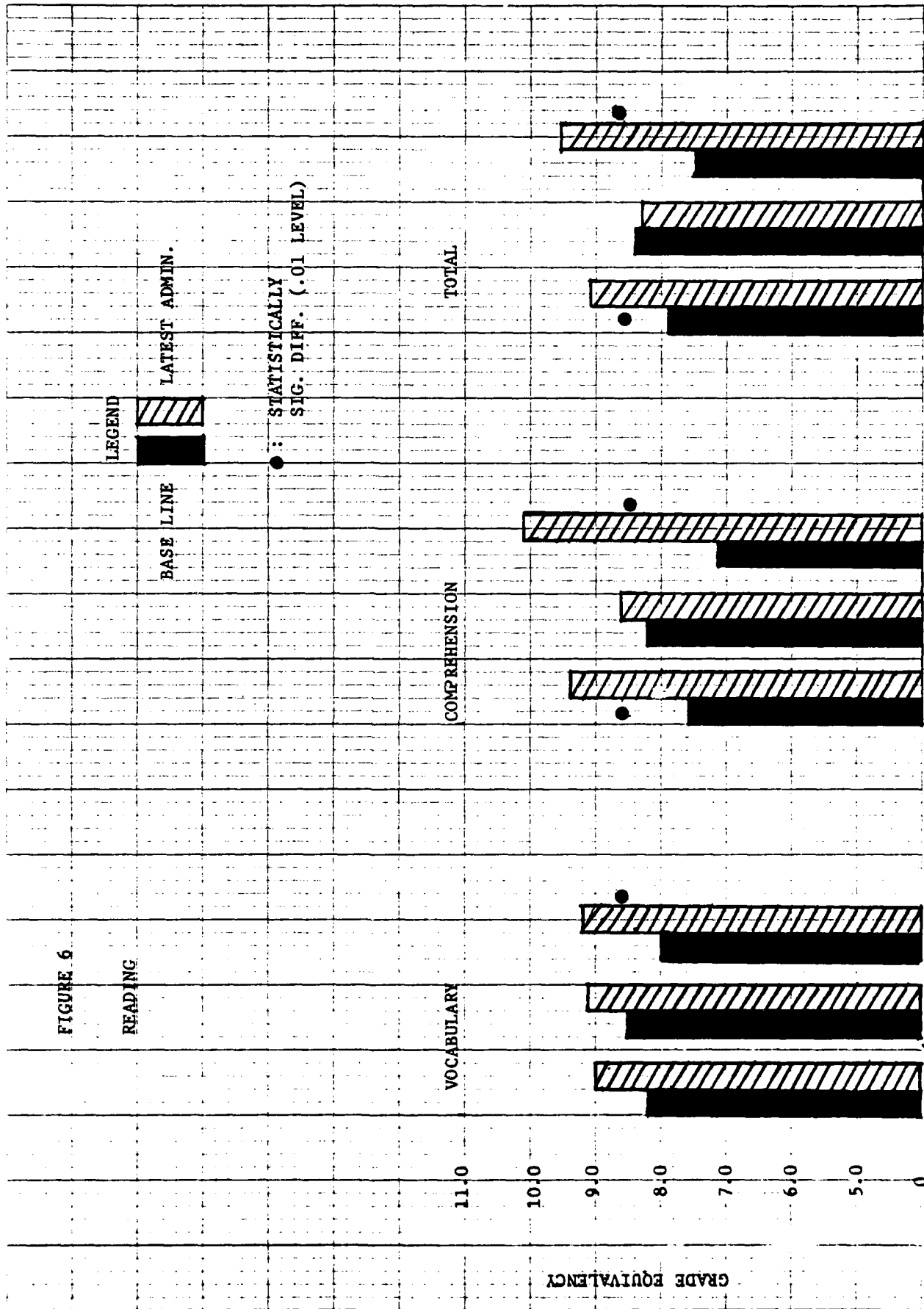
2.2 Eleven of the thirteen mean change scores are in the direction
of gain but only one, arithmetic computation is significantly
higher. The total battery mean gain of four months closely
approximates the average time this group has been in the Project.

3. For the participants who have been in the Project nine or more months:

3.1 Eleven of the thirteen sub-test mean change scores are
statistically significant and appear practically significant
as well; means gains range from 1.2 years to three years.

3.2 Of the nine men in this group, one has shown no gain in reading,
one has gained a half-year, two between 1.5 and 2 years, three
between 2.5 and 3 years and one a gain of 3.6 years between
test administrations.

General Conclusions Regarding Measures of Basic Skill Development

Time on the project seems to have a direct effect on measured gains in
basic skills; using the Total Battery gain score as an overall index,
moderate changes can be detected in the first few months while appreciable
and significant changes occur with every participant who has been in the
project at least nine months. This data appears as a scatter plot in
Figure 7 and reflects an accelerating, positive relationship. The relatively
faster growth after the first few months may be a result of the initial months
being devoted primarily to the masterying of the Level I and II modules which,
in themselves, would not be reflected in measures of basic skills. Over all,
the magnitude of the gains are encouraging and in some cases impressive.

Figure 7: Scatter Dot of Total Battery Gain Score and Time on Project

(Expected Gain)

X Gain on Total Battery Score (Grade Equivalance)

33
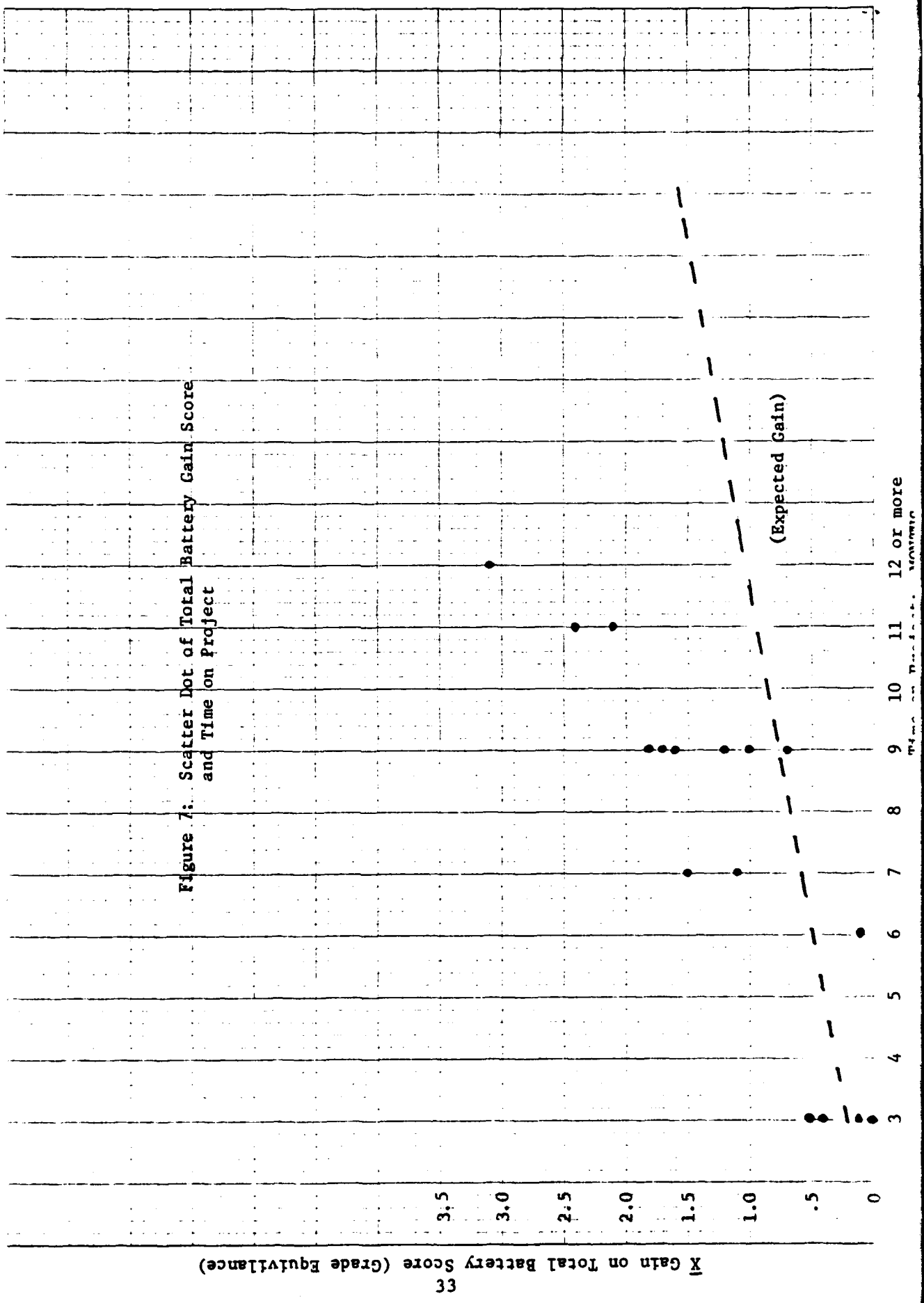
D. Personal Opinion Survey

A third enabling objective is an enhanced self-concept. It is reasonable
to expect that participants will change their self-perceptions as a function of
being in the Project. Whether the hypothesized changes are a result of or lead
to behavioral change is moot. Each participant was administered the Personal
Opinion Survey, a paper and pencil test, consisting of 130 true-false items,
designed to assess several major aspects of the experience of control. "This
experience --the sense that one actively chooses, successfully wills or achieves
mastery over himself and the circumstances in which he finds himself -- is
obviously one of the most fundamental features of human awareness."[3] The
scale is scored for seven factors, (1) Achievement through conscientous effort,
(2) Personal confidence in ability to achieve mastery, (3) Capacity of mankind
to control its destiny versus supernatural power or fate, (4) Successful
planning and organization, (5) Self-control over internal processes, (6)
Control over large scale social and political events, and (7) Control in
immediate social interaction.

Fourteen participants were administered the scale in December of 1973
and six more who arrived after that date were administered the scale in March,
1974. All 20 were retested in early June of 1974. Group means for each
administration for each scale appear in Figure 8.

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[3]Coan, R. and Fiarchild, M., "Personal Opinion Survey", University of
Arizona Mimeograph, undated, page 1.

Figure 8

Personal Opinion Survey: Mean Scale Scores for Each Administration

	First Administration	Second Administration
Scale 1	9.65	10.00
Scale 2	9.35	9.65
Scale 3	7.50	7.20
Scale 4	13.85	14.50
Scale 5	10.95	12.10*
Scale 6	11.4	11.24
Scale 7	7.8	7.45

* Different Sig at .01 level

One of the seven scales, self control over internal processes - shows a significant shift between the two administrations. Other than this, participants as a group at this stage in the project reveal no shifts in the dimensions purportedly measured by the Personal Opinion Survey. An analysis of the data broken down into the fourteen longer term participants and the six shorter term participants supplied no additional information. The only normative population is a male college group so it is not possible to make any reasonable statements regarding the relative standing of the participants as a group on any of the factors included in the survey. It may well be that self-concept has not been affected or it may be that the instrument is not sufficiently sensitive. Other measures in this area are being investigated.

E. Measuring Project Environment

Of major interest is the question of whether the intentions of the Project designers to create a particular kind of environment have been realized. After an extensive literature search and serious consideration to develop our own measuring instrument we selected the Community-Oriented Programs Environment Scale developed by Moos and his associates at Stanford and the Palo Alto Veterans Hospital. The instrument consists of 102 statements describing a program and the respondent is asked to indicate true or false for each item on the basis of whether he believes it describes the Project or not. The full rationale, test construction, data, etc. for the scale is to be in, the Community-Oriented Programs Environment Scale Manual by Rudolf Moos, social Ecology Laboratory, Stanford University, March 1973. The ten subscales are briefly described in the manual as follows in Table C.

The scale was administered to 20 participants and six staff members. Each group's scores were combined in the profile which appears in Figure 9.

There are a number of discrepancies between the staff's perception of the Project environment and the participants as a group. The major discrepancies are to be seen in the Involvement, Order and Organization and Staff Control Scales. The staff perceive participants to be even more involved than they do. The phrase "even more" is used to indicate that on an absolute basis, the participants do see themselves as highly involved but the staff computes an even greater involvement. On the other hand, the staff see themselves as exerting less control than is perceived by the participants and see the Project as having less order and organization than the participants believe it has.

TABLE C

COPES _Subscales_ _and_ _Definitions_

1. INVOLVEMENT   measures how active members are in the day-to-day functioning
                      of their program, i.e., spending time constructively, being
                      enthusiastic, doing things on their own initiative.

2. SUPPORT   measures the extent to which members are encouraged to be
                      helpful and supportive towards other members, and how
                      supportive the staff is towards members.

3. SPONTANEITY   measures the extent to which the program encourages members
                      to act openly and express their feelings openly.

4. AUTONOMY   assesses how self-sufficient and independent members are
                      encouraged to be in making their own decisions about their
                      personal affairs (what they wear, where they go) and in
                      their relationships with the staff.

5. PRACTICAL   assesses the extent to which the member's environment orients
   ORIENTATION   him towards preparing himself for release from the program.
                      Such things as training for new kinds of jobs, looking to the
                      future, and setting and working towards goals are considered.

6. PERSONAL   measures the extent to which members are encouraged to be
   PROBLEM   concerned with their personal problems and feelings and to
   ORIENTATION   seek to understand them.

7. ANGER AND   measures the extent to which a member is allowed and
   AGGRESSION   encouraged to argue with members and staff, to become
                      openly angry and to display other aggressive behavior.

8. ORDER AND   measures how important order and organization is in the
   ORGANIZATION   program, in terms of members (how do they look), staff
                      (what they do to encourage order) and the house itself
                      (how well is it kept).

9. PROGRAM   measures the extent to which the member knows what to expect
   CLARITY   in the day-to-day routine of his program and how explicit
                      the program rules and procedures are.

10. STAFF   assesses the extent to which the staff use measures to keep
    CONTROL   members under necessary controls, i.e., in the formulation
                      of rules, the scheduling of activities, and in the relation-
                      ships between members and staff.

Figure 9: PROJECT ENVIRONMENT SCALE

●————● Participants (N = 20)

●- - - -● Staff (N = 6)

Staff Involvement

Support

Spontaniety

Autonomy

Practical Orientation

Personal Problem
Orientation

Anger/Agression
Expression

Order and
Organization

Project Clarity

Staff Control

0   1   2   3   4   5   6   7   8   9   10

quares to the Inch
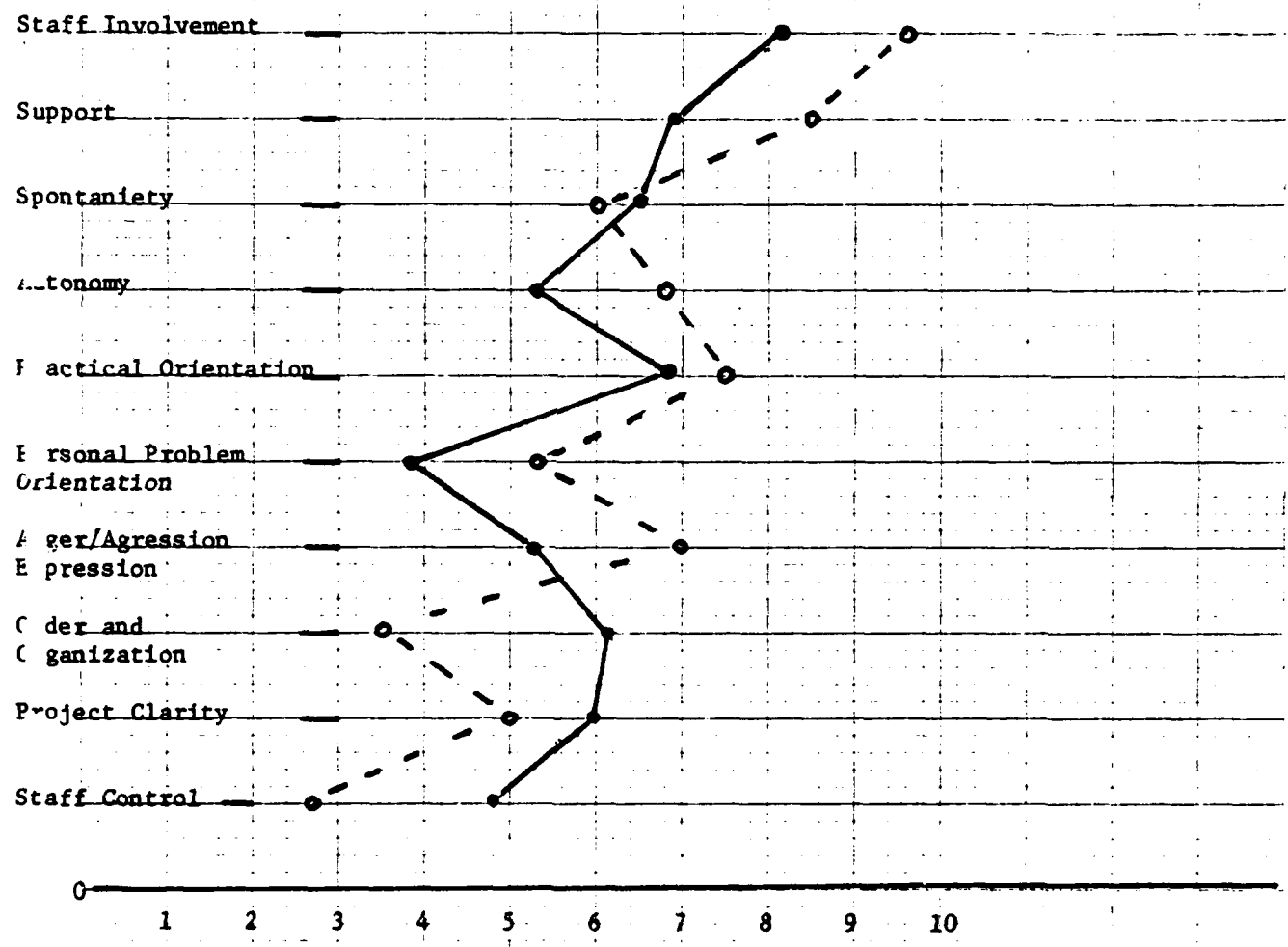
Sub-scales which reflect salient characteristics of the desired Project environment -- autonomy, support, involvement -- were analyzed to see whether participants who had been on the project longer perceived it differently from the more recent arrivals but no such pattern was discernable. But the participant group profile does in general suggest that they perceive the Project in a positive manner although they see it as somewhat more structured than the staff does.

The scales have been of value as feedback to participants and staff members in terms of providing data for discussing and reconciling discrepant perceptions. In addition, the results of the first administration of the scale led to the staff's decision to play a primarily feedback role at Level III. Specifically, discussion of the discrepancies observed on the profile between staff and participant views of "support" and "control" led to this resolution in the hopes that these two discrepancies would become less discrepant and more balanced. Periodic retaking of the scales will provide a check on whether Project climate changes in the eyes of participants and staff over time.

Evaluation Summary

The Project has actually been in an operational phase for approximately 4 months. The previous efforts were designed to develop the structure and content of the Project through a trial and revise procedure using actual participants rather than "experimental" subjects. The data reported above though in some instances fragmentary, does indicate the likelihood of positive results. We have not mentioned the unique situation prevailing on this project vis a vis data collection and reporting which is the fact that except for the initial phases of a participant's involvement there is no necessarily common performance or behavioral goals for all participants as usually prevails in a

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traditional experimental setting. Where commonality does exist we are attempting to develop appropriate evaluative/measuring instruments. Most noticably missing from this report is data which might more directly reflect the development and emergence of everyday behaviors which can be labeled "self-managing", "planning and organizing" or learning to learn -- the self-organizational skills box referred to in Figure A above but not dealt with in the analysis. Although we know directly that each participant has mastered specific modules designed to teach these skills we are only now developing instruments to assess whether participants actually manifest these behaviors in their day to day actions.

The growth in basic skills and the untilization of appreciable segments of time for self-development activities are positive indicators of the potentiality of the Project to assist low aptitude men to acquire new and useful skills that can be of inestimable use to themselves and the institutions they will be dealing with in their lives.

CHAPTER III: NARRATIVE CHRONICLE

A. Introduction

This chapter describes the process through which the current operational model developed. It is presented as information for those readers who wish to follow the evolution, through trial and correction, of the effort to design an environment and a system which would optimize the likelihood that marginal personnel could experience fundamental changes in their approach toward and capacity for learning. To a large extent the project described in this report has no counterparts in the literature on Adult Education. It reports on the design of a total learning environment for tested low-aptitude young adults in which their daily activities were designed to gradually effect basic changes in their behavior patterns involving self-view and self-management as these contribute to career orientation.

This program is unique in that: a) it does not involve a captive population (prison, hospital, school children) - participants are volunteers and can leave upon request, b) it is not theraputic, c) it is not primarily designed as a training program - specific skill acquisition is not a basic objective, d) participants have no other obligations (job or home requirements) which would compete with their primary obligation to be involved in the project, and e) it is of sufficient duration (4 1/2 days a week for approximately 6 months) to allow for the enhancement of intensive and extensive changes and for the research opportunity to systematically observe and measure these changes. For this rare combination of characteristics, we are indebted to the foresight, patience and financial support of our sponsors.

This chapter contains a detailed narrative chronicle of the evolution of the project from its inception as a vague idea of exploring whether it is possible to effect substantial changes in the learning approaches and behaviors of men psychometrically defined as "marginal" to its present operating structure and process. From this detailed narrative we can discern twelve general principles or, more appropriately, twelve cautionary statements directed to those who may be interested in replicating certain features of this design for somewhat similar purposes and populations. For a group of young adults who have a history of school failure, marginal work success and a non-academic/middle class family background:

1. 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).

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

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

4. 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.

5. The program should be voluntary.

6. 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.

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7. 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.

8. The physical setting should provide private as well as small group work space. Large group tasks should be avoided.

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

10. Environment should be constantly monitored for "hidden negative reinforcers", that encourage minimal work and avoidance behaviors.

11. Don't hesitate to talk to the 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.

12. Use caution and do not overestimate the validity of the psychometric measurement used to measure the student aptitude.

B. Initial Organization

Basic Research-21 began in the Fall of 1971 with a proposal that HumRRO be allowed to investigate the assumption that marginal personnel may not have as limited a learning propensity as tests and past history would suggest. APSTRAT (41) made apparent that under the right conditions this potential could be employed. But it is unlikely that the men with Category IV AFQT scores who completed the Field Wiremen's course successfully improved their learning capabilities and thus remained disadvanted in the normal training and school situations.

For BR-21 a more ambitious task was proposed; could a program be arranged where Category IV participants raised their abilities to levels sufficient for success in the more conventional training and school situations? This new evidence in redesigned training programs suggested this was possible.

The goal of the project was to develop and test a practical and effective model. The laboratory experiment approach was rejected because it lacked comprehensive scope and presented problems for application. The clinical model was rejected as too private and too unquantifiable. The third approach considered and rejected was behavior modification (i.e. token economy systems). Such programs require the staff to do most of the planning for the subjects and then buttress the plans with the prosthetic application of contingent rewards. The common method to demonstrate the effect of a behavior modification program is to remove the system of rewards and show a decay of response - the antipode of what the project was striving for.

Considering the histories of the prospective participants a further constraint was apparent. It is almost universal that men with Category IV AFQT scores have had negative experiences with schools and their atitudes toward school-like environments are poor. It was necessary to develop an environment that would not be mistaken for another school.

In the third quarter of FY 72 a staff of three civilian research assistants was arranged in addition to the project director and the principal investigator. Activities during this quarter were deciding on an initial approach for the program and outlining the recruiting procedures.

For the initial approach it was 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 for achieving their goals.

With this as an operational framework, the staff was to begin identifying problem areas and effective strategies that enhanced the propensities for the self-motivation of the participants and increased their performance in the basic skills essential for achievement in training and work environments. These two areas can be conveniently thought of as "the learning to learn" skills (i.e., self-control, effect of attitudes, scheduling, developing and utilizing sources of information or assistance, etc.) and the learning of content (i.e., math, government, job information and abilities, etc.)

This approach to the problem required the use of an initial investigation that was adjustable and flexible in order to experiment with possible constituent components. With this approach it became possible to identify effective strategies, and incorporate them into a comprehensively designed program while eliminating ineffective methods.

C. Selecting Project Participants

The original intention was to enroll a small number of volunteers (no more than six) to provide input during the planning phase. But when interviews with prospective volunteers were scheduled to begin, five military research assistants were assigned to the project, augmenting the five-man civilian research staff. This encouraged us also to double the number of first-generation participants. (The participant group turned out to be thirteen.)

The necessity for certain constraints were apparent at the inception of Basic Research-21. A variable which greatly determines the degree and rate of development of an individual is the amount of available time. Two decisions concerning time were made for practical reasons. First, that the project engage participants full-time so that project duties and military work assignments would not clash. (Another consideration was to prevent any confusion in military assignment and responsibility for the individual participants.) Secondly, a participant's stay in the project, should last approximately six months. This period would seem reasonable considering that Army enlistments run normally 2 to 3 years. Any longer would make it difficult for the Army to realize benefits for a man's participation in the self-development program. Any shorter would not allow for significant increase in individual capabilities and propensities.

Yet, this period imposes difficulty in comparison to time periods for such traditional learning contexts as high school, college, or apprentice programs. Six months is too short a period to expect men's measured abilities to reach higher categories on the Army Classification Battery or other achievement-intelligence tests, consequently highest priority was placed on developing a program to enhance the individual's propensity to engage in further development <u>after he leaves the program</u>, but still has military responsibility to fulfill.

Candidates were interviewed twice—first at Fort Ord where they were receiving basic training, second at the Presidio of Monterey where, if they wished to volunteer for the project and were acceptable to the staff, they would be living and working. The three major criteria used by the staff in determining the eligibility of candidates were:

1. All participants were to have an Armed Forces Qualification Test (AFQT) rating of Category IV (CAT IV). CAT IV's represent the lowest level of measured aptitude acceptable for service in the Armed Forces. Yet, they would have to be able to read at 6th or 7th grade level, putting them above the cut-off point for required literacy programs - we could not become experts in literacy training.

2. Participants with known drug, disciplinary, physiological, or second language problems with English that would create special difficulties, were not to be included unless the staff felt these problems could be resolved by participation in the project.

3. In order to be accepted in the program, a candidate would have to express personal motivation toward the goals of the program, viz. improvement of his learning capability. First, he must demonstrate through his questions and comments a grasp of the nature of the program; second, he should not accept the program passively or uncritically, but should exhibit some active "self-protective" inquiry into the nature of the program and his own role in it; third, he should express or demonstrate a sense of being educationally unfulfilled, wanting a "second chance"; fourth, he should express a desire to change or grow; fifth, he should view BR-21 as providing an opportunity for him to fulfill his desire for growth; and sixth, he should fully understand he was volunteering for the program, and could terminate the relationship on request.

During these interviews, the staff attempted to clarify the nature of the project; in addition, they gave each candidate a face-to-face assessment of how they felt he would fit into the project. This often meant that the interviews involved a degree of stress. This was particularly true of the second set of interviews, when staff provided the face-to-face assessment. During the first set, the staff had been most concerned with dispensing information and leading the candidate to explore the program and himself in relation to it.

The interviewing process took about three weeks. Twenty-nine men were considered before thirteen were found who were both interested in the project and acceptable to the staff. The interviewing process ended with an evening meeting that brought together the thirteen participants and staff in order to clear up any remaining questions about making the transition from Basic Combat Training to BR-21.

D. Operation Phase I - Encountering the Problem

On May 1, all participants were on post and anxious to begin. They were informed that they were expected to choose their own learning content composed of short-range goals. The staff tried to help them identify and clarify these goals and began connecting participants with appropriate resources either at HumRRO, at Fort Ord, or in the community. Excitment surged during this period of informal brainstorming directed toward working out the details of each man's regimen. Regular morning meetings were held to keep tabs on these plans. In addition, a great variety of activities involving staff-participant interaction were instituted to open communication channels among and between participants and staff members.

Large Group Activities

Meetings to: get acquainted
              clarify project
              discuss living conditions
              develop SOP for barracks
              explore activities we might do together
              discuss interpersonal problems
              map personal history

Picnics

Sports

Small Group Activities

Explore community for learning resources
Orient men to community and Presidio
Discuss project conditions and get feedback
Recreation: Sports
             Social Events
             Eating Together
Videotaping
Visiting local junior college
Going to Inspector General's and Legal Assistance Office
Remodeling project offices
Working on cars
Working in craft shop
Taking electronics course at local junior college

Individual Activities

Transporting participants to mess hall, airport, community
Recreation
Visiting men at Fort Ord MOS training sites
Playing guitars
Tutoring in basic skills
Discussing personal problems
Planning budgets
Getting supplies for projects
Exploring alternatives for careers, projects, and difficulties in
   negotiating with military authority
Working on cars

It grew obvious that the hope for constructive connections with Fort Ord and community resources was unrealistic. The men interested in exploring career possibilities - carpentry, heavy equipment operations, welding, electronics - experienced discouraging delays which depleted the CAT IV's characteristically short-lived motivation. This was our first clue to the crucial part which would be played by feedback and success orientation in helping the men realistically assess their committments and in helping them stick with tasks that presented initial frustrations.

Our attempt to have large group morning meetings were not very successful; most participants were unwilling to talk in this setting. To work through this problem, clarify staff and participant roles, and begin to explore how cumulative data could be collected, we established small groups of two staff and four participants each to meet on a weekly basis. Here researchers discussed the problems of getting started with short term goals and introduced the "activities checklist" -- a method for gathering data about the participants use of time on a daily basis. These meetings lasted about a month until the staff felt it was both necessary and possible for the large group to meet together. Most of the small group discussion concerned housekeeping problems which needed to be shared by all.

The "Activities Checklist" was viewed by most men as an imposition. Many of the staff had correctly felt it was too early to hope for participant responsibility in gathering data. By another month small group meetings had evolved into total group meetings, and the "Activities Checklist" had been dropped by all but two participants.

The small and large group meetings were occasions for unusual anxiety and boredom. Absenteeism was common despite the staff's decision that meetings were "mandatory". Several sources of stress were obvious: (1) The staff's verbal complexity was greater than the participants; meetings were difficult for participants to comprehend. (2) A more devastating discovery was that language served a different purpose in the participants' lives. For the staff, discussion with other people functioned to exchange concepts, clarify past behavior, gain cooperation through explanations of values and goals, and to organize future activities. This was completely foreign to the participants. Language was explored by them primarily for entertainment and demonstrations of adherence to their peer group values i.e., being tough, being aggressive, being rigidly independent of other people. (3) <u>Compounding the strain were staff expectations that the men would be able to chose short-term goals and be able to mobilize their efforts to achieve them. It dawned on us that the lack of these two skills was a common behavioral denominator of CAT IV individuals. The staff was eagerly waiting and probing the men to initiate organizational processes for which they had minimal developed capacity or past inducement</u>. The results - resistance, diffusion, and anger from the participants. The staff's reaction in turn was confusion, vacillation, and disorganization.

The disjointed direction of the project was punctuated by periods of intense personal searching on the part of the staff. Their expectations were not being met and there was no clear way to go.

During the third and fourth weeks after the participants had arrived, the project was thrown into a series of crises over living arrangements and

discipline. These emergencies preoccupied us the next six weeks. We had predicted that living conditions and discipline might have some effect on the goal-setting and self-management skills, but they actually took a far greater toll than expected.

After two weeks of living in the semi-private rooms in new barracks at the Presidio, rumors began flying that the participants were being ousted because they were CAT IV's and experimental subjects. Resentment and confusion developed into a situation that demoralized both participants and staff. Participants were convinced they were being forced to leave because they were considered "second-class citizens", and were the victims of "racist" or "elitist" policies. Despite the concerted efforts of the HRU Military Chief the men were reassigned to an outdated open barracks.

Violations of regulations by several participants occurred with increasing frequency. During this period, the project settled in a reactive posture, attempting to cope with "emergencies" and other pressures often originating outside the project. Participants also learned that under the Qualitative Management Program (QMP) they would have to obtain a Military Occupational Speciality (MOS) no later than the following fall or they would not be eligible for promotion beyond E-3. In addition, if they were not promoted in the stipulated period, they would be discharged from the Army. (It shall be noted that the QMP policies have been subsequently modified.) Since the project staff had not been aware of the QMP policies and had informed participants that their decision to obtain an MOS was their own, the pressure to obtain MOS's served also to impair the credibility of the project staff and the project itself. Most participants reacted by making the pressured decision about an MOS.

Some staff and participants saw the MOS issue as a positive element to provide organization in the midst of chaos, and those men who did chose MOS training programs did very well, with the exception of one dropout. Still, the proliferation of disciplinary problems and the application of the policies of the Qualitative Management Program combined to deflect the project from its principal goal, i.e., the development of self-management techniques among participants.

The discipline problems involved high drug use, fights, destruction of property and absent without leave. Rather than benefit from this new environment it seemed that in this situation the participants had reached a very self-destructive level of disorganization. The staff assumptions that given an opportunity for personal direction people would naturally move towards some responsible order became very questionable and very risky.

This phase had focused on supportive environments with minimal directive structure other than the sense of motivation and goal choice brought by the participants. The participant's underlying need for a goal-setting methodology became manifest. We concluded that this homogeneous population unacquainted and inexperienced with personal achievement, organizational structures, self-motivation and realistic goal-setting, are unable to create the necessary framework for self-managed development. This inability can be considered a common legacy of CAT IV home/culture/school backgrounds.

E. Operation Phase II - Applying Constraints

In October of 1972 the staff began developing a conceptual framework for clarifying the project environment. Boundary conditions were spelled out in two areas, military requirements and civilian (research) requirements.

In response to a participant's fulfillment of these requirements, privileges would be awarded by both the military and civilian staffs. Passes, promotions. afternoons off for athletics and recreation, use of the gym during duty time, and permission for participating in programs off post become contingent. An enabling format by which the participants could help break into self-organization was implemented. A deadline of two weeks was imposed for all participants to develop with individual assistance from a staff member, a self development project. Two more requirements asked that participants demonstrate trackable progress in meeting his goals and develop a second project within five weeks after starting the first.

Participant response was mixed. Most met the requirements, but the staff could see many were performing minimally and with an attitude that was inimical to the development of increased self-management.

This restructuring effort borrowed its methodology from behavior modification and operant learning theories. Staff disagreement arose over the use of operant principles. Members whose educational philosophies were humanistic, objected. Other members felt the humanistic approach had been fairly tried, and found wanting. Staff meetings were held for several weeks to air these opposing viewpoints.

The remaining staff underwent a training process in which each designed and carried out his own self modification projects (Watson & Tharp) (40) to learn to clarify and revise individual behavior modification projects.

Then, the attempt was made to teach these techniques to participants on a one-to-one basis, using goals of their choice. This strategy dovetailed with the participants development programs to form the dominant operational

methodology for this phase - from December 1972 until March, 1973.

At first, the program seemed to benefit from this arrangement! Participants accomplished more and discipline problems decreased in frequency and diminished in severity.

Yet, the participants still demonstrated resentment and resistence to the imposed structure. And staff were discouraged by the length of time participants were taking to make progress and by the punitive relationships they were often forced into with the participants. Avoidance behaviors became more and more frequent. Teaching the participants self-modification proved to be disappointing. Participants evinced little enthusiasm for the details of self-managed modification projects. Several individuals succeeded in their pursuit of MOS and school programs, but the project's operational techniques were not instrumental towards these gains.

During this phase, participants were assigned to the supervision of an individual staff member who was responsible for one to four participants.

One staff member devised a small-group meeting format, for his team, that succeeded in ameliorating some problems. The meetings were held weekly and employed a system of self and peer ratings of the past week's activities. At these meetings participants were expected to formulate goals for the succeeding week. This approach had the advantage of exploiting peer support for progress and for proposals of action and significantly reversed the resistant trend. To this point, peer criticism had been a serious detriment for the project. A group dynamic had established itself where participants discouraged each others interests and attempts in development, a phenomenon which many of them had experienced in high school. The staff viewed this

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as evidence that low-aptitude individuals use an active process in order to maintain a view of themselves as failure prone individuals and victims of "the system". Now we were turning this liability in a direction of support for accomplishment.

The major advantage of this small group meeting format was intrapersonal rather than interpersonal. The weekly self ratings focused each participant on the active role he would have to take in making decisions. If by default, diffusion, or being non-committed a participant failed to achieve anything week after week, he was forced to see that he needed to change himself if he wanted to change his situation. Those participants who were not active in self-development realized that making decisions is an active process, not one that occurs magically.

Despite these improvements, the progress being made by participants was still below our hopes for a six month program. Several participants when confronted with their lack of accomplishment in the small group meetings, decided to go back to regular Army life.

For brief periods the project's direction would seem clear. This was usually when men were establishing contracts and beginning definite tasks to meet their goals. But diffusion and unexpected new variables kept amending the contracts at an uncomfortable rate - a wrong choice of materials, a loss of interest, a personal problem at home, a change of plans, because of new information, or an admission the contract was "a con". All this led to discouraging time, schedule, and contract adjustments so numerous that their use appeared very limited.

In this phase, the staff tried several new approaches combined with frequent staff brainstorming sessions where a search was made for parallels from reports in the literature. While the staff developed a better perception of the participants and their problems, the men's progress was mixed. The frequent changes in the ground rules and constriction of "freedom" reinforced the participant's viewing BR-21 as being haphazard and punitive to all for the mistakes of a few. The unsettled nature of programs was characterized by high expectations on one hand, but on the other, the means for meeting those were not readily accessible. The participants during this period could best be viewed as individuals; with some doing admirably while the rest were turned off.

F. Operation Phase III - Renegotiating the Project

In early March 1973 a period of staff self-examination turned on the question: "Why are we so conscientious and anxious about achievement and organization but the participants seem to back away from designing and engineering their lives? Instead they slide into the anarchy of their immediate inclinations without much attention to the consequences."

It was clear that the staff had been making its assumptions based on the legacy home/school/culture environment and that that their proclivity for order, organization and achievement was the result of the training they had received, and not a natural phenomena.

This implied that we would again be changing the program. One behavior we could safely expect from the participants would be resistance to any more changes. Most changes that had been made in BR-21 had limited the freedom of the participants. Their reactions added emphatic proof to the observation

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that privileges extended are viewed as rights, and curtailment provokes hostility.
Many of the men were already ambivalent about their commitment to the program.
Unfortunately, one powerful appeal of the project, was that life at the
Presidio of Monterey does not possess most of the pressures that occur with
a regular military assignment. This attraction served a powerful contingency
whenever changes were made in the program. These changes were often
accompanied by an unspoken possibility that those who did not cooperate (at
least minimally) would be ejected from the project and reassigned. This
heightened resentment and prolonged a man's being minimally involved. For
these reasons the staff decided to assess the nature of poor self-management
and design a new program that would be tried out on a new group of participants.
This meant halting much of the involvement the staff had with the present
participants.

There was an ethical question involved. Several participants had
become deeply involved in tasks for upgrading their abilities. The
situation was resolved by telling all the remaining participants anyone could
remain if he developed a self development program tha: required minimal
guidance and was willing to be accountable to the two NCO's (assigned to
the effort) for spending a full work day on a daily basis at this.
Additionally, all participants who had not obtained an MOS would have to do
so. We set a deadline of July 1, 1973 for both of these. Anyone not meeting
these requirements would be re-assigned.

The decks had been cleared for a new stage of construction. Staff
schedules were arranged so a major time commitment could be expended on
analysis.

Furthermore, the staff committed itself to designing a program that incorporated effective remedies for each significant dimension we could discover. Any new program would have to be multi-dimension and not be tied to one conceptual framework such as freedom, self-management, contracting, or prosthetic counseling. We were determined also that this new program would be capable of producing data.

For the first phase of the analysis, the staff met daily and discussions centered on enumerating the differences in performance of the CAT IV's we knew and ourselves. We were able to recognize some areas of behavior and environments that characterized differences. After weeks of extensive debate and further elucidation we had six characteristics of poor self-management and six broad skills of good self-management.

Six Characteristics of Poor Self Management:

1. General state of diffusion

2. Inability to maintain self in direction of a goal which involves social achievement

3. Low expectation of success

4. Lack of support for peers

5. Difficulty with verbal negotiation

6. Over-riding interest in resolving   personal conflicts from the past

Six Skills of a Good Self-Manager:

1. Able to deal with authorities in a manner that enhances self and his social position.

2. Able to constructively interact with peers

3. Able to obtain feedback on self and environment

4. Able to employ feedback to understand resources and options in the environment

5. Able to consider the consequences (both short and long range) of activities before starting.

6. Able to make decisions (commitments to action) to use the environment to his benefit.

The second part of the analysis was spent reviewing the approaches we had already taken in order to save worthwhile techniques. The utility of the self-modification steps were recognized, specifically (1) taking baselines, (2) setting objectives, (3) specifying reinforcers for the situation, and (4) contracting for reinforcement contingent on achieving objectives. It was apparent that some uniform elements concerning organizational skills for all participants were needed to enhance project cohesion, and provide a framework which individuals could use for self-development. Furthermore, the environment should contain many prosthetics (guidelines, assistance, and reinforcement) for the newly arrived participant. The prosthetics should then be slowly removed as the participant gains the abilities for managing himself.

The last stage of the analysis dovetailed with the initial planning stages for the new model. One of the first decisions was to employ peer instruction because HumRRO's experience had shown it to (1) better motivate students (especially low aptitude), (2) improve peer group support for achievement, (3) maintain high standards of achievement through the use of mastery criterion, and (4) generate additional staffing through using graduates of the program.

Data requirements would be met by pre- and post-testing participants with a wide range of I.Q., achievement, and attitude inventories. Follow-up studies were contemplated to survey continued development after a participant left the program.

During our search for promising techniques to incorporate, Fred Keller's article [22] describing the effectiveness of oral interviews as an aid for learning by college students stimulated us to try oral presentations with CAT IV men as a method for learning and improving their verbal skills. Another important feature was the decision to require work in the basic skills of math, reading, and use of written language - areas in which most men who were labeled CAT IV were weak.

The staff still held to the belief that a successful program could best be worked out by having participants present and active in the formulation and testing of the program. The program was committed to altering any feature that did not work out until a satisfactory solution was found. The need for continuous revision would at various times exhaust both the participants and the staff.

G. Operation Phase IV - Strengthening the New Direction

In early June 1973 the analytical work culminated with staff agreement on the major elements that would be included in the model, viz.

 I. Content

  A. Basic Skills

  B. Procedures for Self-Modification

  C. Physical Training

II. Methods

    A. Peer Instruction

    B. Mastery Criterion

    C. Individualized Study Programs

    D. Basic Skill Tutoring

    E. Success Experiences (Fail Safe System)

    F. Designing Tasks to Have a Functional Context

    G. Staff Training in Interpersonal Relations

    H. Reinforcing Approximations of Desired Behaviors

Recruitment procedures were revised to benefit from knowledge gained by experience. A shift in population was required. Because of the difficulty in making special MOS training arrangements and the Army Qualitative Management Policy new participants were required to have an MOS.

Upon entry a participant would take a battery of diagnostic tests that would be readministered at his departure.

The principal effort for June and July was applied to devising the peer-instructable modules for Level I. Because of the attempts to incorporate multiple dimensions into the modules, their elaboration required a complex and cooperative effort by the staff. Level I was being designed to contain the full steps for performing a self modification program in two areas. The first was math skills using a programmed text of math basics. The second area was a running program using Cooper's Aerobics system. These two activities were purposely chosen for their diversity in order to provide a widely generalized experience of the applications of self-modification. The original draft of Level I contained 10 modules.

LEVEL I SELF-MANAGEMENT CURRICULUM - CONTENTS

Module Number	Title
Introduction	Module Structure
1	Feedback
2	Baseline
3	Explaining Traits Behaviorally
4	Graphing a Baseline
5	Specifying Problems in Approach - Avoidance Terms
6	Positive Reinforcers
7	Establishing Contingencies
8	Increasing Behaviors
9	Steps in a Self-Modification Program

The first two participants arrived the first of July, were tested, and began on the modules with the staff serving as instructors. The staff alternated the assignments of instructing these participants. The experience of instructing was invaluable to modifying modules and designing those not yet finished.

Quality control for Level I was performed by having the participant give an oral presentation demonstrating his mastery of a module. This period was frustrating for the participants, but we had made a wise decision to include participants during the formulation of the program. The Mastery Presentations were presenting an enigma. A staff member instructing a participant would conclude that the man had learned the module, and arrange for a Mastery Presentation. In the presentation the staff members who were evaluating would find the participants explanations to be confusing. They would ask

questions to check the man's understanding of the concepts in the module.

This raised the question: Were we teaching concepts? If so, how could understanding of concepts be tested in a standardized procedure for the Mastery Presentation. The answer is - knowledge of a generalizable concept can be tested only with great difficulty and only by highly competent individuals. This posed enormous problems of operating the model and raised doubts as to whether the system could be peer-instructed. For these reasons the requirements of a Mastery Presentation were altered. The new requirements were that a man spell, pronounce and define the vocabulary of a module. Then he must use the vocabulary appropriately in describing what he did in the module and explain his graphs using these terms. These standards were settled on after much discussion which anticipated that the experience of peer instruction would develop the comprehension of concepts that are implicit in Level I. This proved to be the case. In order to explain the modules to his student a peer instructor has to develop an understanding of Level I as a system.

While the first phases of the project were plagued with discipline problems the only difficulties in this phase were minor and disposed of by the unit NCO's with the assignment of extra duty and revoking athletic and recreational privileges.

Eliminating the requirement of conceptual learning also eliminated the rationale for several of the modules in Level I and for their order. To rectify the modules a major revision was required. As new ideas cropped up, they were tried out with the participants. By the end of September a new sequence of six modules had been created.

LEVEL I

Module 1: Introduction to Module Structure

Module 2: Graphing Behavior

Module 3: Baseline

Module 4: Objectives

Module 5: Feedback

Module 6: Performance Contract

The participants worked diligently on these modules and their motivation to pass the Mastery Presentation was high. Since we still had no norms for the time required to complete the modules, recording the work time on the instructional materials was cumbersome. To overcome this we introduced a Daily Activities Checklist (DAC), a report of time use for the working day that each participant filled out for himself. Everyone discussed the DAC during the weekly all-project meeting. It was decided to establish a contingency – a participant would have to have his filled out Daily Activity Checklist (DAC) checked and initialed by a staff member at the end of each day in order to take time for athletics and recreation on Friday afternoon. This procedure has worked very well, though there have been a few times a negligent participant has spent a Friday afternoon doing detail work around the unit.

At the end of September the first two participants completed Level I, and assumed peer instruction responsibilities beginning October 1. Unfortunately, the two instructors started with two strikes against them: the modules they were instructing were not the same ones they had studied, and they were surrounded by an overly eager staff who willingly answered any questions their students asked. The staff began to realize how their efforts were hampering the peer instructors, and made it a rule to refer students back to

their peer instructors and give any feedback to the peer instructor which he could relay to his student.

With this adjustment, peer instruction was succeeding by the end of October. A structure for Level I had emerged that promised to have more permanence than any prior operation of the program. The staff had proven to themselves that they could use their perceptions and insights from earlier project phases to develop a program that could succeed with a maximum of participation and the absence of coercion.

H. Operation Phase V – Tying the Model Together

With the approach of holiday season 1973 – 1974 more participants completed Level I and the responsibility for operation increasingly shifted over to the peer instructors. To facilitate the role of peer instructor another module was devised, Preparation for Peer Instruction. This was a review of all the modules in Level I plus some procedures for instructing.

With part of the staff's time freed from the operating of the program, attention returned to further developing the model, which was now at the stage where results could be observed and further adjustments made.

In prior phases we had noted that one common quality of the men in Category IV is their lack of verbal ability characterized by the use of minimal statements. In Level I several participants had extreme difficulty in giving their first oral presentations. However, the staff observed these men improving in both mastery presentations and in conversation. It occurred to us that Level I was developing many facets of language skills. The problem was how to best support and integrate this feature in Level I, and further explore it in designing Level II.

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The work and help of Drs. Thomas G. Sticht and John S. Caylor of HumRRO Work Unit FLIT provided us with a model of language development which we began adopting to BR-21. In this model language development is viewed as having four developmental stages: Listening, Speaking, Reading and Writing. From our experience Speaking can be considered to have two levels of complexity, Reporting and Explaining.

We recognized that the student in Level I follows the first two steps, Listening to his Peer Instructor and Speaking in the Mastery Presentation. To follow this process further and to increase the feedback and assist the eventual task of peer instructing we developed the following procedure: a typed transcript of a student's mastery presentation is made and given to him. This provides a participant written material that is functional and, since it is in his own words, within his comprehension. To insure that the student goes through the process of Reading, he is required to edit the transcript for retrying. Editing initiates the student into Writing. The staff member responsible for typing the transcript recognized an opportunity to provide a successively larger approximation to Writing. For the last four modules she typed the transcripts without any capitalization or punctuation. The student is required to add these while editing.

Peer Instructing Level I further develops the verbal abilities. Here the participant in his teacher's role is required by the nature of the task to explain the material in the modules.

In mid December, when the participants took holiday leave, the staff took the opportunity for assessment and development. Several participants were anxious to begin Level II when they returned and we wanted to be prepared for them.

The staff's goal for Level II was to develop a bridge between Level I and Level III. For Level III we knew what we wanted; to have participants operate on their own initiative to intelligently select enabling goals for themselves and carry out programs to begin reaching these.

Our first proposal, soon abandoned as an awkward ritual, was to have the participant write a script at Mastery Presentations which would be read aloud by the evaluators. We considered having the participant do a short paper for each Level II module. The problem was how to do this in a functional context without the exercise degenerating into "school"-like boredom. We decided to put an emphasis on writing as communication. The Summary Report, as we called it, would have three requirements: (1) correct spelling, (2) the handwriting be legible, and (3) the content be understandable. School standards of English composition were suspended, though many of the men have strived to meet them. The staff decided to provide a further opportunity for developing writing, a requirement that in Level II a participant keep a daily log. In Level II a Mastery Presentation is not a test as in Level I. Rather it serves as a work conference to clean up any minor details and as a chance for the participant to get feedback from the staff on his efforts.

Our discussion of the effect of Level I emphasized that self-management was not what was being taught, rather, self-management enabling skills were being acquired and practiced. Learning to obtain and use feedback was one of such skills. "Feedback" became a frequently used word in the vocabularies of the participants. It provided a way of defusing situations that might be regarded as criticism. Participants were growing in their understanding that feedback was something to be positively applied and that it could be requested. Furthermore, the quality of feedback would be judged - if someone was difficult

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to understand the men would see it wasn't always the fault of the listener, the speaker might not be providing clear information. This recognition of the importance of feedback for the performance of men in Category IV stimulated the development of an operational orientation for the staff which was first incorporated as the primary feature of the first module in Level II and, subsequently, as the primary requirement for Level III projects.

With the advent of peer instruction the staff found themselves relegated to a more peripheral function in the operation, and needed some way of staying in touch with the participants without being interruptive or interferring. To do this, a new feature was organized, a staff member would serve as a coordinator and be associated with a team of participants that formed a chain of peer instructors. This began in January with Coordinators responsible for checking the Daily Activity Checklists for their team and providing assistance with the modules for peer instruction-student problems. This arrangement proved to be extremely practical.

In January negotiations were conducted with Monterey Community College to provide credit for the work participants were doing in BR-21. In Level I, the required math work was being done in a programmed text used for a course at the college. This led to using the resources of the Counseling Department at MPC in Level II. Their staff became acquainted with the project operation and encouraged us to seek credit for the participants' work in the modules since it paralleled their own course titled Personal Development. These negotiations were completed, and in March, when the new semester started, nearly all the participants enrolled for these units. Arrangements were made for an instructor to visit the project twice a week to give math tests to those participants seeking to establish proficiency. Units are

awarded on the basis of the number of tests successfully completed. The units for Personal Development are awarded when a man completes Level II and enters Level III.

The project had reconvened operation when the participants returned in early January. The institution of changes in Level I and establishment of coordinating teams came off smoothly. The senior participants began their first work in Level II. The response to the first module was favorable - involvement and interest were high. The written work though laborious was accepted as a legitimate task by the men, and the staff spent considerable time getting Level II into operation. Some elements had to be rearranged, and simplification became possible by deleting repetitive material and non-essential items. The forms had to present a more organized and perceivable format. The staff had to learn what were appropriate requirements for written material.

As Level II took definitive shape, Level I was culled one more time to remove superfluous items that would not be used in Levels II or III. During this final revision a decision was made to drop the Preparation for Peer Instruction Module which had gone through several evaluations. The deciding point was the report of the men who were peer instructing that the module was not very helpful.

In March the project began to slump. The work in Level II was dragging. In January and February, this had not seemed unusual. We had found in Level I that the first-run participants in a new feature of the program needed to spend a great deal of time working out the operation with the staff. But a pattern of inactivity had developed where the men were painfully slow in initiating stages of module work, or they would become "stuck" on one part,

most usually, a revision of an unsatisfactory Summary Report.

The operation of Level II created a conflict for the Peer Instructors. Balancing the responsibilities of being a Peer Instructor, and being a student in Level II was complicated, and frequently handled poorly. Either a participant was neglecting his Level II work in preference to instructing his student, or a student was not receiving his due while the Peer Instructor was absorbed in his Level II work.

The men explained this by justifiably pointing out interference with their progress. Frequently interrupted by each other, the staff, and at sporadic intervals for detail by the military, the men found it laborious and time consuming to re-orient themselves to a task.

This unsatisfactory climate was reminiscent of earlier project phases where communication between the staff and participants was poor. During the development and operation of the current model the principal reason for a high level of communication had been the participants' recognition that the staff were working to develop a program that met their needs. While the structure was developed by the staff, the participants' suggestions had been continuously sought and incorporated. This input had been responsible for the elimination of the aerobics program, converting the gym period to being voluntary, assigning a staff member to check gym attendance, elimination of the Preparation for Peer Instruction module, modifying the procedure checking the Daily Activity Checklists of Peer Instructors, and changing the subject matter of Summary Reports from a required topic to one that would be of the participants' choice.

The staff wanted to revitalize this atmosphere, and a series of all day meetings were arranged for May 9 and 10. The staff presented their picture

of the difficulties with the project and invited the participants to re-examine the project and provide input. The project broke into small work groups with 4 to 5 participants meeting with one staff person. The suggestions that came out of this led to several changes: a demarcation of the work day into the mornings for working on the modules, and the afternoons for individual study; in the afternoons a staff member is available for tutoring and answering questions to free the Peer Instructor to work on his own modules and studies; the staff became increasingly aware of the subtle ways they effect the participants. These intense conferences helped us further define the interpersonal components of the programs. Much staff training had concerned itself with effective interaction with the participants, and this breakdown in communication had pinpointed the importance of understanding the participants' problems with authority and being able to work effectively in helping them make decisions. Although we had often experienced the breakdown in operational effectiveness because of punitive and/or hasty decision making on the part of the staff, until now we had not been able to identify those skills that were a prerequisite for effective staff behavior.

In late May and early June the participants in Level II rapidly completed modules. The staff began putting more time into helping participants draw up their plans for Level III. While a participant usually had a good idea of what he wished to accomplish in Level III, he was not sure of how to go about it. We found that it was at this point that a few minutes with a staff member could help a participant arrange a program that he would have probably spent several hours or days pondering over alone.

In June the first participant began Level III. By the end of the month five men had reached this stage. The project had become fully operational.

CHAPTER IV: CURRENT OBJECTIVES, PLANS AND SCHEDULES

For the coming year, the following activities will occur:

1. The recruitment of Category IV personnel to provide an on-going participant population. Participants are selected from a pool of Advanced Individual Training graduates on a voluntary basis. Preliminary screening is done to eliminate men with serious disciplinary problems. Figure 10, page 73, shows participant flow.

2. The development of a special educational environment best suited to the upgrading of low-aptitude personnel. This provides the on-going organizational framework within which questions of learning proficiency and operational strategies can be explored. This model is presently in its initial operational phase.

3. Explicit data in terms of basic skill development, personal organizational skills, time-use efficiency, and mastery of specific criteria will be constantly collected to a) provide formation feedback to guide individual participants' study programs, b) check on the overall operation of the model, and c) to provide summative evaluation data.

4. The design and administration of procedures to measure the effects of the model on propensity, i.e., to see if there is a significant shift in habits so that self-improvement work will continue when the participants are in the unstructured phase (Level III) of the project.

5. A final report containing: a) descriptions of techniques used in the design of the educational environment, b) summative data on the participants' use of discretionary time, c) basic skill achievement and

rate of skill development, and d) recommendations for possible establishment

of ABEL programs in an operational setting.

FIGURE 10

PARTICIPANT FLOW - FY-75

Group No.	Enter	Exit
1	5 August 1974	10 February 1975
2	23 September 1974	31 March 1975
3	4 November 1974	5 May 1975

NOTES: Will move 12 - 18 participants through by June 30, 1974.

Allows each participant 26 weeks in project.

Each group contains four to six participants.

FIGURE 11

PROPOSED SCHEDULE

	FY 74	FY 75			
	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
	+	+	+	+	+
	+	+	+	+	+
	+	+	+	+	+
	+	+	+	+	+
	+	+	+	+	+
	+	+	+	+	+
	+	+	+	+	+

Activity 1
Model and Curriculum
into full operation
with 20 participants

Activity 2
Final section and
development of appropriate
evaluation measurements

Activity 3
Analysis of time utilization
and learning efficiency data

-------------------------MODEL CONTINUES IN FULL OPERATION------------------
(20 participants complete the fully operational program during FY 75)

Activity 4 - Evaluation of effects of
different learning strategies
within the Model

Activity 5 - Exploration of applications
and advanced development possibilities

Activity 6
Preparation
of the
Final Report

APPENDIX A: SCHEMATIC BREAKDOWN OF MODEL OPERATION

This appendix describes the process a participant works through from pre-acceptance to post-participation in Work Unit BR-21.

Included for each step is a schematic diagram, a Peer Instructor's Guide, a descriptive statement outlining the selection process, testing procedures, the modules making up Levels I and II, entry into Level III, interviewing for staff positions, and the overt and covert processes that take place as a student participates in Work Unit BR-21.

SELECTION

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┌──────────────┐           ◇ SELECTED? ◇
│  CONTINUES   │◄── NO ───
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│   SYSTEM     │                │
└──────────────┘              YES
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CAN HANDLE WRITTEN
MATERIALS OF PROGRAM;
VERBALIZES DESIRE FOR
SELF-IMPROVEMENT; ONLY
MINOR DISCIPLINE
PROBLEMS

PROCESSED
IN

TESTING ──────── (A)

ASSIGNED TO
COORDINATOR
AND
PEER INSTRUCTOR

BEGINS
LEVEL I
MODULE WORK

(2)
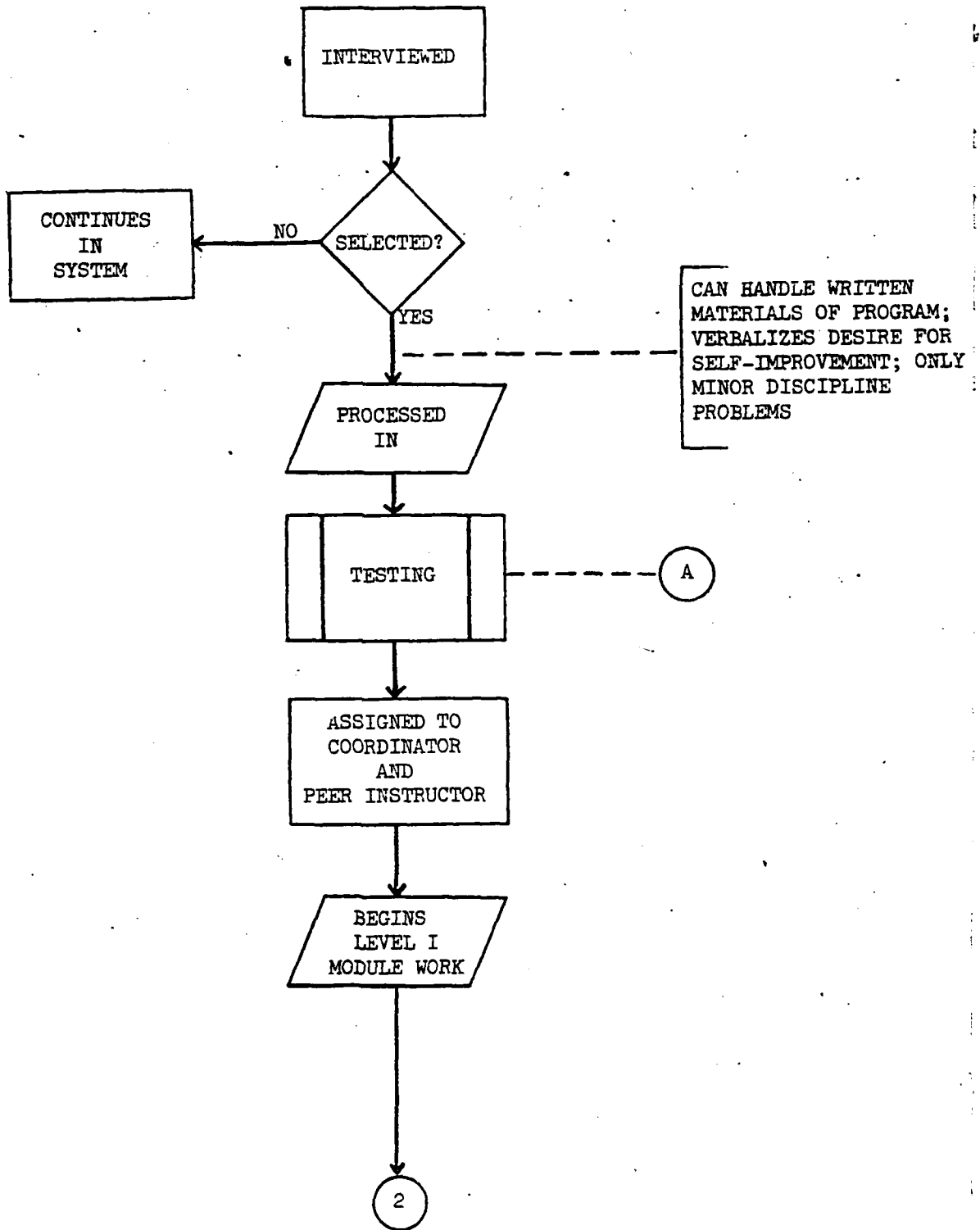
The selection process is initiated by the screening of records at Fort Ord's Trainee Personnel section. Taken from list are the names of CAT IV personnel in AIT who may be interviewed and have a chance to come over to the Presidio of Monterey and be interviewed by BR-21 Staff personnel. Once accepted the participant is processed into the Unit, tested, assigned a Coordinator and Peer Instructor and begins Level I module work. See section on participant selection, page 5, for more detail.

There are general exercises contained in each of the modules making up Level I. They are:

1. Use a Peer Instructor's Guide to assist in learning mastery criteria.

2. Communicate orally with his Peer Instructor.

3. Learn a vocabulary list.

Besides the above, upon completion of each module, the student receives a typed transcript of his Mastery Presentation. He is then required to make any corrections such as striking out irrelevant material or restructuring statements.

Typed transcripts for modules 3-5 contain no punctuation or capitalization. Thus, in Modules 3-5, the student is not only required to make corrections, he is also required to capitalize and punctuate where necessary. The transcript is reviewed by the student's Peer Instructor, then the student reads it to his coordinator and turns it in for retyping.

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

-79-

1. A list of the modules

2. Dividers -- for each module, math work and records, behavior of choice records, notebook paper

3. Daily Activity Checklist -- a form which is used by the student to account for time used during the work day and for a review of activities engaged in during the day.

1

LEVEL I

INTRODUCTION MODULE
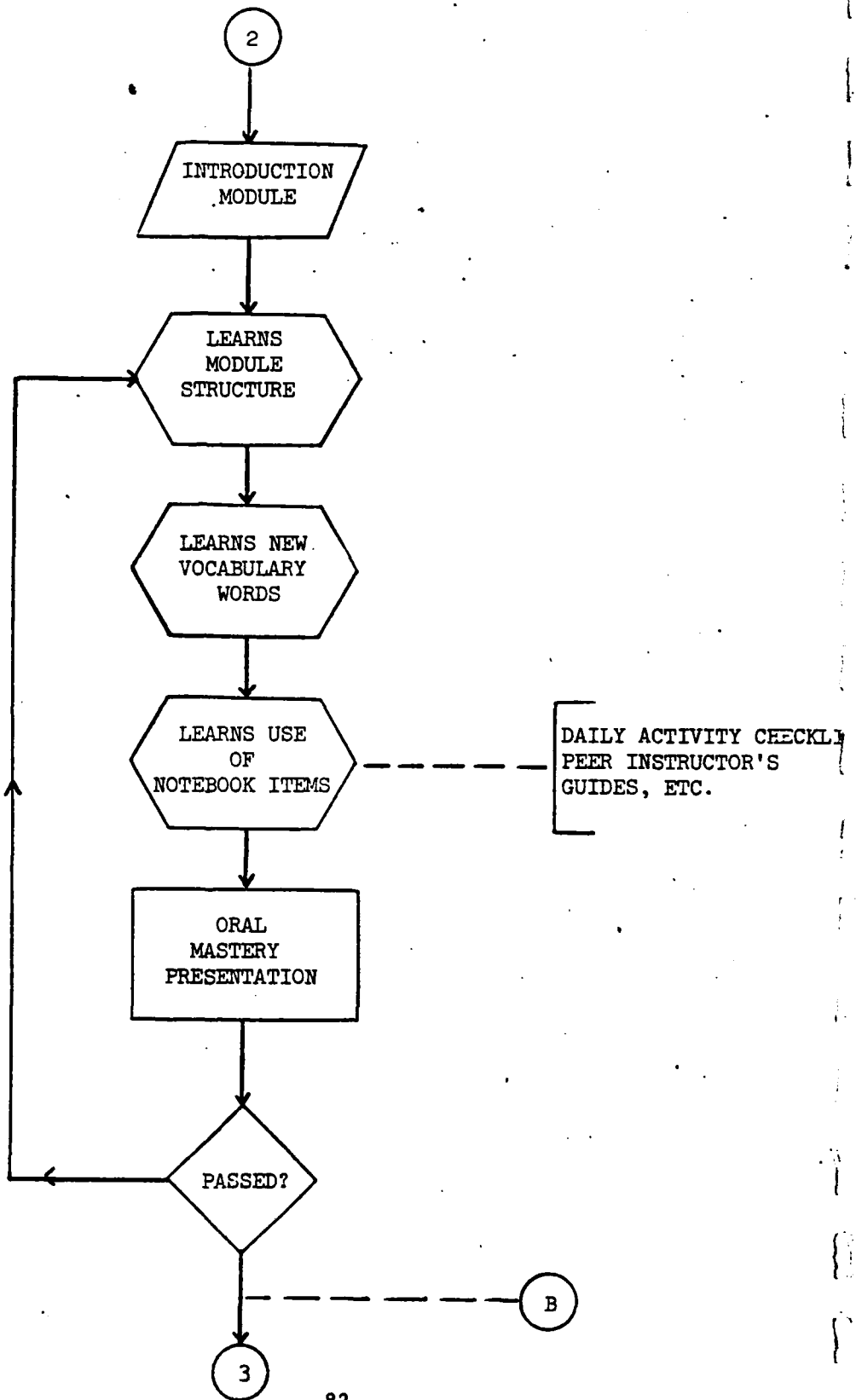
Level I - Introduction to Module Structure

The first module, Introduction to Module Structure, introduces the new student to the module format and structure. Besides the above, the new student experiences the following in the Introductory Module: (1) he learns to relate a concept to actuality by use of an example, such as the Orienting Experience, where the card trick is used to help him learn and explain the module structure, (2) being taught by and learning from a Peer, (3) he is introduced to 100% mastery learning as is required to pass a Mastery Presentation, (4) he is aware of specific requirements, (5) he prepares for a tense situation in the Mastery Presentation, which means "practice", (6) he deals with authority (i.e., evaluators in the MP), (7) he must orally communicate in a Mastery Presentation to answer and discuss any questions asked by evaluators to clear up a point.

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.

-84-

*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

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 area

_____ Discuss progress for week

_____ Redesign study program

_____ Discuss new objectives

_____ Check feedback records

PARTICIPANT COMMENTS

COORDINATOR COMMENTS

OFF-PROJECT WORK

hours

WEEKEND

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

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)
	6								(6)
PEER INSTR	7	W/STUDENT							(7)
	8								(8)
SKILL DVLPMT	9	MATH							(9)
	10								(10)
	11								(11)
MTGS	12	STAFF/PARTICIPANT							(12)
	13	W/COORDINATOR							(13)
	14	PI							(14)
	15								(15)
	16								(16)
SPORTS	17	SPORTS PROGRAM							(17)
	18	MEALS							(18)
	19	BREAKS							(19)
	20	MILITARY DUTY							(20)
OTHER	21								(21)

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LEVEL I

MODULE I: GRAPHING

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                  ╱    GRAPHING       ╱
                 ╱─────────────────╱
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              ╱───────────────────────╲
             ╱    INTRODUCED           ╲
            │     TO GRAPHS             │
            │     AND PATTERNS          │
             ╲    OF BEHAVIOR          ╱
              ╲───────────────────────╱
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              ╱───────────────────────╲
             ╱     LEARNS NEW          ╲
            │      VOCABULARY           │
            │      WORDS                │
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              ╱───────────────────────╲
             ╱     LEARNS              ╲
            │      TO READ              │
            │      GRAPHS               │
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              ╲───────────────────────╱
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              ╱───────────────────────╲              ┌──────────────┐
             ╱     LEARNS TO           ╲             │  GRAPHS TO   │
            │      DESIGN               │ ── ── ── ──│  NOTEBOOK &  │
            │      GRAPHS               │            │  FILE        │
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            │ │    MASTERY          │ │
            │ │    PRESENTATION     │ │
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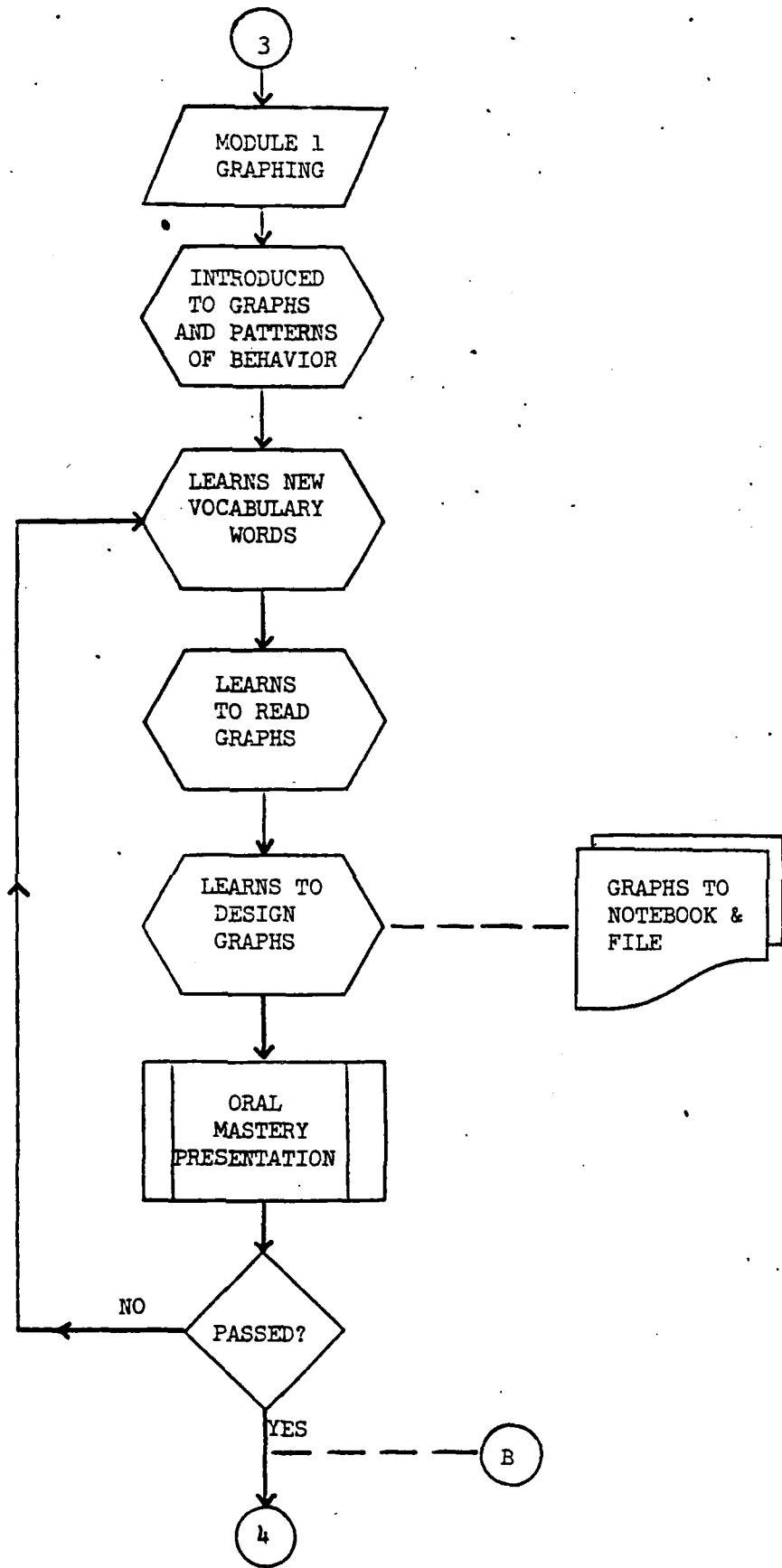
<u>Module 1: Graphing</u>

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. More importantly, and aside from the discussion and con-
struction of graphs, the student learns that behavior is something that
can be observed and recorded.

At this point, the student has received a type-written copy of
his taped Mastery Presentation of the Introductory Module. From this
transcript, the student gets a picture of his own verbal behavior,
becomes more aware of his speaking patterns and uses the transcript to
evaluate the organization of material to improve his organization of
future presentations.

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 2: BASELINE

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             /   MODULE 2        \
             \   BASELINE        /
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            /------------------\
           /   TAKES MATH       \                    +------------------+
          (    PROGRAM           ) - - - - - - - - - |     STARTS       |
           \   DIAGNOSTIC       /                    | SELF-INSTRUCTED  |
            \     TEST         /                     |      MATH        |
             \---------------/                       |    PROGRAM       |
                      |                              +------------------+
                      v
            /------------------\
           /    SELECTS         \
          (  BEHAVIOR TO         )
           \ CHANGE AND TAKES   /
            \   BASELINE       /
             \---------------/
                      |
                      v
            /------------------\
           /   LEARNS NEW       \ <------------+
          (   VOCABULARY         )            |
           \     WORDS          /             |
            \----------------/                |
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                      v                       |
          +-+------------------+-+            |
          | |      ORAL         | |           |
          | |    MASTERY        | |           |
          | |  PRESENTATION     | |           |
          +-+------------------+-+            |
                      |                       |
                      v                       |
                   /------\         NO        |
                  /        \----------------->+
                 <  PASSED? >
                  \        /
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                      | YES
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                      |- - - - - - - ( B )
                      v
                    ( 5 )
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-94-
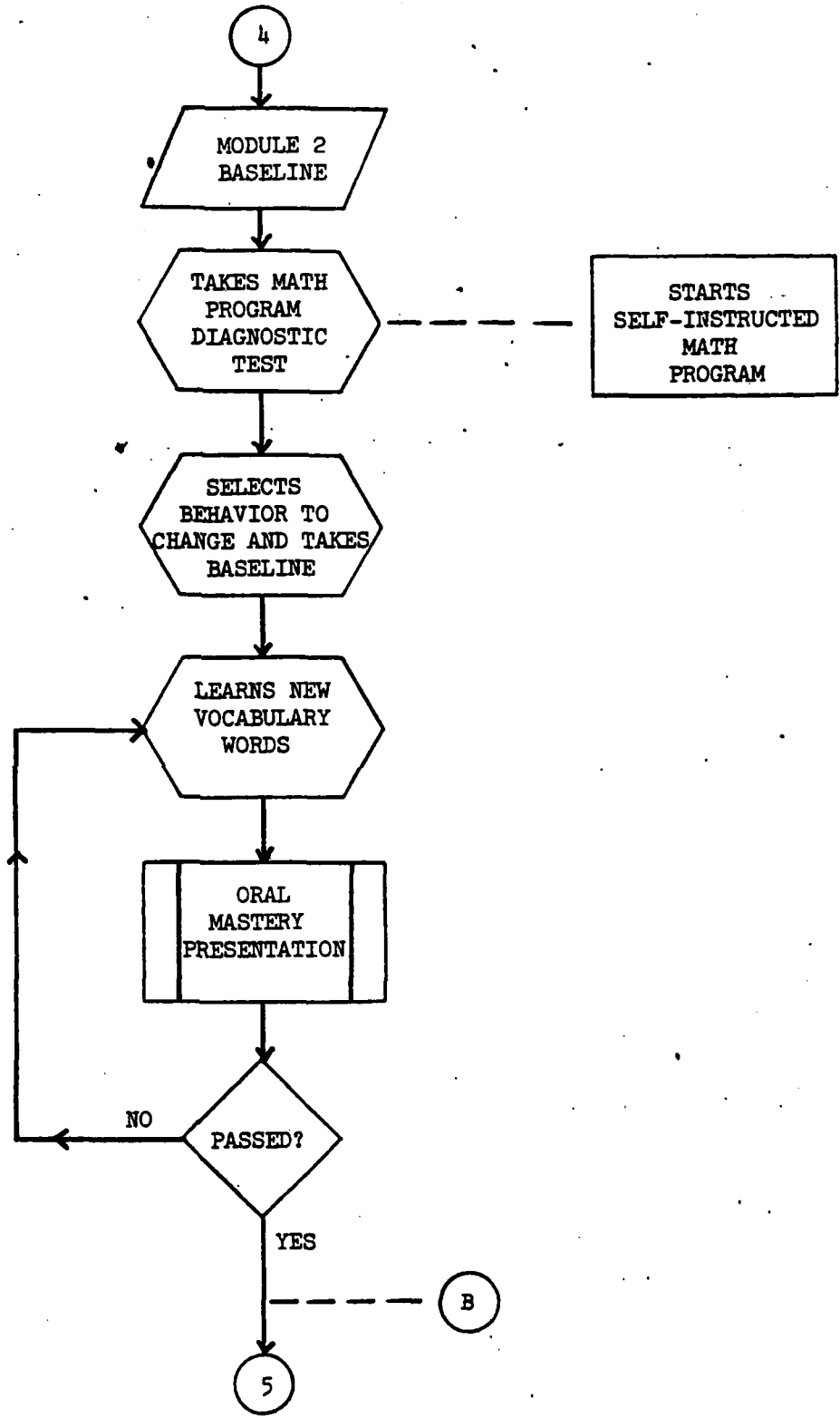
Module 2: Baseline

Module 2: Baseline, introduces the student to the concept of a baseline. The student employs the exercise of taking a baseline to gauge his standing in two areas, mathematics and a behavior of his own choosing. The student begins the math program by taking a diagnostic test to see what material he has already mastered in the math book. He then begins work on the first unit in the math programmed text. He graphs both the behavior in the math program (number of problems completed) and his behavior of choice (i.e., smoking, weightlifting, money spent). In this module the student also finds 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 already mastered material;

3. he has had some success in math;

4. he experiences the use of programmed materials for learning;

5. progress can be recorded, i.e., math records and graphs;

6. he can teach himself with the use of minimal resources such as his math book and tutors.

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

LEVEL I

MODULE 3: OBJECTIVES

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                     ╱    MODULE 3        ╱
                    ╱    OBJECTIVES      ╱
                   ╱───────────────────╱
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    │ OBJECTIVES  │                            │ OBJECTIVES  │
    │    FOR      │                            │    FOR      │
    │   MATH      │                            │  SELECTED   │
    │  PROGRAM    │                            │  BEHAVIOR   │
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     ⬡───────────⬡          │  GRAPHS   │         ⬡───────────⬡
    │MAKES LEVELS │  ─ ─ ─ ─ │TO NOTEBOOK│ ─ ─ ─  │MAKES LEVELS │
    │OF ASPIRATION│          │ AND FILE  │         │OF ASPIRATION│
    │GRAPH - MATH │          └──────────┘         │GRAPH-BEHAVIOR│
     ⬡───────────⬡                                 ⬡───────────⬡
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                        │  LEARNS TO  │
                        │   RELATE    │
              ┌────────▶│ BASELINE TO │
              │         │ OBJECTIVES  │
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              │        │ LEARNS NEW  │
              │        │ VOCABULARY  │
              │        │   WORDS     │
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              │         ┌┬─────────┬┐
              │         ││  ORAL    ││
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              │         └┴─────────┴┘
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              └──────────◀│  PASSED? │
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                           -99-
                              ( 6 )
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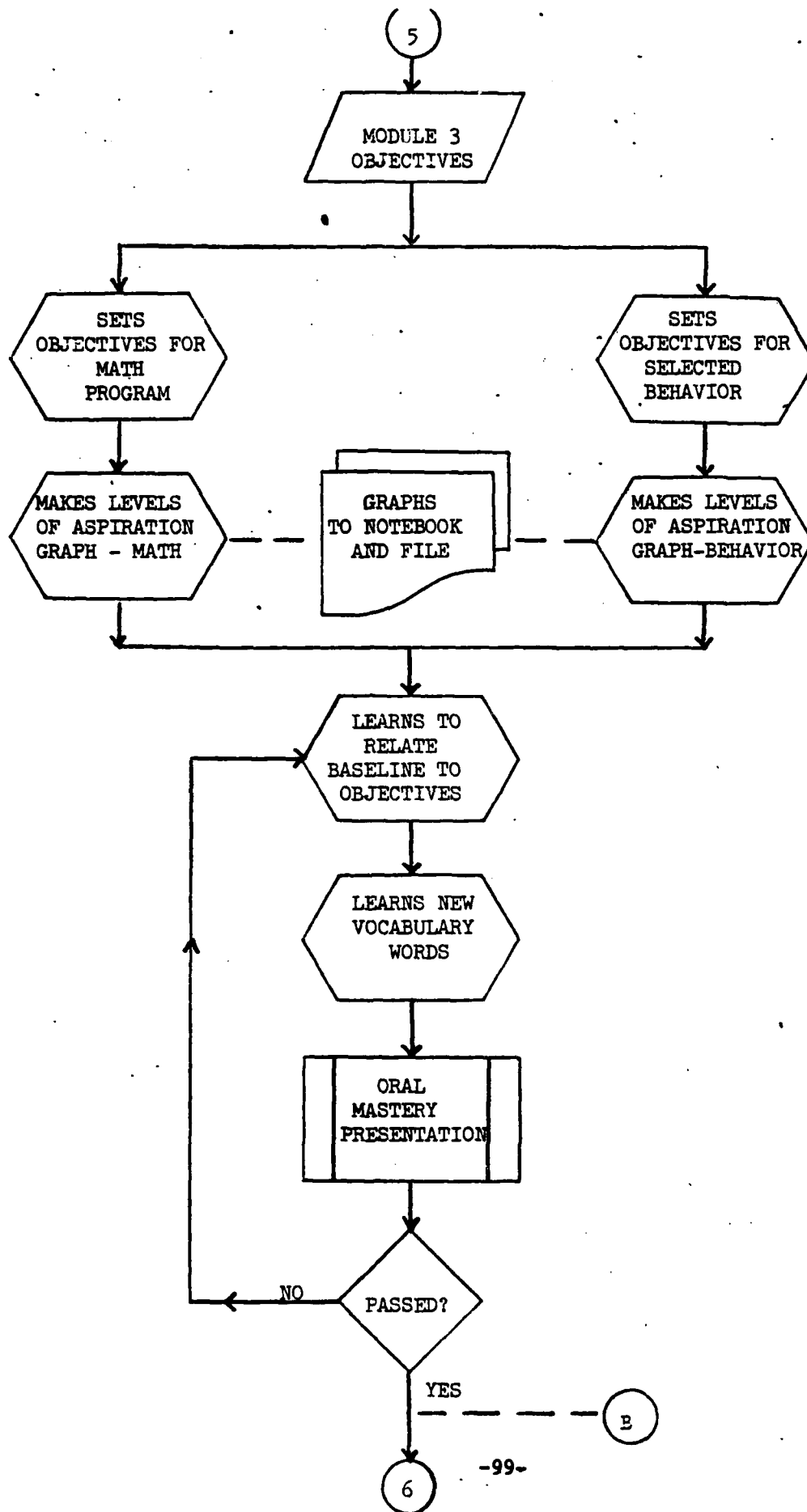
Module 3: Objectives

Module 3: Objectives, focuses on the individual's capacity to set objectives 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 rate of work in math and behavior of choice, he sets deadlines for completing his prescribed goals. 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 spent, and

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 of concepts in a Mastery Presentation. In this module the student is required to explain the relationship between a baseline and objective. Therefore, he explains that one has to know where he stands in order to set a clear objective.

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.

-101-

*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. 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 4:   FEEDBACK

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                 /     MODULE 4      /
                /     FEEDBACK      /
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                   │ INTRODUCED  │
                   │     TO      │
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                   │ PLOT PROGRESS│
                   │ ON LEVELS OF │
                   │ ASPIRATION   │
                   │   GRAPH      │
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                   │ LEARNS TO    │
          ┌───────▶│ RELATE FEEDBACK│
          │        │ TO BASELINE  │
          │        │ & OBJECTIVES │
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          │         │ LEARNS NEW   │
          │         │ VOCABULARY   │
          │         │   WORDS      │
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          │        │  │  ORAL   │  │
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          │        │  │PRESENTATION│ │
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-104-
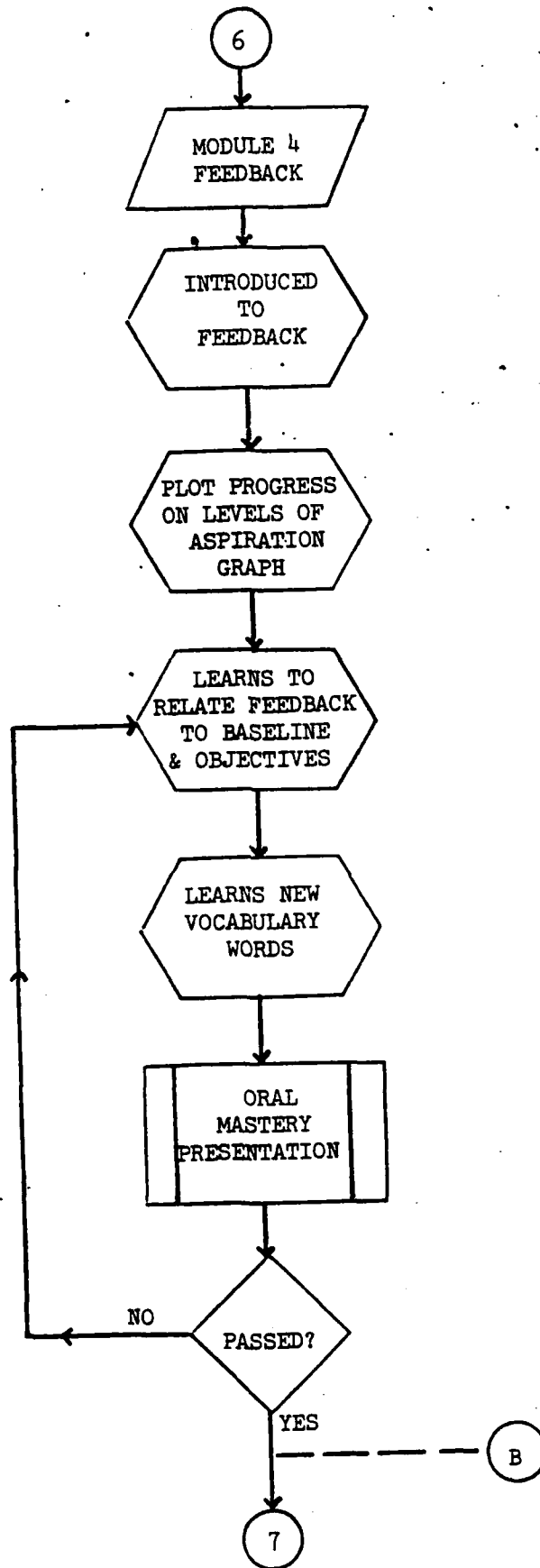
Module 4: Feedback

In Module 4: Feedback, the student learns the importance of
continuous information gathering in working toward accomplishing an
objective. He learns what clear feedback is and uses the information
to re-examine his set plan. If his progress is not meeting his pre-set
plan he restructures his program to set a more realistic deadline and
plans for more time.

As in Module 3, the student is required to explain a concept:
The relationship of feedback to baseline and objectives. He explains
that he uses a baseline or starting point to help set his objectives.
Then, feedback is used to see whether he is accomplishing 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

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

LEVEL I

MODULE 5:   PERFORMANCE CONTRACTS

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                  ┌───────────────────┐
                 ╱   MODULE 5          ╱
                ╱    CONTRACTS        ╱
               └───────────────────┘
                            │
                            ▼
                  ⬡ INTRODUCED
                       TO
                    CONTRACTING ⬡
                            │
                            ▼
                  ⬡ MAKES LIST                          ┌─────────────┐
                       OF          ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ │ LIST TO     │
                    REINFORCERS ⬡                       │ NOTEBOOK &  │
                            │                           │ FILE        │
                            ▼                           └─────────────┘
                  ⬡ LEARNS NEW
                    VOCABULARY
                      WORDS ⬡
                            │
                            ▼
                  ⬡ COMPLETES                           ┌─────────────┐
                    3-DAY MATH   ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─ │ CONTRACT TO │
                    CONTRACT ⬡                          │ NOTEBOOK &  │
                            │                           │ FILE        │
                            ▼                           └─────────────┘
                  ┌───────────────────┐
                  │ ‖   ORAL      ‖   │
                  │ ‖   MASTERY   ‖   │
                  │ ‖ PRESENTATION‖   │
                  └───────────────────┘
                            │
                            ▼
              NO           ◇
           ◄──────────── ◇ PASSED? ◇
                            ◇
                            │
                           YES
                            │
                            ├ ─ ─ ─ ─ ─ ─ ─ ─ ( B )
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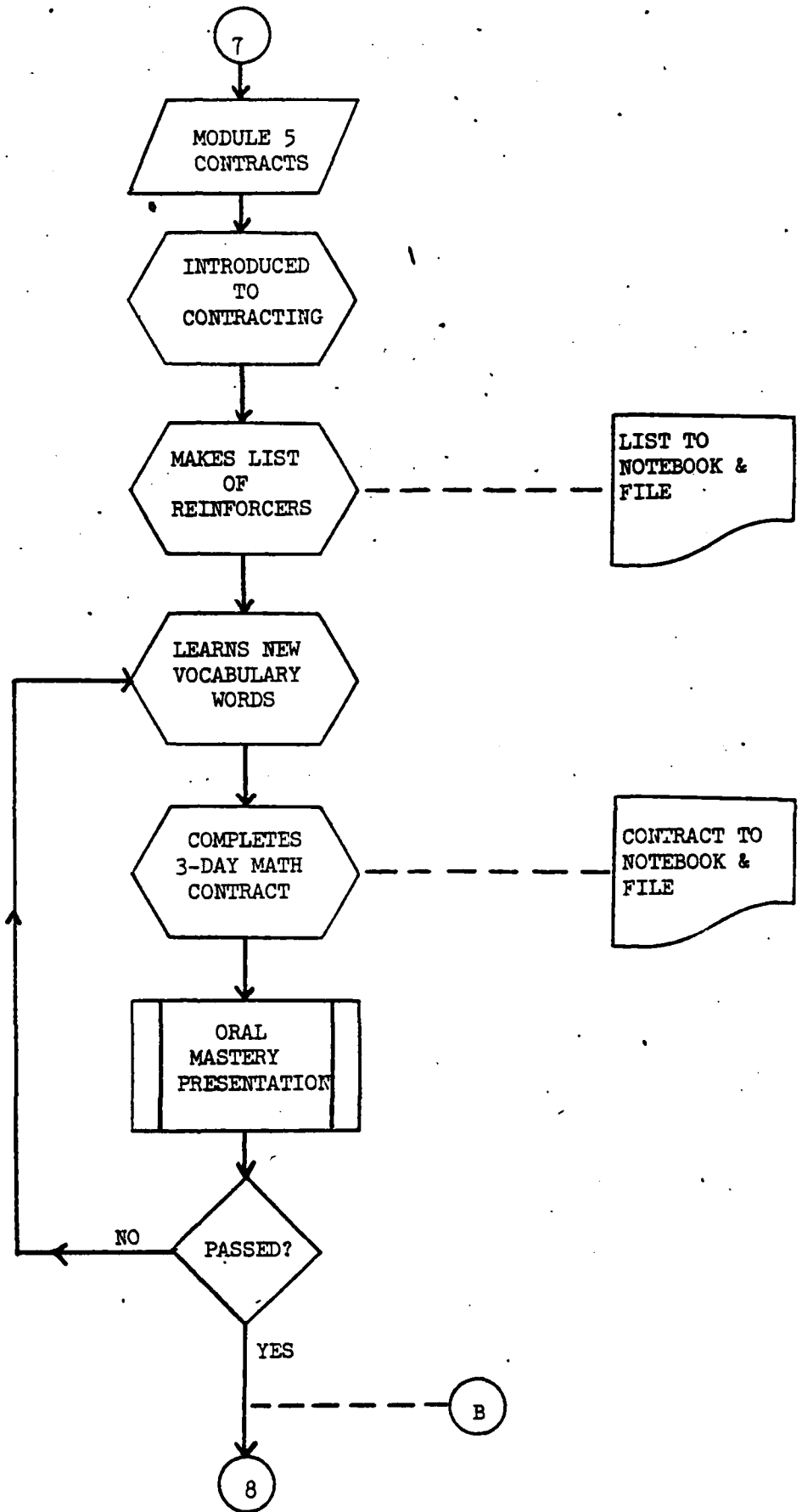
Module 5: Contracts

Module 5: Contracts, is a synthesis of all the previous module work plus the experience of 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. By setting up a contract, a student uses self-discipline to see if he can accomplish more work.

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

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 Reinforcers 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

LEVEL I, MODULE 5: PERFORMANCE CONTRACTS

<u>PEER INSTRUCTOR'S GUIDE</u>

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.

LEVEL I TO LEVEL II

TRANSITION

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            ╭───────────────────╮
            │   EXIT LEVEL I     │
            ╰───────────────────╯
                      │
                      ▼
            ┌───────────────────┐
            │    RETENTION      │
            │    INTERVIEW      │
            └───────────────────┘
                      │
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  ┌──────────┐      ╱────────╲
  │ RETURN   │ NO  ╱          ╲
  │   TO     │◄───◄   STAY?    ►
  │ SYSTEM   │      ╲          ╱
  └──────────┘       ╲────────╱
                      │                  ┌ FUNCTIONS IN PI SYSTEM,
                     YES ── ── ── ── ── ──  DESIRES TO CONTINUE
                      │                  └ NO DISCIPLINE PROBLEMS
                      ▼
            ┌─┬───────────────┬─┐
            │ │  ORAL AND     │ │
            │ │  WRITTEN      │ │
            │ │  BASELINE     │ │
            │ │  TESTS        │ │
            └─┴───────────────┴─┘
                      │
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            ┌───────────────────┐
            │    ASSIGNED       │
            │    LEVEL I        │
            │    STUDENT        │
            └───────────────────┘
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            ╱───────────────────╲
            │      BEGIN         │
            │ PEER INSTRUCTION   │
            │     LEVEL I        │
            ╲───────────────────╱
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            ╱───────────────────╲
            │     BEGINS         │
            │    LEVEL II        │
            │  MODULE WORK       │
            ╲───────────────────╱
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-114-
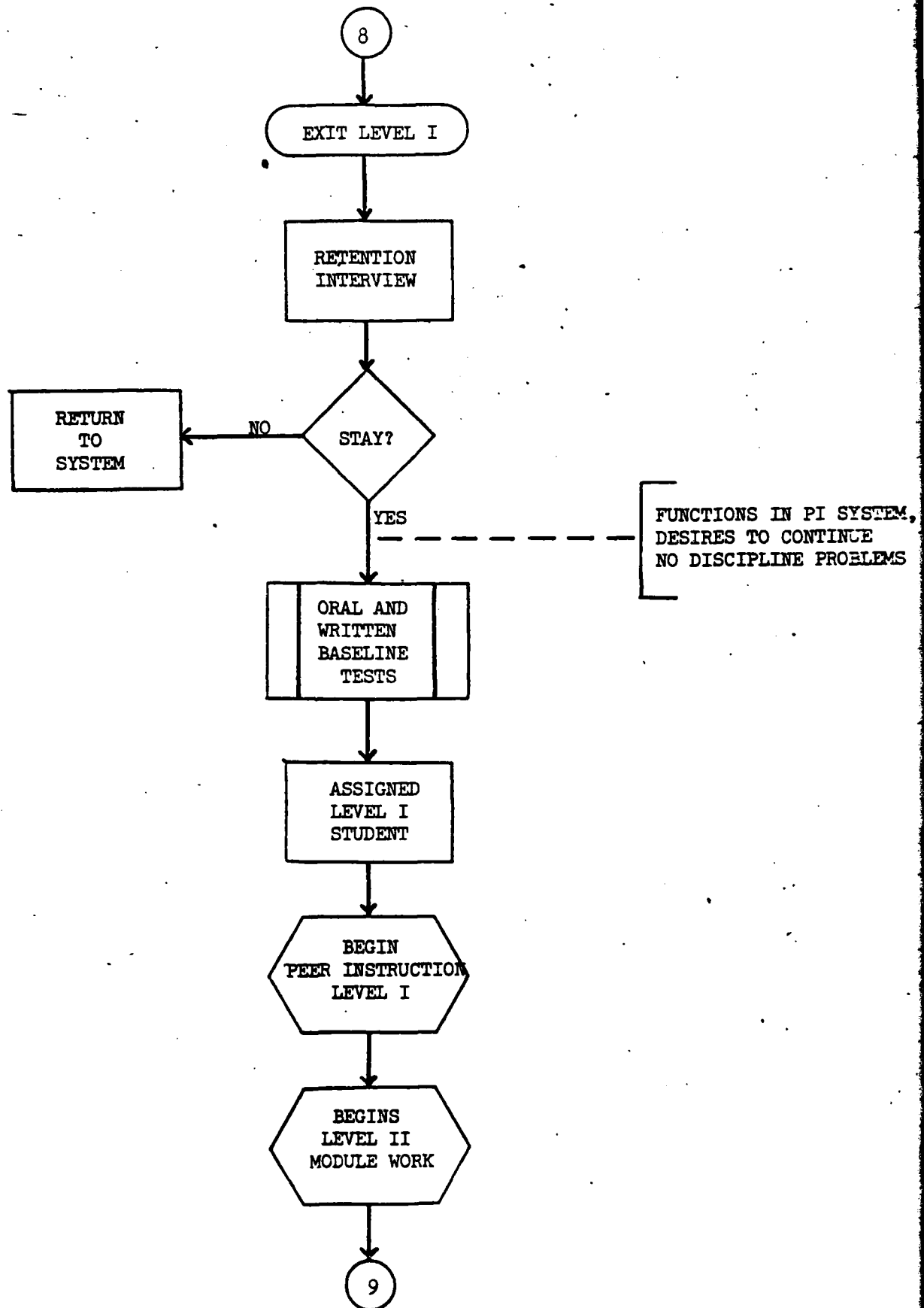
Level I to Level II: Transition

Upon completion of Level I, the groundwork for independent study in Level III has been established. Now the student enters Level II and must do more planning for his own learning as well as for teaching a new student.

Before actually beginning Level II, the student has an interview with the Project Director to review past progress and restate plans and objectives for his continued participation in the program.

If the student decides to continue and staff personnel are in agreement, he is readministered the oral and written test he took when he entered BR-21, is assigned a Level I student, and begins Peer Instruction and Level II work simultaneously.

Using his knowledge and resources, such as his notebook items (transcripts, PI Guides, Mastery Checklists and Graphs) and his coordinator, he will carry an incoming student through Level I. He, also, makes a tentative daily work schedule to include time for teaching, Level II work and some independent study.

The Level II student will continue to keep a Daily Activity Checklist and is required to learn new vocabulary words for Module 1, Level II.

As in Level I, there are a few exercises that are continually engaged-in in Level II. First of all, the student begins to keep a daily log. In the log he writes about daily activities, thoughts, ideas, feelings and future plans. Secondly, the student goes from an oral to an oral and written Mastery Review. And, finally, the student is required

to write a paper, approximately five-hundred words long, discussing subjects such as those outlined in the Suggested Themes for Summary Report. The summary report, log, and particular exercise in each module, are used as a focal point for discussion in the Mastery Review where the student is required to have organized his thoughts and ideas to discuss and answer questions about his plans for work in Levels II and III.

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 1: Profile

A look at your personal future, near and distant. How has BR-21 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 2: Skills & Resources

Why basic skills are important.

Difficulties you have with learning.

Self-management.

The importance of organization.

Your responsibilities and the responsibilities of the staff in BR-21.

Module 3: Baseline & Objectives

The importance of having objectives.

Do reinforcers work?

The importance of feedback.

Reactions to BR-21 and how you would improve the program.

NAME: _____

DATE: _____

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

% EFFECTIVENESS

NAME: _____   WEEKLY PROGRESS REPORT   DATE: _____

LEVEL I & II

MODULE PROGRESS   MATH RECORDS

_____ Review   _____ Up-to-date

_____ Provide feedback   _____ Review time included

                                        _____ Taken tests for credit

LEVEL II ONLY   LEVEL III ONLY

LOG   _____ Provide assistance in skill are

_____ Up-to-date   _____ Discuss progress for week

_____ Contains info on activities,   _____ Redesign study program
      questions about plans,
      reactions   _____ Discuss new objectives

_____ Provide feedback   _____ Check feedback records

_____ Outside activities

PARTICIPANT COMMENTS

COORDINATOR COMMENTS

OFF-PROJECT WORK   hours

WEEKEND | | |

MONDAY | | |

TUESDAY | | |

WEDNESDAY | | |

THURSDAY | | |

-119-

LEVEL II

MODULE 1: PROFILE

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      ╱─────────────╲
     ╱  MODULE 1     ╱
    ╱   PROFILE     ╱
   ╱──────────────╱
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   ┌─┬───────────┬─┐                                                    ( 9A )
   │ │  RETEST   │ │          CTBS                                        │
   │ │ CTBS/KUDER│ │          GRAPHS          ◄─────    GRAPHS            ▼
   └─┴───────────┴─┘                                    CTBS TEST
           │                                            RESULTS
           ▼                                               │
   ┌───────────────┐       ┌───────────┐                   ▼
   │    CAREER     │       │  PROFILE  │  ◄──────    COMPLETES
   │  COUNSELING   │       │   FORM    │             PROFILE
   └───────────────┘       └───────────┘             FORM
           │                     │                       │
           ▼                     ▼                       ▼
       BEGINS            ┌───────────┐            LEARNS NEW
       KEEPING    ──────►│    LOG    │            VOCABULARY
       DAILY LOG         └───────────┘            WORDS
           │                     │                       │
           ▼                     ▼                       ▼
        ( 9A )            ┌───────────┐            WRITES
                          │  SUMMARY  │  ◄──────   SUMMARY
                          │  REPORT   │            REPORT
                          └───────────┘
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                                ▼
                          ┌───────────┐
                          │ APPROVED  │
                          │    BY     │
                          │COORDINATOR│
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                          │ SUBMITTED │
                          │    TO     │
                          │EVALUATORS │
                          └───────────┘
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                        ┌─┬───────────┬─┐
                        │ │  MASTERY  │ │
                        │ │  REVIEW   │ │
                        └─┴───────────┴─┘
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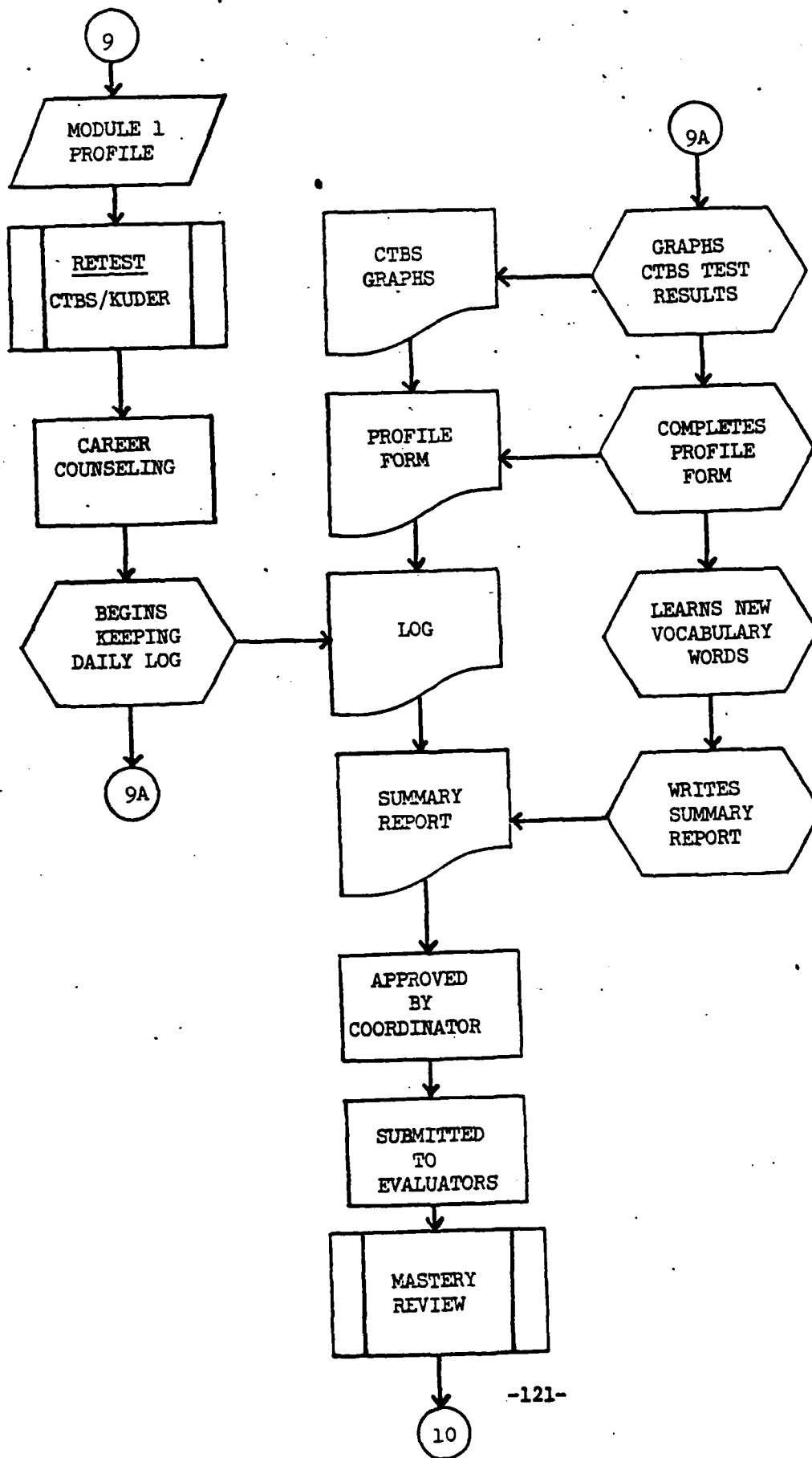
Level II

Module 1: Profile

Consistent with making realistic plans for future independent work
is the awareness of personal interests, aptitudes and progress. In
this module the student is exposed to a large amount of feedback in these
areas.

He is readministered the Comprehensive Test of Basic Skills to
obtain feedback on possible progress in four basic skill areas. He
then graphs his initial and present scores. He retakes the Kuder
Preference Record, a career interest inventory, to gain a perspective
on possible career choices.

In addition, he uses nearby Monterey Peninsula College as a
resource center. This exercise has become an integral and exciting
part of the Profile Module. The student travels to MPC and takes the
Career Counseling Inventory. Within a few days he receives a computer
printout listing 100 possible career choices ranked in order of the
student's ability to meet the following demands of the career area:
(1) interest, (2) aptitude, (3) willingness to spend time on career
preparation, (4) temperament, and (5) physical demands.

A new level of interaction is entered upon with the use of the
college system. The student: (1) is exposed to the college setting,
(2) deals with new authority figures when he meets with a college
counselor to discuss and review his Career Counseling Inventory,
(4) engages in interaction with community resources and systems.

After completing all the above work, the student enters the information on a single sheet, called the Profile Form. Besides his CTBS, Kuder and CCI scores, he begins gathering data on time spent on module work and lists three of his own career interest areas. Thus, on this sheet, he has basic feedback with which to assess his assets, interests and deficiencies.

Finally, if the student has not done so and wishes to, he registers to receive credit from Monterey Peninsula College for math work he completes. Upon completion of four unit sections in _A First Program In Mathematics_ by Arthur H. Heywood, begun in Level I, Module 2, the student receives two junior college credits in mathematics.

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

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. _____ %

LEVEL II

MODULE 2: SKILLS AND RESOURCES

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   ┌──────────────┐
   │  MODULE 2    │
   │  SKILLS &    │
   │  RESOURCES   │
   └──────────────┘
          │
          ▼
   ╱──────────────╲              ┌──────────────┐
  ╱  MAINTAINS     ╲             │              │
 ⟨   DAILY          ⟩──────────▶│     LOG      │
  ╲  LOG           ╱             │              │
   ╲──────────────╱              └──────────────┘
          │                              │
          ▼                              │
   ╱──────────────╲                      │
  ╱  SELECTS       ╲                     │
 ⟨   SKILL          ⟩                    │
  ╲  AREAS         ╱                     │
   ╲──────────────╱                      │       ┌──────────────┐
          │                              │       │   APPROVED   │
          ▼                              └──────▶│      BY      │
   ╱──────────────╲      ┌──────────────┐        │ COORDINATOR  │
  ╱  PREPARES      ╲     │  SKILLS &    │        └──────────────┘
 ⟨   SKILLS &       ⟩───▶│  RESOURCES   │───┐           │
  ╲  RESOURCES     ╱     │  FORM        │   │           ▼
   ╲  FORM        ╱      └──────────────┘   │    ┌──────────────┐
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          │                                 ├───▶│     TO       │
          ▼                                 │    │  EVALUATORS  │
   ╱──────────────╲      ┌──────────────┐   │    └──────────────┘
  ╱  WRITES        ╲     │  SUMMARY     │   │           │
 ⟨   SUMMARY        ⟩───▶│  REPORT      │───┘           ▼
  ╲  REPORT        ╱     │              │        ┌──────────────┐
   ╲──────────────╱      └──────────────┘        │║  MASTERY   ║│
                                                 │║  REVIEW    ║│
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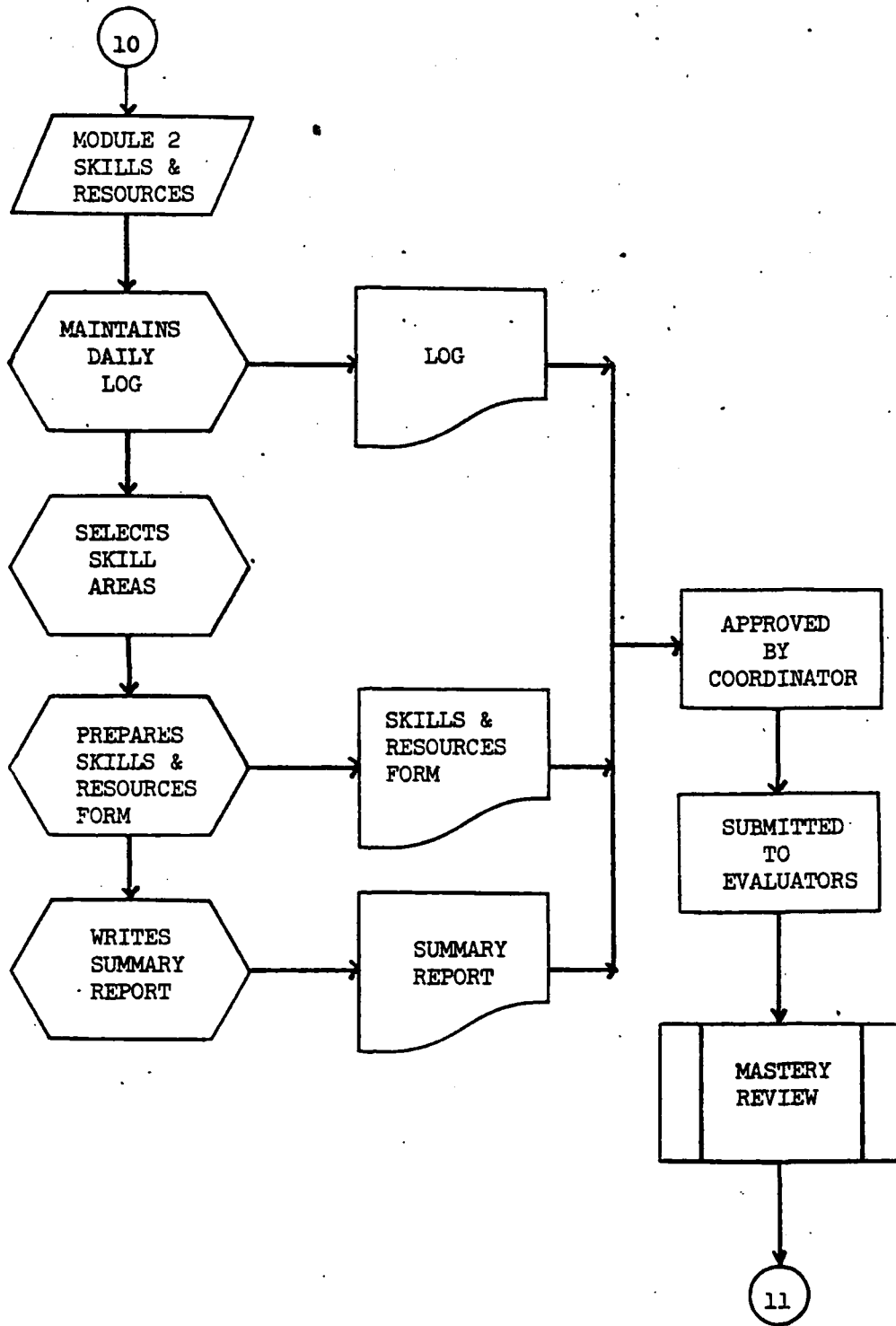
Level II

Module 2: Skills and Resources

Using information entered on the Profile Form, completed in
Module 1, the student concentrates on identifying necessary skills
that he must develop in order to enter his career interest areas.
He:

1. identifies what skills are basic to his career interests,

2. focuses on past experience in the specific skill area.

3. develops and organizes resources (i.e., programmed materials,
    GED materials, classes, tutors, etc.) by requesting assistance
    and obtaining the required materials.

Therefore, in Module 2, Level II, the student begins to establish a
learning program that will meet his personal interests and needs.

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:

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:

LEVEL II

MODULE 3: BASELINE AND OBJECTIVES
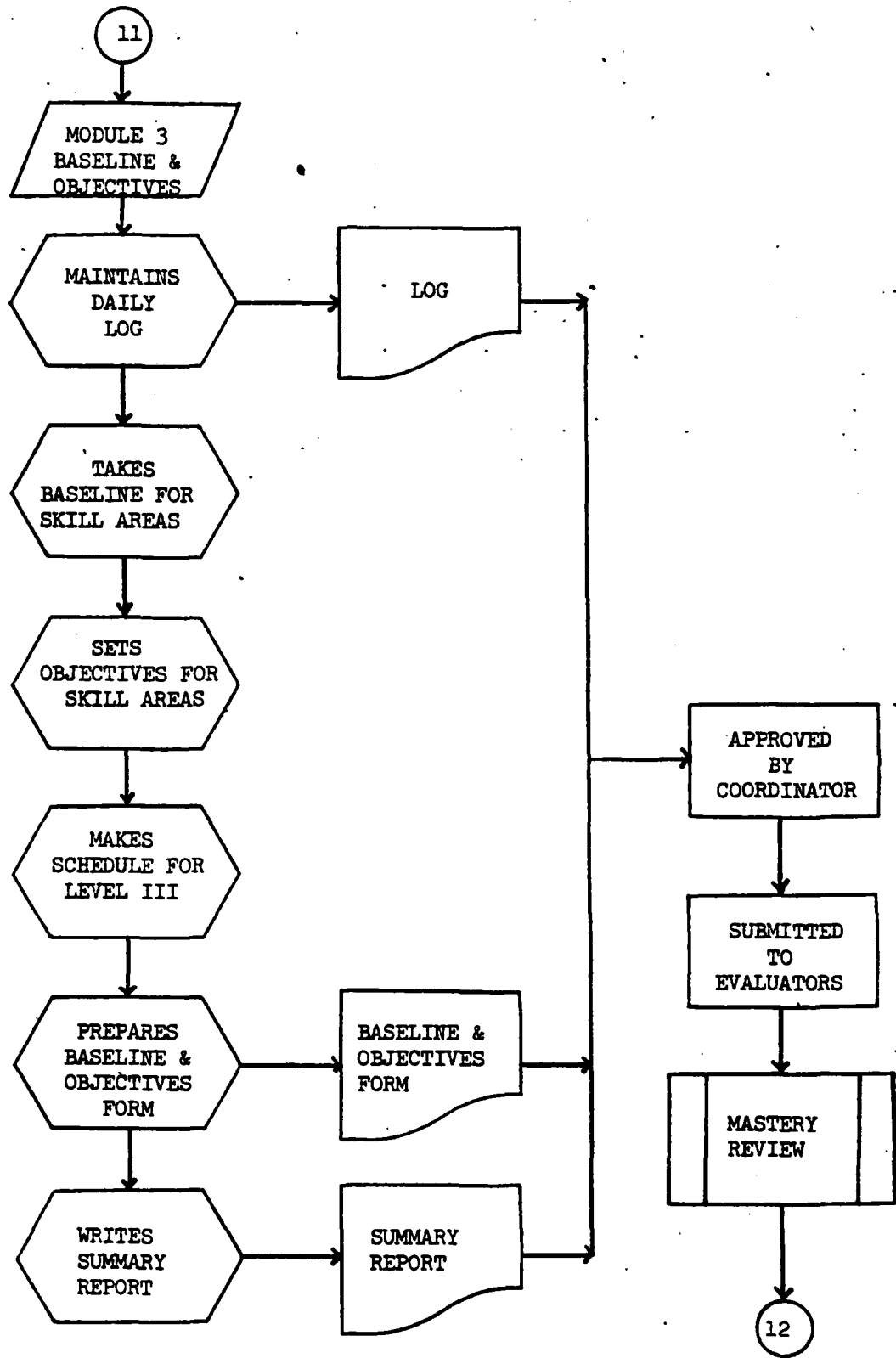
Level II

Module 3: Baseline and Objectives

Since the student has identified needed skills and available
resources, he now begins setting the foundation for independent study in
each of the specified skill areas. He reviews the material and establishes
a baseline (work rates) for each area and sets up terminal objectives which
estimate the amount of work he wants to complete before he terminates
participation in BR-21.

At this point, the student is very conscious of the necessity for
optimizing his schedule and use of time. He begins to do this by establishing
a beneficial work environment and by using the information pertaining to
Total Weekly Hours, found on the Profile Form, the students get an idea of
available work time. By being aware of optimum work conditions, the student
organizes his resources, his materials and himself for the Trial Run that
will take place in Module 4, where, he will find that the payoff for
realistic planning is progress.

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:

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:

LEVEL II

MODULE 4: STUDY GUIDES

```
                    ( 12 )
                      |
                      v
              /------------------/
             /   MODULE 4       /
            /  STUDY GUIDES    /
           /------------------/
                      |
                      v
           +------------------+              +-----------------+                    ( 12A )
          /   MAINTAINS       \              |                 |                       |
         (    DAILY           )------------->|      LOG        |                       |
          \   LOG            /               |                 |                       v
           +----------------+                +-----------------+               +-----------------+
                      |                               |                       /    SETS UP        \
                      v                               v                      (    FEEDBACK        )
           +------------------+            +-----------------+                 \   RECORDS        /
          /  SELECTS TWO      \            |                 |<----------------+-----------------+
         (   SKILL AREAS       )           |   FEEDBACK      |                          |
          \   FOR             /            |   RECORDS       |                          v
           \   TRIAL RUN     /             |                 |               +-----------------+
            +---------------+              +-----------------+               /     RUNS          \
                      |                            |                        (     5-DAY          )
                      v                            |                         \    TRIAL          /
           +------------------+                    |                          +-----------------+
          /     SETS          \                    |                                   |
         (   SHORT-TERM        )                   |                                   v
          \  STUDY GOALS      /                    v                         +-----------------+
           +----------------+        +------------------+                    /    RE-WRITES      \
                      |              |  Rewritten        |                   (    STUDY           )
                      v              | Original          |                    \   GUIDES          /
           +------------------+      |  STUDY            |<-------------------+-----------------+
          /    WRITES         \      |  GUIDES           |
         (   STUDY            )----->|                   |
          \   GUIDES          /      +------------------+
           +----------------+                 |
                      |                        v
                      v              +-----------------+
                  ( 12A )            |   APPROVED      |
                                     |      BY         |
                                     |  COORDINATOR    |
                                     +-----------------+
                                              |
                                              v
                                     +-----------------+
                                     |   SUBMITTED     |
                                     |      TO         |
                                     |  EVALUATORS     |
                                     +-----------------+
                                              |
                                              v
                                     +-----------------+
                                     |   MASTERY       |
                                     |   REVIEW        |
                                     |                 |
                                     +-----------------+
                                              |
                                              v
                                    (  EXIT LEVEL II  )     -142-
                                              |
                                              v
                                           ( 13 )
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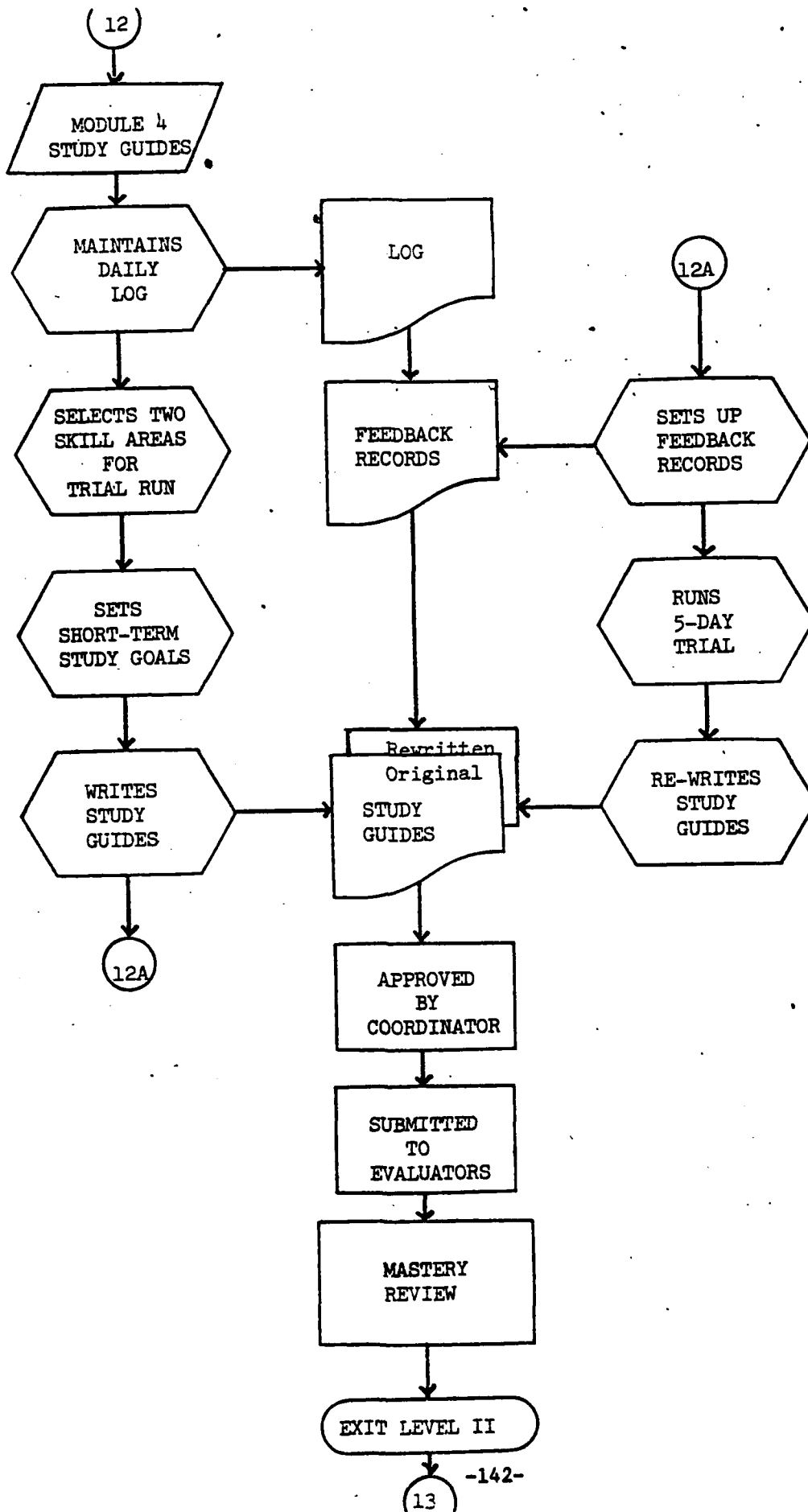
Level II

Module 4: Study Guides

The final module, Study Guides, is a one week trial run in two
skill areas chosen by the student. Using his baseline data, the
student sets objectives for the five day period. He may decide to
use a reinforcer to help him complete his work although many times a
student finds that progress is enough of a reinforcer. He also sets
up feedback records usually in the form of a graph, to see how well
he is doing in regards to reaching his objectives.

During the trial run the student is constantly evaluating his
study program and focuses and deals with any problems that may arise.
At the end of the trial period he and his coordinator evaluate his
trial run, new study guides are made, and needed changes are entered
on the form.

A summary report is not required for this module as the focal
point is now on the student's trial run and his system's efficiency.
He is required to complete his study guides and enter, in his log,
daily comments pertaining to his program. He then attends the Mastery
Review only to discuss his trial run with the evaluator(s).

After passing the last module the student designs study guides,
using previous completed information, and develops feedback records for
the remaining skill areas he did not practice in Module 4. He then
enters 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. Reinforcers 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. Specify materials to be used

   b. State Levels of Aspiration for each skill area

   c. Specify study time

   d. Make plans for assistance

   e. 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

   This log will be the Summary Report for this module.

3. Complete the program outlined in his study guides

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

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

— —

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

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):

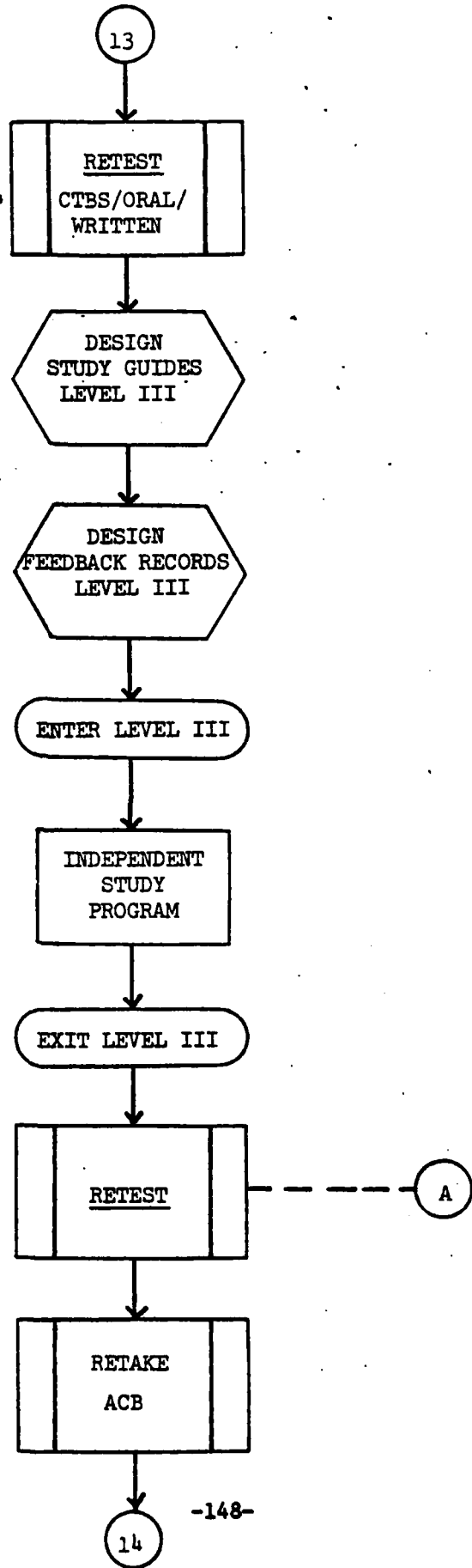   Estimated _____

    Actual _____   -146-
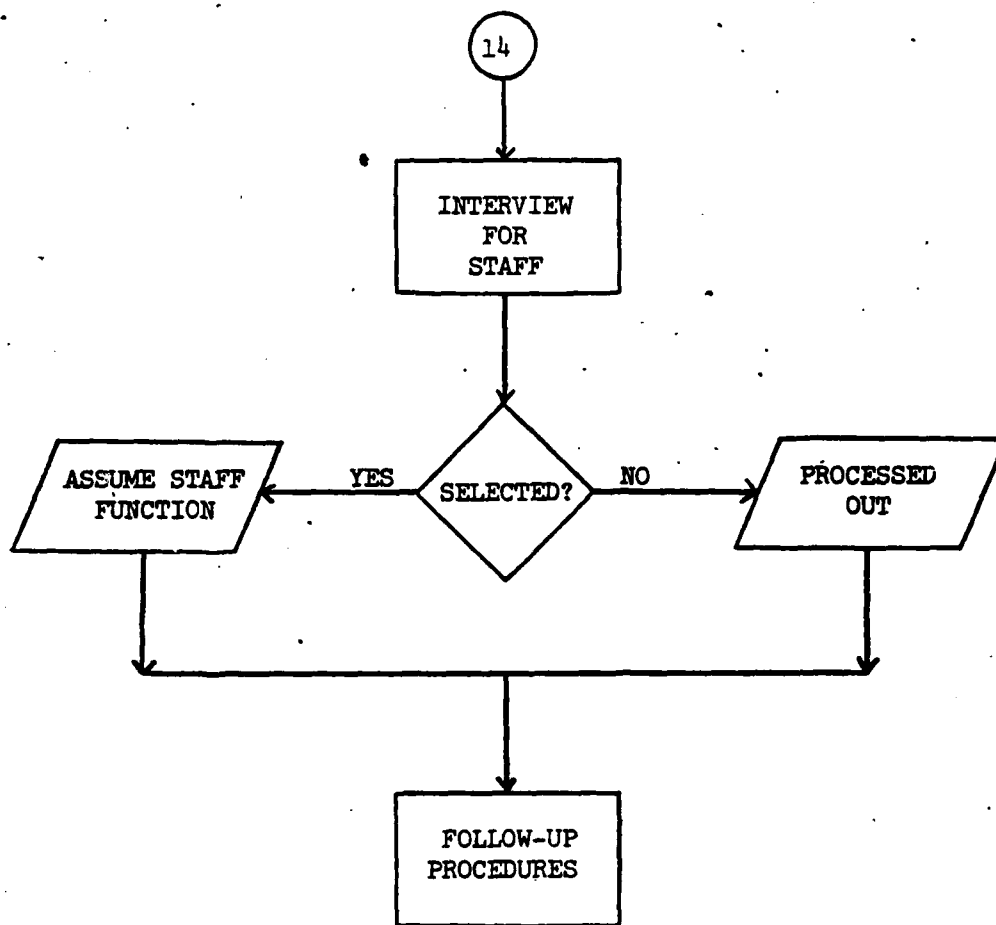
4. PLANS FOR ASSISTANCE:

5. FEEDBACK RECORDS (attach):

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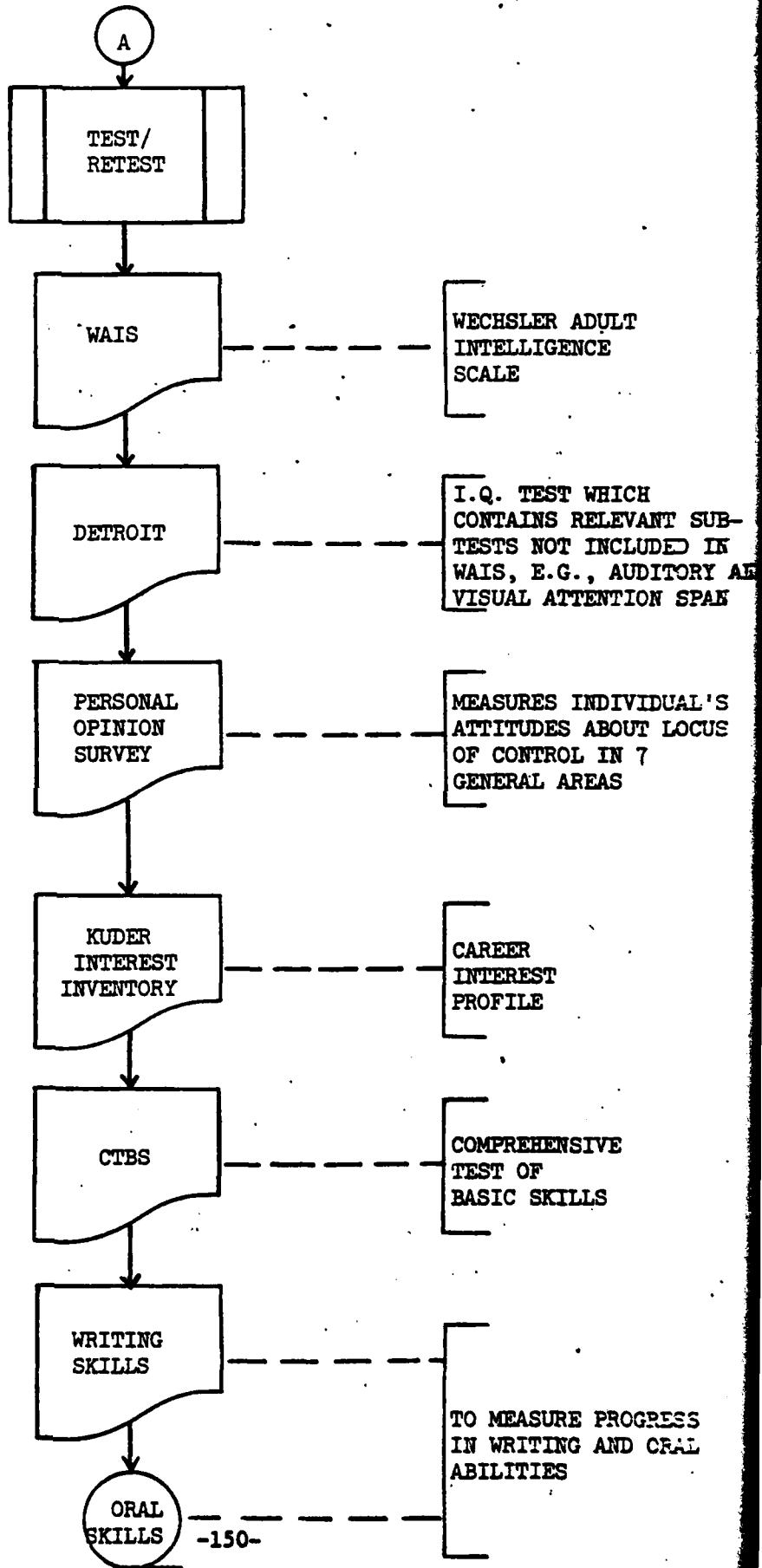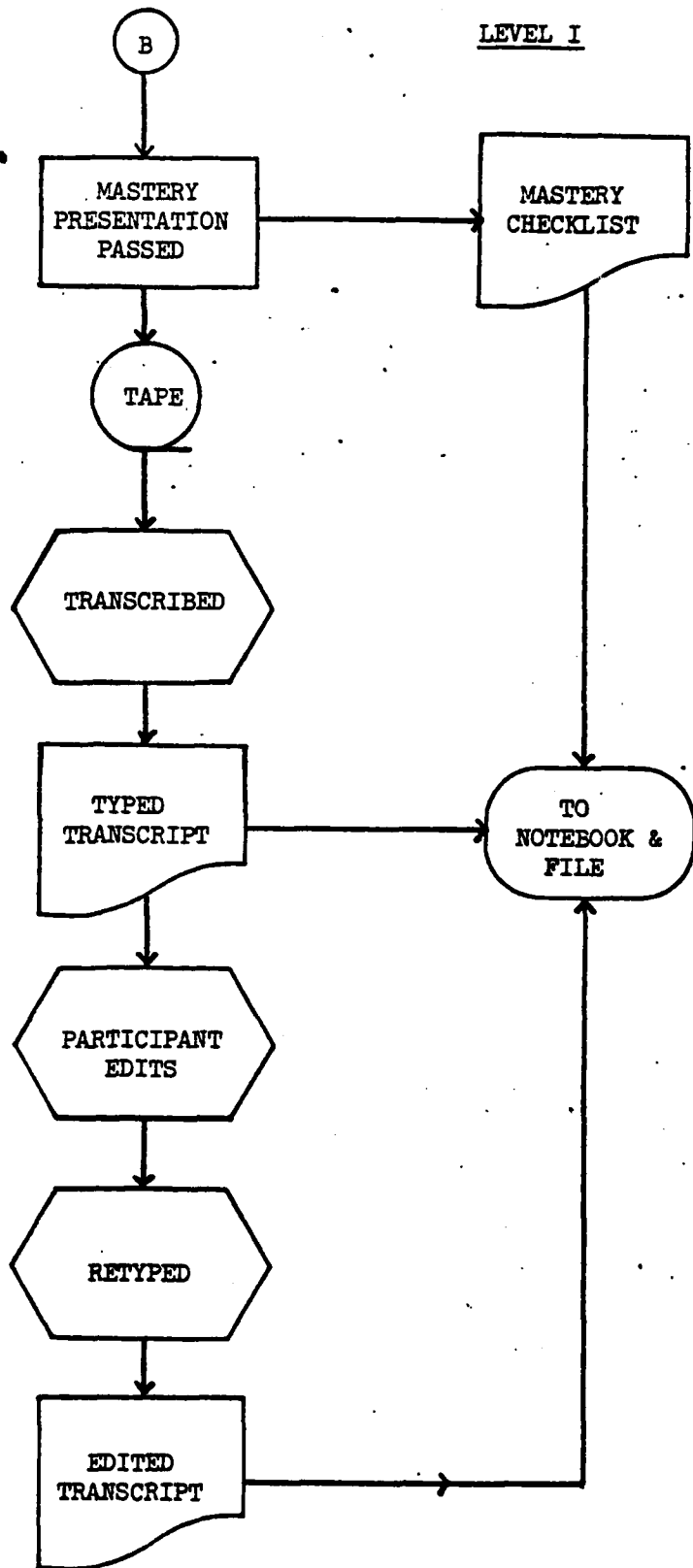

7. COORDINATOR'S FEEDBACK:

13

RETEST
CTBS/ORAL/
WRITTEN

DESIGN
STUDY GUIDES
LEVEL III

DESIGN
FEEDBACK RECORDS
LEVEL III

ENTER LEVEL III

INDEPENDENT
STUDY
PROGRAM

EXIT LEVEL III

RETEST - - - - - - A

RETAKE
ACB

-148-

14

I

```
        ( 14 )
          │
          ▼
     ┌─────────────┐
     │  INTERVIEW  │
     │     FOR     │
     │    STAFF    │
     └─────────────┘
          │
          ▼
         ╱╲
        ╱  ╲
  YES  ╱     ╲  NO
┌──────────┐ ◄── SELECTED? ──► ┌──────────┐
│ASSUME STAFF│   ╲     ╱        │PROCESSED │
│ FUNCTION  │    ╲   ╱          │   OUT    │
└──────────┘     ╲╱            └──────────┘
     │                              │
     │                              │
     └──────────┐   ┌───────────────┘
                ▼   ▼
           ┌──────────────┐
           │  FOLLOW-UP   │
           │  PROCEDURES  │
           └──────────────┘
```

TESTING

(A)

TEST/ RETEST

WAIS - - - - - - WECHSLER ADULT
INTELLIGENCE
SCALE

DETROIT - - - - - - I.Q. TEST WHICH
CONTAINS RELEVANT SUB-
TESTS NOT INCLUDED IN
WAIS, E.G., AUDITORY AND
VISUAL ATTENTION SPAN

**PERSONAL
OPINION
SURVEY** - - - - - - MEASURES INDIVIDUAL'S
ATTITUDES ABOUT LOCUS
OF CONTROL IN 7
GENERAL AREAS

**KUDER
INTEREST
INVENTORY** - - - - - - CAREER
INTEREST
PROFILE

CTBS - - - - - - COMPREHENSIVE
TEST OF
BASIC SKILLS

**WRITING
SKILLS** - - - - - -

TO MEASURE PROGRESS
IN WRITING AND ORAL
ABILITIES

(ORAL
SKILLS) - - - -150- - - -

B

MASTERY
PRESENTATION
PASSED

MASTERY
CHECKLIST

TAPE

TRANSCRIBED

TYPED
TRANSCRIPT

TO
NOTEBOOK &
FILE

PARTICIPANT
EDITS

RETYPED

EDITED
TRANSCRIPT

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	With Peer Instructor	Writing & Editing	With Peer Instructor	Math Work	Newspaper, Classwork
	Module Work	Break			Meeting With Coordinator
	Alone	Math		Break	
0900		Work	Break	Math Work	
	Break				Staff/ Participant Meeting
	Math			Break	
1000	Work	Break		With	
		Math	Break	Staff	
		Work	Military Duty	Person	
1100					Military Duty
			With Student		
	Lunch	Lunch	Lunch	Lunch	A & R
1200					
1300	Module	With	With	With Staff Per.	
	Work	Peer	Peer	Break	
	Alone	Instructor	Instructor	Module	
1400		Staff Testing	Break	Work Alone	
		Break	Math Work		
	Break				
1500	Mastery Presentation	Staff Testing	Break		
	Sports Program	Sports Program	Sports Program	Sports Program	
1600					
1630					

FIGURE 12: SAMPLE DAILY ACTIVITY CHECKLIST: LEVEL I PARTICIPANT

LEVEL I STUDENT: MODULES 4, 5, 6

Time	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	Module Work Alone	Module Work Alone	Writing & Editing	Military Duty	Newspaper & Classwork
0900			Module	Module	Meeting with Coordinator
	Module Work With Peer Instructor Study Skills		Work Alone	Work Alone	
1000	Meeting w/ Staff Members	Break MPC for counseling	Break	With Coordinator	Staff/Participant Meeting
	Break Meeting w/ Staff Member	Break	Military Duty Break Writing & Editing	Break Mtg w/staff	Military Duty
1100		w/student	Writing & Editing	Mtg w/staff	
	Lunch	Lunch	Lunch	Lunch	
1200					A & R
1300	Writing & Editing	Writing & Editing	Synectics	Math Work	
1400	Study Skills With Coordinator	Break Module Work Alone	Break Writing & Ed.	Break W/Student	
1500	Break Sports Program	Military Duty Newspapers & Classroom Work	Sports Prog.	Sports Program	
1600					
1630					

FIGURE 13: SAMPLE DAILY ACTIVITY CHECKLIST: LEVEL II PARTICIPANT LEVEL II PARTICIPANT W/LEVEL II STUDENT

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
0800	Military Duty	Skill Devel. Learning	Skill Devel. How to Take Tests	Skill Devel. How to Take Tests	Military Duty
0900		With Coordinator	Break / Skill Devel. Taking Math Tests	Break / Skill Devel. Records / Break	
1000	Skill Devel. (Spelling)	Break / Skill Devel. (Typing)	Break / Skill Devel. (Graphs)	With Coordinator & Staff Mtg.	
1100	Lunch	Lunch	Lunch	Lunch	Off Duty
1200	Skill Devel. Prepare for English Class	Skill Devel. Prepare for English Class	Skill Devel. Prepare for English Class	Skill Devel. Prepare for English Class	
1300	Skill Devel. (MOS Study)	Skill Devel. (MOS) Study)	Skill Devel. (MOS Study)	Skill Devel. (MOS Study)	Weekend
1400	Break / Skill Devel.	Break / Skill Devel. Reading Vocabulary	Break / Skill Devel. (Spelling)	Break	Study Time For Self Development
1500	Reading Vocabulary / Break / Sports	Break / Sports	Break / Sports	Sick Call	
1600					
1630	END OF WORK DAY				
1800	Evening English 260	Evening Improving Communication Skills - MPC	Evening	Evening	Summer School

FIGURE 14: SAMPLE DAILY ACTIVITY CHECKLIST: LEVEL III PARTICIPANT

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NAME: _____

DATE: _____

	MONDAY HR/MIN	TUESDAY HR/MIN	WEDNESDAY HR/MIN	THURSDAY HR/MIN	FRIDAY HR/MIN	WEEKLY TOTAL HR/MIN
(A)						
(B)						
(C)						
(D)						
(E)						
(F)						
(G)						
(H)						
(I)						
(J)						
(K)						
(L)						
(M)						
(N)						
(O)						
(Q)						

CODES

LEVEL III DEVELOPMENT SKILL	(A) RECORD KEEPING
	(B)
	(C)
	(D)
	(E)
	(F)
	(G)
SPORTS PI	(H) PEER INSTRUCTION
	(I) SPORTS PROGRAM
MTGS	(J) W/COORDINATOR
	(K) W/MATERIALS ADVER
	(L)
OTHER	(M) MEALS
	(N) BREAKS
	(O) MILITARY DUTY
	(Q) % EFFECTIVENESS

WEEKLY PROGRESS REPORT

LEVEL I & II

MATH 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

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

OFF PROJECT WORK

WEEKEND

APPENDIX B:

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