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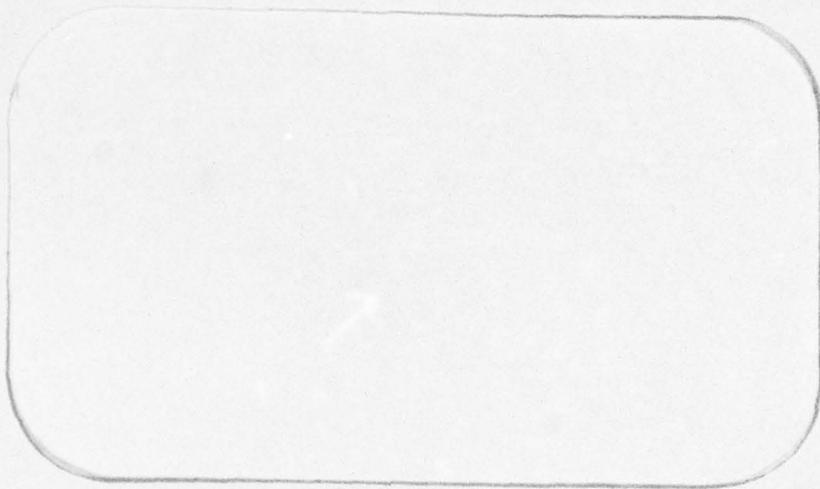
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Interim Report

Research Toward the Design and Development
of a Prototype Army Literacy Training Program

by

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September 1971

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Preface

This research was performed as a part of Human Resources Research Organization Work Unit FLIT: Development of a Prototype Job-Functional Army Literacy Training Program. The purpose of the present report is to: (1) describe the Fort Ord Army Preparatory Training (APT) school prior to being designated as an experimental school, to provide a written reference to which the prototype FLIT/APT program may be compared and contrasted, and (2) to present the major psychological and instructional concepts and principles which will guide the development of the prototype literacy training program.

The research was conducted at HumRRO Division No. 3, Presidio of Monterey, California, where Dr. Howard H. McFann is Director.

Military support was provided by the U.S. Army Training Center Human Research Unit, Presidio of Monterey, California; LTC Ullrich Hermann, Chief.

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An Exploratory Study of Literacy Training

In an Army APT School

The problem of illiteracy has been a continuing one for the Armed Forces. It has been most noticeable every time it has become necessary to draw upon large segments of the manpower pool. It appears that even with the improvements in civilian education and the extension of education to a greater number of persons since World War I, the illiteracy problem has not abated. There are several possible reasons for this. First, the population among the less educated has grown faster than among the more highly educated. Since education and literacy are frequently not valued highly in this population, there is a tendency for the illiterate to propagate illiteracy (1). Second, education in backward and underprivileged areas has not been of the highest caliber, resulting in functional illiteracy even among many "educated" students (1). Third, the new technologies appear to require higher levels of reading and arithmetic skills. Hence, skill levels now required to be functionally literate for military jobs may be higher than previously.

Effectiveness of Earlier Literacy Programs

The major precursor to present literacy training programs was the large scale training of functional illiterates in the Armed Forces during World War II. Figures reported by Goldberg (2) in his extensive review of Army training of illiterates in World War II indicate that, subsequent to June 1, 1943, some 302,838 men received literacy training. Of these, 254,272 were graduated because of successful attainment of required standards, which were

designated as literacy skills as possessed by the completion of the fourth grade of school (i.e., grade level 5.0).

Such successful performance during World War II is frequently cited by reading experts (3, 4) as an example of an approach for upgrading the literacy skills of adults to render them better, more competent, job performers. However, the evaluation of the effects of literacy training on job proficiency was almost non-existent, and such evaluation as was attempted was fraught with methodological difficulties. One attempt at an assessment of the effects of literacy training upon job proficiency was made by Hagen & Thorndike (5). In this research the records of 1,026 illiterates who entered the Navy during 1944 and who received literacy training at Camp Perry were compared with those of 1,021 normal control cases who entered at the same time and from the same parts of the country. The records of 999 marginal aptitude men were also studied to give a comparison with men comparable to illiterates but who did not receive literacy training.

Unfortunately, several methodological limitations restrict the conclusions of this study. For one thing, the control group contained no enlistees. For another, the marginal group was superior to the illiterate group in literacy, general intellectual ability and education level. The marginal group also differed in age and background, and in many cases records were incomplete and inconsistent. Thus, the illiterates who received training were not comparable to the control group of marginal aptitude men. But at any rate, relative to the normal and marginal control group, the illiterates who received literacy training were subsequently characterized by fewer promotions, lower proficiency ratings, more disciplinary actions, more lost time due to misconduct, fewer honorable discharges, and more VD than the controls. Thus, in this case,

literacy training did not result in producing men comparable in job proficiency to marginal aptitude men who did not receive such training, nor to normal aptitude men.

Since World War II, the Armed Services have had additional opportunities to conduct literacy training, and to evaluate the effectiveness of this training in job proficiency. One significant study is that reported by Goffard (6). In this study, men who scored below the 5.0 grade level of reading on a standardized reading achievement test were given special literacy training. They were graduated from training upon achievement of reading at the 4.9 level. When compared with comparable control groups, i.e., marginally literate men who did not receive special training, the experimental group did slightly better on performance and knowledge tests given at the end of basic training. Differences were not considered of any practical significance, however, being less than five percent in any case.

Additional studies to evaluate the effects of literacy training on job proficiency in the Armed Services are reviewed in the book "Marginal Man and Military Service."² The upshot of these studies is that, at the end of the 50's, little benefit to job proficiency has been demonstrated to result from the provision of training in basic literacy skills. Why this is so is impossible to say with certainty. We do not know, for instance, how valid the reported gains in literacy skills were--that is, was there actual gain or simply regression of low scores toward the mean of the standardized tests used to assess literacy skill achievement?

²Marginal Man and Military Service. Department of the Army, 1965.

Another factor which may have limited the effects of literacy training on job proficiency is the terminal levels of skill targeted in these programs which, for the most part were no higher than the equivalent of school grades 4.0 to 5.0, depending on the program. Recent research (7) has suggested that these levels of literacy are inadequate for such jobs as Cook (MOS 94B), Armor Crewman (MOS 11E), Supply Clerk (MOS 76Y) and General Vehicle Repairman (MOS 63C) in the Army.

Finally, it should be considered that previous special training programs did not have recourse to the improved technologies in instruction currently available (e.g., programmed instruction, closed circuit television, various audio-visual materials). Current remedial training might now be more effective in promoting improvements in job-related literacy skills, and hence in upgrading job proficiency.

Army Literacy Training Today

In 1966, existing mental aptitude standards for acceptance into the Services were reduced. This downward revision of standards created a substantial influx of marginally literate men into the Services, particularly the Army, once again creating a demand for remedial literacy training to render these men sufficiently literate to qualify for job training.

In response to this demand, literacy training programs were initiated in the Army, Navy, and Air Force. These programs, operational at the time of this writing, were established independently of one another, with each Service establishing its own policies, procedures, and practices, with the exception that all Services use the United States Armed Forces Institute (USAFI) Achievement Tests (Achievement Tests III, Abbreviated Edition, Form A; or USAFI

Intermediate Achievement Tests, Form D) to identify men in need of remedial training in literacy skills.

In the Army, a man qualifies for Army Preparatory Training--APT (literacy training) if he scores below a school grade equivalency level of 5.0. The goal of the APT School, then, is to upgrade the man's literacy level until it is at or above the grade 5.0 level, a goal comparable to that established during World War II. The inadequacy of this goal was revealed in a recently completed research project.

HumRRO Work Unit REALISTIC

In 1968, the Department of Defense, Office of the Assistant Secretary of Defense (Manpower and Reserve Affairs) and the Deputy Chief of Staff for Personnel, Department of the Army, requested HumRRO to initiate Work Unit REALISTIC. The major objective of this research was to determine reading requirements of four Military Occupational Specialties (MOSs) into which large numbers of marginally literate men were likely to be assigned; Armor Crewman--MOS 11E, General Vehicle Repairman--MOS 63C, Unit and Organization Supply Specialist--MOS 76Y, and Cook--MOS 94B.

To determine reading requirements of these Army jobs, the REALISTIC research examined relationships between the reading skills of approximately 400 job incumbents and the performance of these men on job knowledge (paper-and-pencil) tests, and job sample tests. The latter were actual job tasks, performed in a "hands-on" manner in which Supply Specialists filled out forms, Cooks cooked, Repairmen repaired vehicles, and Armor Crewmen performed the key tasks of drivers, loaders, gunners and tank commanders.

The results of this extensive testing program, and additional work on REALISTIC are described in detail elsewhere (7, 8). In summary, the results indicated significant, positive correlations between reading ability, job knowledge, and job performance in all four MOSs. Expectancy tables were constructed to indicate the relationship between a man's reading ability and the probability that he would fall into the bottom, next-to-bottom, next-to-top, or top 25% of job performers in his MOS. To determine the reading requirement for each job field, a decision rule was formulated which stated: the reading level required for successful performance in an MOS is the lowest reading grade level for which representation in the bottom quartile of job incumbents does not exceed 25%; the latter being the proportional representation that would occur if reading ability did not count (i.e., if the correlations of reading ability and job proficiency = 0).

Applying the above decision rule to the REALISTIC data, it was determined that remedial literacy training for Cooks should be targeted to reach the grade 7.0 level of reading skill; for Repairman and Armor Crewman, 8.0; and for Supply Specialists, 9.0. These levels obviously surpass the present (and past) objectives of Army Preparatory Training (APT), which is aimed at providing reading competency at the 5.0 level.

Work Unit FLIT: Job-Related Literacy Training

The discrepancy between the present APT objectives and the reading requirements of jobs as determined in the REALISTIC research, led U. S. Continental Army Command, the Army Command responsible for Army Preparatory Training (APT), to sponsor HumRRO Work Unit FLIT (Functional Literacy). The

objective of FLIT is to develop a manageable functional (job-related) literacy training program for APT.

To develop the FLIT program, the APT school at Fort Ord, Calif., has been designated as an experimental school. In addition to serving as the FLIT experimental school, the APT school at Fort Ord has provided support for U. S. CONARC-sponsored HumRRO Work Units LISTEN and READNEED. In the course of this research, considerable information has been obtained about the trainees, staff, and program of the Fort Ord APT school as it existed prior to being designated as an experimental school. It has seemed desirable to assemble, collate, and document these various observations in the present report to make possible a comparison of any new program which is developed with the previous program.

Information to be Discussed

This report will summarize observations related to each of the following major categories of information:

1. APT Management and Administrative Policies and Procedures: Here are described the formal policy statements which initiated APT training and which serve as administrative guidelines for the day-to-day operations of an APT school.
2. APT Staff Characteristics: The staff includes administrators, instructors and military cadre. These are people who are responsible for or who participate in the operation of the remedial literacy training school. Who these people are, what their training is, and how they view the remedial training program are important factors which will contribute greatly to the

general nature and effectiveness of a program. We are therefore interested in their personal, professional, and attitudinal background, as well as in the criteria for selection and special (in-service or other) training relevant to their job.

3. APT Trainee Characteristics: Here we present information about the men undergoing literacy training in APT. Two major categories of information are presented. Personal background data refers to such things as age, education, ethnic group, etc. In general, this is pre-service information about the men. Psychometric data is information resulting from testing of the trainee at the time of induction screening (AFQT), at the time of literacy screening, and during the literacy program. Additional trainee data consists of attitudinal, and opinion information solicited from trainees during training.

4. APT Instructional Program Information: Instructional program factors include the theoretical basis for a specific program. By this is meant such things as, whether or not the program has a "code emphasis" or a "meaning emphasis," with the concomitant difference in theoretical understanding of the reading process underlying these positions. Another theoretical position which may influence the nature of a program is whether the job of remediation is viewed to involve "educating the whole man" as contrasted with providing training in specific skills geared toward performance in a limited setting.

Information about the curriculum of instruction refers to the nature of the subject matter of the literacy program, e.g., reading, arithmetic, social studies, etc. As suggested above, the curriculum of instruction usually reflects the theoretical position regarding the general objectives of instruction, i.e., the "education of the whole man" versus specific skill training.

Concerning objectives of instruction, information was sought to determine the nature of the designation of objectives, i.e., behaviorally versus conceptually. Also, information related to whether or not objectives are fixed, such that if a man achieves the criterion level, he can go no further and must exit the program, or variable, with the opposite connotations. Objectives can also be viewed as to whether or not there are carefully defined terminal objectives (i.e., what the person is supposed to be able to do when he gets through with this training) and enabling objectives (i.e., intermediate objectives which must be accomplished to obtain the terminal objective).

Information about the duration of the program refers to how much time the program consumes, both for individuals and as a parameter of the program. In the former case, the question is, how long does it take different men to complete the program, and in the latter the question is how long can a given man stay in the program? Can a man stay until he reaches some fixed objective, regardless of time (variable duration)? Or is the program duration fixed, with slow learners being eliminated before they have accomplished the criterion level of performance?

Given a subject matter to be taught, specific techniques are used to teach it. For instance, peers can be used to teach reading, with one trainee aiding another; use can be made of contingency management techniques to motivate study; individually prescribed instruction (IPI) can be used, with diagnostic tests for initially placing people into the curriculum at a level suitable for them, with individually administered achievement tests to measure mastery of significant components of instruction, and with

prescriptions for re-cycling through a unit if mastery is not obtained; etc. Specific information was obtained to describe the techniques in use at the Fort Ord APT school.

Additional information concerned the resources available to the program, including the money, materials, equipment, number of instructors, military cadre, environment (e.g., old barracks, converted mess hall, isolated from main facilities, time per day, etc.), available for the conduct of the program.

Finally, provisions of the instructional program regarding feedback about the future successes or failures of graduates in their military jobs, and about the retention of literacy skills were explored.

5. APT Outcomes: This information indicates the effectiveness of the program in achieving its objectives. Information was obtained concerning the numbers of men who achieved different levels of proficiency in the USAFI test when their training terminated. Such achievement was also viewed in terms of gain in proficiency between pre- and post-tests, to provide information about gains which could be expected per unit of training time for men of differing entry levels.

In addition to the USAFI scores, information was obtained concerning the performance of a small number of graduating trainees on a brief functional literacy test (FLIT) composed of materials from the Cook MOS, 94B. This test was developed by HumRRO in Work Unit REALISTIC. The FLIT permitted an assessment of the effects of APT training using reading materials of a military nature designed for Cooks. Pre- and post-test scores were obtained, permitting a measure of gain independent of regression effects, which could possibly contaminate the USAFI post-test scores. Scores on the FLIT have been scaled

to reading grade levels as measured by the California Achievement Test, Junior High Level, used in REALISTIC. Performance on the latter was, in turn, related to job proficiency of men in the four Army jobs studied in REALISTIC. Thus, through the mediation of the California Achievement Test, it is possible to relate performance, stated in grade levels, on the FLIT, to job proficiency as indexed by the REALISTIC research. This provides a rough estimate of the functional level of literacy obtained by trainees at the end of their remedial APT program.

The achievement data described above were supplemented by information concerning attrition, including rates and reasons.

General Data Collection Procedures

The data and observations to be reported were gathered throughout the interval from (roughly) July 1970, to July 1971. During this period, HumRRO staff and the staff of the Fort Ord APT School interacted intermittently vis-a-vis various matters including support for Work Units LISTEN and READNEED, discussion of literacy problems in the Army, etc. The relationship has been a relaxed, informal one, in which staff of these two organizations have freely exchanged ideas and information about literacy training, reading problems, and so forth.

The following outline places a structure on what was a somewhat unstructured year of observation and data collection at the APT program, and provides an overview of the nature and source of the information to be discussed later on.

A. The primary description of the literacy training program was obtained by:

1. Discussion and structured interview with the installation Education Officer, Literacy Training Program Director, Instructors, Cadre, and a sample of students.
 2. Direct observation of classes, facilities, materials, and activities both informally and in accordance with an observation schedule check list.
- B. Background information on staff personnel was collected through Staff Questionnaires and interviews.
- C. System performance data was obtained by abstraction from existing program administrative records. Data obtained include: number of men admitted to program, entry reading level, exit reading level (both measures on USAFI tests), number terminating in 3 weeks, number terminating in 6 weeks, other terminations and reasons.
- D. Data collected from students included:
1. HumRRO FLIT (functional literacy) test for Cook's MOS, as a measure of the trainee's ability to read Army material.
 2. Structured interview information on students' pre-service background and their current attitudes about APT and the Army.
 3. Oral reading performance on the Gray Oral Reading test.

To briefly reiterate, in the report which follows, the above items of information have been sifted, sorted and collated with additional information for discussion under five major topic headings: APT Management and Administrative Policies and Procedures; APT Staff Characteristics; APT Trainee Characteristics; APT Instructional Program; and APT Outcomes. A final section provides a general summary of the Fort Ord program and discusses the general psychological and instructional concepts and principles which will be followed in Work Unit FLIT to produce a job-relevant, functional literacy program for the Army.

APT Management and Administrative
Policies and Procedures

Army Preparatory Training (APT) is the responsibility of the U. S. Continental Army Command (USCONARC), with headquarters at Fort Monroe, Virginia. The APT programs are (as of this writing) conducted by the various U. S. Army Training Centers (USATC), and follow the general CONARC training directives which govern Army basic training policies and administration, specified in Annex X to USCONARC Regulation 350-1, dated 9 September 1970. Concerning APT, this regulation states that:

- "a. Army accessions under Project 100,000 are administered the USAFI Intermediate Achievement Test during reception station processing. Those failing to achieve a score equivalent to a fifth grade reading level will be assigned to APT based upon the local capacity. This program, consisting of basic education in reading, arithmetic, and social studies, supplemented with introductory military training, is given to upgrade the reading capabilities of trainees to a fifth grade level or to the extent practicable within a time frame of not to exceed 6 weeks. Trainees who complete 3 or more weeks of APT, to include training in selected basic military subjects, will normally enter BCT with a unit that has just completed the first week of the cycle.
- b. Some individuals may not acquire the required degree of proficiency in military subjects to justify entry in BCT at the second week level. As an exception to the general policy, such individuals may be assigned to a unit beginning the first week of BCT."

In addition to the foregoing, broadly stated policy guidelines, more specific information and guidance is provided in CONARC letter dated 15 October 1970, Subject: Army Preparatory Training (APT) Program. Paragraph 1 of this letter indicates that the purpose of the letter is to update and modify previous instructions concerning APT. It then continues:

"2. Background: The Basic Reading Program (BRP) was established in 1968 to provide reading training for new Army accessions with less than fifth grade reading ability. Initially, reading training was administered following Basic Combat Training (BCT) and at the same installation. Later, the name of the program was changed to Army Preparatory Training (APT) and instruction preceded Basic Combat Training.

3. Procedures:

a. US Army accessions under Project 100,000/New Standards Men who score below fifth grade level on the reading section of the USAFI Intermediate Achievement Test (UIAT) administered during reception station processing are eligible for Army Preparatory Training. See Inclosure 1 [below].

b. To provide essential training to new accessions, each USATC conducting Basic Combat Training (BCT) will conduct an APT program for all men who have demonstrated a reading ability below fifth grade level. All individuals declared eligible (as a result of the UIAT) will be enrolled in APT. This training will be conducted after the individual completes reception station processing and prior to his entry into BCT. Eligible individuals, upon completion of reception station processing, will begin formal APT on the following Monday. Eligible individuals will not be withheld from GED training and grouped with a subsequent weekly input solely for the purpose of forming specifically sized classes. If events preclude the enrollment of all eligible personnel in APT, full justification will be included on the monthly APT report [Appendix A of this report]. Individuals other than trainees, who are eligible for APT, may enter the program on a space available basis.

c. The Army Preparatory Training program consisting of basic education in reading, arithmetic and social studies, supplemented with introductory military training, is designed to upgrade the reading capabilities of trainees to a fifth grade level or to the extent practicable within a time frame of not to exceed six weeks.

(1) The GED portion of APT will include six hours each weekday, under the supervision of the installation Education Director in accordance with Inclosure 1.

(2) The military portion of APT will be conducted by military personnel and will include two hours each weekday and four hours on Saturday in accordance with Inclosure 2." [Below.]

Inclosure 1 to this letter is entitled: Army Preparatory Training Program: GED Testing and Training Procedures, and states:

"1. Initial Testing Procedures:

a. USAFI Achievement tests utilized for Project One Hundred Thousand testing will be requisitioned, stored, administered, and transmitted by or

under the immediate supervision of the Director of General Educational Development, who is the USAFI test control officer for the installation concerned. Initial educational achievement testing of individuals entering military service as Project One Hundred Thousand personnel will be accomplished by the GED test control officer during Reception Station processing. Achievement tests will be administered to the following categories of personnel whose DD Form 4, Enlistment Contract, or DD Form 47, Record of Induction, has been properly coded (stamped) as indicated.

- (1) New Mental Standards Men -- Coded "M"
- (2) Administrative Acceptees -- Coded "A"
- (3) Former 1Y Personnel -- Coded "Y"

b. The USAFI Intermediate Achievement Test (UIAT), Form D, (Test 1, Word Knowledge; Test 2, Reading; and Test 6, Arithmetic Computation) will be used for initial testing. Where raw scores are above 38 for Word Knowledge; 27 for Reading; and 33 for Arithmetic, USAFI Achievement Test (UAT), Form A, will be immediately administered. Test answer sheets will be hand scored without delay under the supervision of the GED test control officer. Individuals who score below fifth grade level (19 or less) on the reading section of the UIAT are eligible for enrollment in the APT program. The number of eligible personnel will be included on the monthly APT report [Appendix A]. Original and retest (if necessary) raw scores and civilian grade equivalents will be entered on DA Form 669, with other pertinent education and training information for Project One Hundred Thousand personnel. After recording the test results on DA Form 669, all achievement test answer sheets will be forwarded to USAFI for central machine scoring.

2. First, Third and Sixth Week Testing Procedures:

a. At the end of the first week of APT, selected individuals who appear to have attained fifth grade reading ability will be retested using Form A, B, or C of the USAFI Intermediate Achievement Test. Individuals to be retested at the end of the first week will be selected by instructors. Those individuals selected for retesting at the end of the first week, who successfully demonstrate attainment of fifth grade level reading ability, will be entered in BCT on the following Monday.

b. At the end of the third week of APT all individuals enrolled in the program will be tested using an alternate form of the USAFI Intermediate Achievement Test. Individuals measuring fifth grade reading level at the end of the third week will be enrolled in BCT on the following Monday.

c. Individuals failing to achieve fifth grade reading ability at the end of either the first or third week will continue in APT for the full six weeks. At the end of the sixth week these individuals will be administered an alternate form of the USAFI Intermediate Achievement Test to determine their achieved reading ability. Enrollment in APT will be terminated after six weeks and individuals entered in BCT on the following Monday.

3. GED Training: General Education instruction will be conducted within the GED program under the supervision of the installation Education Director.

a. The purpose of the GED portion of APT is to upgrade the reading abilities of trainees to fifth grade level or to the extent practicable within the six weeks allotted.

b. GED training will be conducted six hours each day, Monday through Friday, in six-week cycles and will consist of 180 hours of reading, writing, English, social studies, citizenship and arithmetic apportioned as follows:

(1) Reading, writing and English - 20 hours each week (4 hours each day, Monday through Friday) for six weeks (total 120 hours).

(2) Social studies and citizenship - 5 hours each week (1 hour each day, Monday through Friday) for six weeks (total 30 hours).

(3) Arithmetic - 5 hours each week (1 hour each day, Monday through Friday) for six weeks (total 30 hours).

c. Basic and supplemental USAFI texts and materials specified for grades one through five as described in the USAFI Catalog and Standard Nomenclature List (SNL) will be obtained and used as required for the GED phase of the program. Additionally, instructor guides, flash cards, supplemental reading materials including Reader's Digests for grade levels one through five, dictionaries mentioned in the USAFI SNL, and available reading improvement equipment will be used as appropriate. The provisions of AR 621-5 apply in procuring materials from the United States Armed Forces Institute.

d. Administrators and teachers for the GED portion of training are to be obtained from personnel available to installations. They should be the best qualified personnel available for conduct of reading training from the first through fifth grade level as well as other specific subjects. Available qualified civilian teachers under the GED program are preferable. Requirements not filled by civilians will be filled from available military personnel.

4. Security Requirements: Commissioned, enlisted and civilian personnel performing duties in the GED phase of the APT program will meet security clearance requirements prescribed in AR 604-20.

5. Records and Reports:

a. General Education Development Individual Record (DA Form 669) will be maintained in accordance with paragraph 7c, AR 621-5.

b. Appropriate data on experience and accomplishments in the APT program will be included as part of Preparatory Education Statistics in the General

Educational Development Program Report, Reports Control Symbol AG 331(R1), DA Form 1821, in accordance with paragraph 27, AR 621-5.

c. The results of all USAFI testing will be indicated on monthly APT report."

Inclosure 2 entitled: Army Preparatory Training Program: Military Training, states:

"1. Purpose: The objective of military training is to initiate the development of military discipline, motivation and physical conditioning. Additionally, it is designed to indoctrinate trainees in the customs and requirements of military service, orient them in soldiering techniques, and prepare them for easier assimilation of BCT.

2. Program of Instruction:

a. The military training portion of APT will include two hours of instruction each weekday and four hours each Saturday (total 40 hours). This instruction will be administered by military personnel. Training will be conducted in accordance with Army Training Program 21-114. Training schedules and lesson plans will be prepared and maintained as required in pertinent directives.

b. The following military subjects normally taught in the first week of BCT will be included in the military training provided during the first three weeks of APT. These subjects will be repeated during the second three-week period of APT.

<u>Subject</u>	<u>BCT Subjects in APT</u>	<u>Periods</u>
Character Guidance		1
Physical Readiness Training		9
Drill and Ceremonies		6
Achievements and Traditions		2
Military Courtesy and Customs		3
Personal Hygiene		1
Field Sanitation		1
Military Justice		2
Code of Conduct		1
Guard Duty		2
Rifle Marksmanship (care/cleaning)		2
Inspections		4 *
USATC Subjects		2
Administrative Time		4
	Total	40 **

* 50 percent of the time allotted for inspections may be used for review and examination.

** Additional military training may be accomplished during the week prior to entry in APT.

3. Proficiency in Military Subjects:

a. Trainees who complete 3 or more weeks of APT, to include training in selected basic military subjects, will normally enter BCT with a unit that has just completed the first week of the cycle.

b. Some individuals may not acquire the required degree of proficiency in military subjects to justify entry in BCT at the second-week level. As an exception to the general policy, such individuals may be assigned to a unit beginning the first week of BCT. See Par. 9, Annex X, CON Reg 350-1, 9 September 1970.

4. Records and Reports:

a. Training records will be maintained for military training as follows:

(1) CONARC Form 253-R, Individual Training Record (see Section II, Annex X of CON Reg 350-1).

(2) CONARC Form 266-R, Training Center Attendance Record (see Section II, Annex X of CON Reg 350-1).

b. 'Army Preparatory Training,' Reports Control Symbol ATIT-132(R1), CONARC Form 392-R [Appendix A]."

As indicated, this CONARC letter provides detailed information regarding the program goals; the initial trainee testing and selection procedures; the GED and military programs of instruction, including subject matter, materials, and time allocations; testing procedures and proficiency criteria; and records keeping and report preparation.

Notably, the guidelines do not specify that civilian staff need have specific experience in adult basic education, nor even that they be certified teachers. The preference for civilian instructors is made explicit, though it is not clear why military personnel are not equally desirable as instructors.

At the Fort Ord APT there does not appear to be much emphasis upon testing men at the end of the first week as directed in Par. 2.a. of Inclosure 1. The team did hear of one instance in which a man was re-tested at the end of

his first week in APT because he didn't appear to be as poor a reader as the others. However, no official reports of men completing APT in one week were obtained. This is notable because data to be presented later on suggests that almost half of the men who leave at the end of the third week may have acquired the 5th grade level at the end of the first week. Thus a large number of men may be being retained on the APT roles for a considerable time after they have achieved the current targeted reading objective. This suggests that the testing procedures of Inclosure 1 (above, page 15) should be revised to require retesting at the end of the first week, rather than relying upon busy teachers to perform the frequently difficult monitoring and discrimination tasks required to detect changes in reading skill level sufficient to recommend men for retesting on an individual basis.

APT Staff Characteristics

The Fort Ord APT staff can be divided into two distinct groups on the basis of duties performed within the program. These two groups, teachers and administrative/support personnel, have different responsibilities toward and relationships with the students; thus, the following account will treat each group separately.

Teachers: The official role of the teachers at APT is to teach the subjects of reading, arithmetic, and social studies to the APT student-trainees. (The civilian teachers are under monthly, renewable contracts and are not civil service employees.) At the Fort Ord location, this role is carried by four full-time teachers (at the time of observation). For purposes of description, the following profile is presented.

Age, Race and SES Characteristics: During the period of observation, the teaching staff of the Fort Ord APT included three middle-aged (over 40) caucasian women, and a male Army officer (1st lieutenant), caucasian, in his middle twenties. Socio-economically, all four teachers were members of the middle class.

Education and Experience: Three of the teachers had M.A. degrees while the fourth had completed all the M.A. requirements with the exception of a thesis. Areas of study included: education (2), philosophy, and art. The philosophy and art degrees were both accompanied by an in-depth study of English.

Teaching experience ranged from two to thirty-two years, and covered elementary through college levels. The three female teachers had all taught

APT for over a year (13, 33 and 34 months) and all held teaching certificates from the State of California. The lieutenant had been with APT for 6 months and was not a state-certified teacher.

Only one teacher claimed previous experience in teaching adult basic education--2-1/2 years--prior to coming to APT, while none had undergone any formal training in adult basic education (ABE). Two of the civilian teachers had held other educational positions with the military, and had been married to career officers. Considering the possibility that the Fort Ord APT might extend some form of orientation into the field of ABE for its staff, the teachers were questioned with regard to their introduction to the program. It was found that no such orientation period or in-service program existed in official form, although one teacher did, voluntarily, spend approximately 3 weeks sitting in on another teacher's class prior to becoming a staff member.

Recruitment and Selection: Among other things, the Fort Ord Education Office is responsible for filling teaching positions in the APT program. This office maintains a waiting list of those people who are interested in seeking employment within the Fort Ord General Educational Development program and, whenever possible, it is from this list that all educational positions are filled. When a faculty position in the APT program opens, desirable candidates are contacted and interviewed by the assistant to the education officer, and it is within the Education Office that final hiring decisions are made. When the civilian teachers themselves were asked why they decided to teach at APT, two simply stated that the position was available while the third based her decision on her past success in teaching adults. The lieutenant said that he chose the APT position in order to gain experience in his career field.

Teachers' Conception of the Nature of Reading Problems of Men in Apt: The teachers agree that a large number of the students (perhaps as many as 25%) have reading problems because English is a foreign language to them. For the remainder of students, a variety of problems are believed to be present. Some of those mentioned by the teachers are: cultural and economic deprivation, diet deficiencies, poor motivation, insufficient or inadequate formal schooling, low IQs, and severe emotional problems. In general, the teachers feel "these problems are as varied as the men" and require very individualized approaches if a real attempt at solving them is to be made.

Approach to Treating Students as Adults: Many interpersonal problems can arise in a situation where elementary educational skills are taught to young adults, and information was gathered on how the teachers handled this situation. A unity of approach among the faculty did arise in regard to this problem area. The APT students are seen as, and treated like, adults by all four teachers. Compared with a child-populated classroom, the APT environment is less formal and the students are extended certain privileges (smoking in class, not having to ask permission in order to leave their seats or the room, etc.) forbidden the elementary school student.

Methods of Teaching Reading and Conceptions of the Goals of APT: To an extremely large extent, the APT teachers at Fort Ord are free to conduct their educational program as they wish. The administrative element does not demand conformity of approach from its teachers, nor do the teachers as a group interact in such a way that certain structure might be established. Each of the four teachers observed during this study controlled his or her own classroom, quite isolated from the actions of fellow faculty members.

Concerning general methods of teaching reading, two teachers reported that they emphasized the phonics approach; one utilized whole-word discrimination; while the fourth was quite eclectic in her methods, employing such diverse techniques as lettering and creative poetry. The goals of the APT program, as seen by the teachers, ranged from a succinct--"(to teach) reading with comprehension" to the more verbose:

"to patiently, persistently, tenderly re-orient, reconstruct, re-plot, re-establish the drop-out, the illiterate, the failure-oriented, the badly educated, the jail-birds, the drug-addict, the mentally stagnated, the immoral, that the pleasure of reading, of continued learning, of keeping on and keeping up, of simple but clearly defined self-goals can be reached, if he can unfetter himself from self-imposed limitations..."

Thus, considerable variability of outlook and approach regarding the goals of APT characterized the faculty during our observational period.

Attitudes: Regarding the efficacy and effectiveness of APT, the general attitude of the APT teachers was that little improvement could be expected in the amount of time available (3 to 6 weeks). APT does provide a short review, and aids those students whose main problem lies in forgetting what they had previously learned. "It is completely inadequate time to take a student from 'cat' to reading complete stories with understanding." One teacher summed up the problem in this way--"A radical approach is required, but I don't think I have the answer."

When suggested improvements were given by the teachers, they centered around the belief that an extension of instructional time would allow the

teachers to move the students closer to the program's goals. From this conviction, one can derive the underlying teacher-held belief that the students are not impossible cases. Educational improvement can be achieved.

As for the teacher's opinion of the administrative-support element of the program, it can be summed up as generally positive. In direct reference to the program administrator, one teacher offered--"(he) takes care of administration and leaves teachers free to teach." Since the administrator and the military cadre are on immediate call in the event that a student needs disciplining, the teachers are free of the discipline-dispensing burden. In the case where one of the civilian teachers had a student who continually proved to be too unruly, transfer of the student to the lieutenant's class was common practice. The lieutenant's classroom served as a special class within a special program. Thus, the teachers did have control over who stayed in their classroom, although no such control existed over who was initially assigned to them.

Overall, the APT teachers appeared content in their roles. One teacher remarked that she would never go back to teaching within the public school system. Although they profess that little can be done for the APT students, the amount of success the teachers do achieve must somehow be enough to keep them trying.

Administrative and Support Personnel

Administrators: In addition to the management and administration provided by the staff of the Fort Ord Education Office, the APT program at Fort Ord is directly administered by a male caucasian in his late 50s. He has been the program administrator almost since its inception (36 months). Prior to this

position, he was a career Army dental surgeon and his present status is:
retired military.

The program administrator is responsible for the accomplishment of CONARC objectives and the establishment of local program goals. When asked what the local program's major goal was, he responded--"motivation to further study and training." Thus, the program intends to extend its influence on its students far beyond the duration of actual instructional contact. As for actual duties, the administrator is responsible for: monitoring adequate supplies, monitoring up-to-date records, administering exams, and awarding certificates of completion.

The administrator has had no special, formal training in Adult Basic Education, and he does not participate in the actual instruction of the APT students. When asked to rate his teaching staff, he gave the rating of very good to two teachers, while the other two were viewed as adequate. The reason given for the assignment of 'very good' to two of the teachers was that they had a good rapport with the students and were also highly motivated. Concerning his staff of military cadre, he rated two as very good, saying that they were alert and concerned with the welfare of the students, while the third was regarded as not interested in the men and therefore given an adequate rating.

Regarding the basis of the students' problems and improvements expected, he says:

"The basis of their problem has been disinterest and apathy. If we can stimulate interest and show them that reading can be enjoyable as well as profitable in respect to advancement in the service we would feel we have accomplished a lot."

Support

There were three military support personnel assigned to the APT trainees during the period of observation. Information was obtained from two of these men. Both were Army sergeants about 30 years of age; one Negro, the other caucasian. One was a high school graduate, the other a high school GED. Both had been associated with the APT program for slightly less than 6 months.

The cadres described their duties at APT as being to "bring the men to and from school and teaching basic military subjects" (drill and ceremonies, military courtesy, etc.); also, "giving help to the men that need help and want help." Both felt that the APT students would become good soldiers (neither excellent nor poor soldiers,--good soldiers). One stated that --"most of the time they make better troops (Basic Combat Trainees) because they have more time to adjust to Army life." The differences between the APT student and the regular Army trainee in one sergeant's view were --"education for some, personal problems that others don't have, and job training."

One cadre felt that the APT program was of medium importance to the Army. The other that it was of great importance since "it helps the men to read and makes them more aware of opportunities in jobs and training they can receive by being able to read."

An indirect support member is the commanding officer of the special training company, the company to which the APT trainees belong. At the time of this survey, the CO was a captain, caucasian, 24 years of age and a junior college graduate. He saw the APT trainees as less intelligent than the regular Army trainees and believed they would become poor soldiers. The captain also considered the APT program to be unimportant to the Army and believed it should be eliminated.

Student Characteristics

The core of the APT program is composed of those men who fill the program's classroom. These men, ranging in age from 18 to 25, are immersed in an Adult Basic Education (ABE) program, 6 hours a day, 5 days a week, for a period of either 3 or 6 consecutive weeks. Unlike his hometown counterpart, the civilian enrolled in an ABE program on a part-time basis, the APT student has not volunteered for a program of remedial education. Typically, the APT student has entered the Army through the draft, totally unaware of the Army's intentions toward his basic educational upgrading. He has survived the initial screening process which denies service to those determined (a decision based on both empirical and judgmental data) to be nontrainable, with regard to the needs of the military, but yet, has failed to display an English reading level of 5th grade or above. Thus, the fact that these men are military personnel means that the APT program has the benefit of a captive audience, and as such, problems of recruitment of students and sporadic attendance, problems of great magnitude to many civilian ABE programs, are avoided.

For the most part, the APT student population defies any general descriptive statements. As discussed above, the Fort Ord APT student is a young male adult whose reading ability falls short of the 5th grade level. His marital status is for the most part single and with the exception of the foreign born, he has been brought up in the Western part of this country. Beyond these characteristics, the homogeneity of the population quickly dissipates. Therefore, the following attempt at description of the APT

student population will, for the most part, reflect the heterogeneous nature of this population, while the effects of this heterogeneity will be discussed elsewhere in the paper.

Race, Ethnic and Language Characteristics:

Visually, the variable of race/ethnic group impinges upon the observer as an immediate indication of the diverse nature of the APT student population. Thus, the APT classroom reflects the Army's policy of total integration. Table 1 contains the race/ethnic group breakdown of a group of 67 men in the Fort Ord APT during June-July, 1971.

[Insert Table 1 here]

Of the 67 students included in Table 1, 51 are native born while 16 have immigrated to the U.S. For a sub-sample of these men (N=39) information regarding their primary language was obtained and it was found that close to one-quarter of these men had some language, other than English, as their primary language. Also, it was discovered that 20 percent of those men who are in the category: Primary Language-English, have been raised in a family where either a different language from English was used, or where a combination of languages was spoken. Thus, supporting the hypothesis that personal skill in a certain language is partially a function of the amount of practice provided in this language in a student's home environment, the present data reveals that about one-third of the students surveyed received less than 100 percent exposure to the English language in their early language experience.

Table 1

Race/Ethnic Group	N	% of Total
Native caucasian	21	31
Foreign-born caucasian	3	5
Negro (black)	14	21
Spanish-American	18	27
Oriental-American	9	13
American Indian	2	3
Total	67	100

Trainability, Reading and Educational Characteristics

As stated previously, assignment to the APT program constitutes the decision, made by the Army, that the assigned trainee is in need of remedial educational training. This decision is based on the trainee's performance on the reading section of the USAFI Intermediate Achievement Test. This test is administered to men who indicate a lowered potential for benefiting from combat and job training, as indicated by the Armed Forces Qualifying Test (AFQT). Thus, the AFQT and USAFI test scores both enter into the assignment of men to APT. Data on these two tests are presented in Table 2 for men who entered the Fort Ord APT school for the years from July 1968 through June 1971 (AFQT scores were not available for all men, producing the difference in N).

[Insert Table 2 about here]

The AFQT score is rendered more meaningful if one realizes that these scores are contained within a centile scale. Thus, given full staffing, one could expect 10 percent of the Army's personnel to fall within each 10-unit range of the scale. As Table 2 indicates, 98 percent of the students scored at or below the 20th centile, as would be expected since these men are Project 100,000, "new standards" men. Thus, the APT student population represents the bottom 20 percent of the men who take the AFQT. Clearly, these men are at the bottom of the trainability scale.

Concerning the reading grade level (RGL) scores, it is interesting to note that, of the 1608 men for whom RGL entry level scores were available, some 463 (29%) entered the APT school reading at or above the grade 4.6 level, while 57 percent read at or above the 4.1 grade level. Thus, the majority

Table 2

Distribution of students' entering reading grade levels (RGL)
and AFQT scores

RGL	N	%	AFQT	N	%
1.0-1.5	5	<.01	0-2	17	.02
1.6-2.0	23	.01	3-5	10	.01
2.1-2.5	27	.02	6-8	13	.01
2.6-3.0	116	.07	9-11	159	.16
3.1-3.5	262	.16	12-14	244	.25
3.6-4.0	248	.15	15-17	352	.36
4.1-4.5	464	.29	18-20	162	.17
4.6-5.0	<u>463</u>	<u>.29</u>	21-23+	<u>14</u>	<u>.02</u>
Total	1608	100	Total	971	100

of men who entered the program were within 0.9 grade units (9 months) of the goal of APT, i.e., grade 5.0 reading ability.

To provide an independent (non-USAFI) measure of the trainee's reading ability, the Gray Oral Reading Test was administered to a sample of 18 men. The mean reading grade level achieved by these men on the Gray Oral Reading Test was 2.3 while only one man out of 18 read at a level above the 5th grade.

The generally low scores of the APT students on the AFQT (a largely verbal measure) and both the USAFI and Gray Oral Reading Tests suggest an overall reduction in proficiency in verbal skill, in addition to their more specific lack of reading (ability to decode printed to oral information) skill. One area which would appear to be extremely affected by one's command of the language is that of success within the public school system. Based on the previous data, a consistent hypothesis would be that the APT student is characterized by a low educational level. Table 3 contains the education levels of a representative sample of the APT student population.

[Insert Table 3 here]

As can be seen from this table, these men are not adequately described as the school dropout. Thirty (45%) of the 66 men responding to the question about education, had attained a high school diploma.

Since some of the men included in Table 3 are products of foreign schools, the data is more meaningful if concentration is on only those who received their schooling within the U.S. Fifty-one student-trainees meet this requirement, and of these, 24 are high school graduates. Given the extremely low reading levels of those men, the fact that close to half of them are recipients of high school diplomas, calls seriously into question the usefulness of the diploma as an indicator of educational mastery.

Table 3

Educational Level	N	% of Total
7th Grade	3	4
8th Grade	2	3
9th Grade	5	8
10th Grade	13	20
11th Grade	13	20
12th Grade	28	42
13th Grade	2	3
Total ¹	66	100

¹ Data on education were not available for one of the 67 men surveyed.

Another question of interest concerning the educational background of the APT students was whether or not these men had ever received any form of specialized reading training such as placement in any form of remedial reading class. The data reveals that 50 percent of the 66 trainees had at one time experienced such training. Of these men, the overwhelming majority indicated that their reading ability had improved through this training.

The question as to the degree disciplinary problems had marked and influenced the educational experiences of these men was also addressed. Out of 20 men surveyed, 7 indicated that they had been in trouble with the police and/or school authorities. This trouble had produced an interference in schooling for 6 of the trainees.

Family Characteristics:

Information was gathered concerning the APT student-trainees' families in order to get an idea of the support these men had received regarding their educational growth. When asked about the educational levels of their parents, a sizable proportion of men had no idea how far their parents had gone in school. Based on those 16 men who did respond to this question, approximately 50 percent said that their parents left school before entering high school and only about 20 percent characterized their parents as high school graduates.

When probed about the occurrence of reading done for pleasure by their families, 14 out of 20 men indicated that their entire family could, and did, read and write letters. A somewhat smaller number of family members were identified when the question concerned the use of newspapers and magazines in the home, while only a few family members were named when the men were asked about the use of books in their homes.

Employment History:

Since it was believed that the low level of reading ability displayed by these men would be reflected in the types of employment open to them, data was gathered on their employment histories. Along with this data, incidence of on-the-job reading problems was also surveyed to determine how reading problems affect a person's non-school life.

The employment survey revealed 9 work areas in which 2 or more men had been employed. Following, is the list of these 9 areas, placed in descending order of occurrence:

1. Stock boy
2. General laborer
3. Service station attendant
4. Factory
5. Auto mechanic
6. Farming
7. Construction
8. Truck driver
9. Janitor

Although the employment data is biased to a large extent by the fact that the population of men are quite young and that many of these jobs were performed on a part-time basis, the complete lack of any "professional" job experience is extremely striking. This lack of experience in a "professional" employment position restricts somewhat the amount of information concerning the incidence of on-the-job reading problems, since, to a large extent, the types of employment reported suggest limited reading demands. Yet, of the 35 men questioned about the occurrence of on-the-job reading problems, 9, or close to one-quarter of them did recall a situation where certain job-connected problems did arise because of their failure to adequately decode some type of reading material. Cited most frequently was the problem of

initial completion of the job application form. Other examples did arise, and the following quote is typical of the problem:

"When I was working with fiber glass [the man built customized automobile bodies], I went to a 6-month training program first. They gave me a paper telling how much chemicals to put in the glass and everything. And I couldn't read it so I just went by the numbers of chemicals and what I was supposed to do, I just guessed at it and it came out all right."

Such happy endings were not always the case. One man who drove a truck spoke of missed highway turnoffs and consequent late arrivals. Another man told how he was constantly ridiculed because of his inability to read, and how this ridicule led to a fight and finally dismissal from his job. The occasion for serious trouble is found in the story of a third man who told how he was unable to read the numerous safety regulations which surrounded his job.

Attitudes and Opinions:

Attitudinal data was gathered with regard to the importance ascribed to the skill of reading itself, and the students' opinions of the APT school and its faculty. Since it was conceivable that a low opinion of reading ability might be accompanied by little use of reading in everyday life, information was obtained concerning the amount of reading done for pleasure, and the extent to which the men encountered reading problems in their day-to-day existence.

With regard to the students' attitudes toward reading ability, the near-unanimous opinion was that reading is a very important skill. When

asked why they felt this way, a large number of men responded with quite general answers, such as:

You can't get along in life if you can't read.

or,

You couldn't know what's going on in the world without it (it, meaning the ability to read).

Yet a striking concern with practical goals was present in their responses. A belief that a good job was contingent upon the ability to read well was a widely expressed opinion.

A small number of men (4 out of 20) indicated no desire to improve their reading abilities, but this opinion was predicated on their belief that they were not poor readers, and that they had been unjustly labelled as such. Their reading scores did not support this contention.

A number of questions were asked the APT students in order to elicit their opinions of the APT school and its faculty. Twelve students were asked whether or not they would attend the APT school, given a choice in the matter, two-thirds of the men indicated that they would. Sixteen out of nineteen men responded positively when asked whether or not the school had produced an improvement in their reading abilities. When asked to be more specific, these men identified: increased vocabularies, increased reading speeds, and better pronunciation skills as the major areas of improvement.

As for the APT faculty, not one man was found who considered the teachers less than adequate in their trade. This same unanimity of positive responses was expressed when the men were asked if the teachers were willing to help them with their problems, both academic and personal. Thus, for those who

indicated that they would not voluntarily attend the school, a negative opinion of the faculty was not a factor in their response.

Considering this attitudinal data, one sees that these men: (1) regard reading to be an important skill, and (2) believe that their own reading abilities have been enhanced through contact with the APT school.

As stated earlier, these men were also questioned concerning the amount of reading done for pleasure, and the extent to which they encountered reading problems in their day-to-day life. Out of 32 responses, 23 men stated that they did read for pleasure, while 25 out of 39 admitted experiencing problems in their day-to-day existence which were brought about by an inability to handle certain written material.

The fact that most men said they read for pleasure is not startling when the scope of materials read are considered. Use of newspapers, magazines and books were all included when incidence of reading for pleasure was probed. Thus, a glance through the sports section of the daily paper would qualify a man as one who reads for pleasure. Also, while the number of men who indicated that they had experienced reading problems in their everyday lives constituted a majority (64%), the remaining 36% reported no such problem. However, it is quite conceivable that the number of no-problem responses is inflated by the problem of recall from memory.

Quantitative data such as presented above allows one to view the degree to which the lives of these men are affected by their reading problem in an abstract manner. The problem becomes more "real" and concrete through recourse to specific examples, as follows:

"Just before I was drafted, I had bought a car [\$700.00] and a couple of hundred dollars worth of furniture. The Army told me that since I had just bought the car and furniture, I could take them back and get around half my money refunded. [Due to his being drafted.] So I took them back and both places made me sign papers that I could not read or understand. These papers were not what I thought they were. I lost the car and the furniture and didn't get any money at all back. I complained to these people but was told only - Sorry!"

APT Instructional Program

In this section, the Fort Ord APT training program will be discussed in terms of the theoretical basis of the program, the curriculum of instruction, the program objectives, the duration of the program, the techniques of instruction, and the program resources.

Theoretical Bases

All instructional literacy programs have an implicit or explicit theory about the process of reading which guides behavior in a learning situation. Two prominent indices of the theory underlying a particular program are the material and staff orientations to the job of reading instruction.

Concerning the APT materials, the USAFI Developmental Series of "On Your Mark," "Get Set," and "Go" explicitly states that it uses a linguistic approach to reading. This approach generally treats reading as a process of decoding written symbols into sounds, and assumes that a person will be able to read any word once he has learned to recognize the written symbol and sound relationships of single and groups of letters. This approach, like the phonics approach, emphasizes the decoding aspect of reading, i.e., the teaching of letter-sound relationships, sounding-out of words, syllabication, etc. This approach can be contrasted with approaches which emphasize reading for meaning from the very beginning of instruction. This approach is represented by the "whole word" or "look-say" school of reading instruction. Currently available information suggests that, for beginning reading instruction, the code emphasis approach is to be desired (Chall, 1967).

While the USAFI materials have a decoding emphasis in relation to reading, the staff's orientation seemed to be eclectic in nature, i.e., each teacher used what he or she felt was the best aspect of the various approaches. One teacher stated she used whole-word discrimination in her approach since she felt that adult men already have a speaking vocabulary (larger than an elementary student) and so the time is best used in word recognition. Another teacher reportedly used a strictly phonics approach; while another used a combination of phonics and content. The fourth teacher stated that she uses every standard type of approach (whole-word, phonics, etc.) and a few of her own (creative writing, creative poetry, etc.). These differing reading approaches are not unexpected since neither the formal program statement from CONARC nor the local administration gives specific guidelines for teaching reading. Nor is this heterogeneity surprising when considered in relation to the staff's various conceptions of the APT goals and their theoretical approach to the attainment of these goals, discussed earlier under the section titled Staff Characteristics (page 22 and 25). However, despite the manifold differences in teaching methods and conceived program goals characteristic of the staff, there appears to be uniformity in stressing the importance of the enhancement of the overall abilities of the student or the education of the "whole man" rather than the development of just the man's reading ability or particular skills.

Curriculum of Instruction

The formal statement of the curriculum of instruction, according to the DA Letter dated 15 October 1970, was reviewed under the APT Management and Administration part of this report. This section will review the major points of that statement and contrast them with the current practices of the Fort Ord APT as observed by the observation team.

The formal statement divides the curriculum into two major parts--the GED or General Educational Development and the military training. Each part has its own separate official guidelines, and staff. The GED part is taught by civilian instructors (military personnel are used if civilians are not available), and the military part is taught by the company's military cadre.

The GED Program specified by CONARC requires that reading, writing, English, social studies, citizenship, and arithmetic be taught 6 hours each weekday for three to six weeks.

The teacher's point of view regarding the formal curriculum of instruction is consistent with the curriculum specified by CONARC, i.e., they contractually agree to teach reading, social studies and arithmetic. However, deviating somewhat from the CONARC directives, each teacher decides how many hours each subject is taught; when it is taught; and how it is taught.

Generally, reading, writing and English are taught first thing in the morning with social studies in the late morning or late afternoon. Math is usually taught the first hour after lunch or as a fill-in activity right before lunch. The teachers all seem to teach social studies and math largely as another means of improving reading (math has some written problems). In one classroom, poetry, art and creativity are incorporated into the instruction, while the other teachers tend to present more traditional academic subject matter. The one common element across all the classes is the teaching of reading. It is the consensus of the observation team that approximately 75% of the classtime was spent on reading or reading-oriented work.

As suggested, though it was noted that instruction in all of the classrooms tended to follow the training prescribed in the DA publication, none

of the teachers cited this guideline when describing their instructional content and practices.

The classes are conducted in the traditional elementary school manner with relaxation of some of the rules (more freedom to move around the classroom). One interesting point is that each teacher has in the same classroom two classes of students three weeks apart in their respective training. This means that there is some overlap of instruction for those who do not pass the third-week test. The observation team, in discussion with some members of the class, did not find that this overlap was a problem.

Concerning the military-relatedness of the GED instruction, military terminology is taught by including military words in the regular vocabulary lists. These words were taken from the BCT handout. However, there is not a predominance of military words or military-related reading materials. See Appendix B for a sample of military vocabulary lists.

Officially, the military portion of the curriculum is supposed to include two hours of instruction each weekday and four hours each Saturday for a total of 44 hours of instruction per week: 30 hours GED and 14 hours military. This instruction, administered by military personnel, is to be conducted in accordance with Army Training Program 21-114. The subject matter includes the 13 military subjects which are taught in the first week of BCT (these are listed in the APT Management and Administration section, page 17), so that the APT student will be able to enter BCT at the beginning of the second week of training.

The Fort Ord APT conforms to the above requirements with two exceptions:
1. the Fort Ord involvement with the VOLAR (Volunteer Army) Project has

necessitated the elimination of the 4 hours of Saturday training (thus reducing the total number of hours of instruction to 40 hours per week); and 2. these APT students enter BCT at the beginning of the first week. Thus, these men receive no "credit" toward BCT for their time spent in learning BCT subjects (this has been true only during Fort Ord's involvement with the VOLAR experiment).

Program Objectives

The program objectives will be discussed in terms of the formal objectives as outlined by the DA Publication (15 Oct. 1970); in terms of the educational goals as perceived by the staff; and the reasons for the diversity of these goals.

The formal objectives of the APT are to: 1) "upgrade the reading capabilities of trainees to a fifth grade level or to the extent practicable within a time frame of not to exceed six weeks" and 2) "initiate the development of military discipline, motivation, and physical conditioning...to indoctrinate trainees in the customs and requirements of military service, orient them in soldiering techniques, and prepare them for easier assimilation of BCT."

In addition to these general educational objectives, the school staff has expressed certain broadly conceived sets of educational goals. For example, one teacher states that the APT goals are "to teach basic fundamentals of reading to those to whom English is a second language; to widen the horizons of those culturally deprived; and to assist these men in Project 100,000 so they can successfully complete basic training." These goals or objectives which were elicited by a question which required the staff to "summarize the goals of the APT program," were discussed earlier in the paper in relation

to the staff's characteristics (pages 22, 25) and in relation to the staff's theoretical (page 41) approach to teaching reading remediation. Rather than reiterate these goals, it is sufficient to state that these goals range from teaching the fundamentals of reading to trying to mould, motivate, and enhance all of the abilities of the student-trainee.

This diversity of objectives reflects the fact that the current Army-wide APT program has not been designed according to modern educational technology (see CONARC Regulation 350-100-1) and is not standardized throughout the Army. Also, at the Fort Ord APT school, diversity of objectives reflects the fact that there is no general overall guidance imposed upon the teachers by the administration. Finally, there is little interaction among the teachers. Two of the teachers worked together on their class program and materials development, to a large degree, but the other two worked completely independently.

Program Duration

The program duration, as prescribed by DA publication (15 Oct. 1970), is for a maximum period of six weeks with six hours of general education and two hours of military training daily for five days a week. Reading improvement is measured at two time intervals: the end of the third and sixth weeks of training. If a man reaches criterion, he is graduated from the program and goes to BCT. Otherwise, the man's training ends after the sixth week, regardless of his reading level, and he is sent directly to BCT. It is important to point out that this course does not directly lead to further educational development; and to mention that there is no provision for recycle, except that a man may be sent back to APT from BCT if his company commander recommends it. (This has occurred, but it is rare.)

Techniques of Instruction

Within an educational setting there are numerous techniques which are available to teach a given subject matter: peer instruction, contingency management, individually prescribed instruction, record management procedures, and functional framework are but a few. In addition to a discussion of these techniques in relation to the Fort Ord APT, this section will discuss some additional methods of instruction which were observed within the classroom; the various approaches to teaching math and social science as observed and stated by the teachers; and quality control measures existant within this APT program.

Peer instruction, the one-to-one instruction of students by other students, with the intention of having the student learner, when he has mastered the instruction, become the student teacher, was not observed per se. Some incidences of a variation of peer instruction occurred when two students, a "good reader" and a "poor reader" were told to read together; and when "good" math students were told to help some of the other students who were having trouble with the math problems. Even this type of peer instruction was not observed very frequently.

Contingency management, the controlling of behavior by rewarding or punishing the immediate results or consequences of behavior is not formally prescribed in the training program. Informally, however, it appears that there may be some reward for staying in the program more than 3 weeks. Due to the meningitis restrictions at Fort Ord, APT trainees are restricted to the company area for two weeks of training and to the post during the third week. However, trainees in the APT program during the fourth week are

permitted to have overnight passes at the end of the week. These passes are given on the basis of merit, satisfactory company and APT school performance. (It appeared that normally passes were granted unless the person had been flagrantly uncooperative.) This pass arrangement could act as a positive reinforcement for flunking the third week test, since passing the test means direct shipment to BCT, and once in BCT, the person is considered to be in his first week of training and therefore, not eligible for an overnight pass until the fourth week of training!

Although discipline per se is not a strict contingency management technique, it is an appropriate topic for discussion in relation to the management of the classroom and the instruction. If a discipline problem occurs and the teacher does not want to handle it, she turns the man over to the drill sergeant. The observation team did notice that one student was removed from the classroom for swearing. It was later found out that this student was given an Article 15 and fined \$30.00 for this offense. The company commander stated that he makes an example of offenders so as to reduce trouble in the future. This policy seems to enforce cooperation of the students, even if it is only in the form of lip service to the program.

Neither individually prescribed instruction (diagnostic testing and placement of students within a programmed instructional course) nor formal records management procedures (systematized record keeping of a student's performances for the purpose of providing current information of the student's progress) were observed within this APT program.

There were some class situations in which the learning took place within a functional framework. For instance, letter writing was used as a

means of teaching reading and of using vocabulary words in a meaningful context. Also math was sometimes taught by having the students work money problems: "Pretend you are paying a restaurant bill, how much change should you get back and how much tip should you leave?"

Another (discontinued) aspect of instruction within the Fort Ord APT at the time of our observation was that of a special training class instructed by an Army 1st Lt. This class was designed as a means of handling uncooperative or particularly "slow" students. Students were assigned to the class at the discretion of the regular civilian teachers. Many of the students who were assigned there claimed that they learned a lot more than in the regular classroom because they received more individualized attention and because the teaching seemed to be more meaningful to them. The students did not blame the regular teachers for their lack of learning, but stated that the teachers did not have enough time to give them the necessary help.

The following additional techniques, which are ordered according to their degree of use, were observed at the Fort Ord APT:

1. Individual workbook or reader type of instruction; students silently read a semi-programmed workbook ("On Your Mark," "Get Set" or "Go"), or a Reader's Digest "Reading Skill Builder," or "A Reader for Servicemen." After reading the story, they write answers to the questions at the end of the story (or teacher-developed questions if none are provided by the authors). Most of the books also include a vocabulary list and vocabulary exercise which the students complete. Since the work is done on an individual basis, the teacher circulates occasionally to check on progress or problems. Initial placement within the instructional materials is accomplished as follows.

When the students first enter the course, everyone is given a Reader for Servicemen at the fourth (C002) or fifth (C003) grade reading level (possibly depending on their entry reading level). If this material seems too hard for the student (difficulty being determined by the teacher from the student's performance in class and on the graded work which he turns in), one of the books in the Reader's Digest series is substituted. If the Digest material is too difficult, then the student is given either the Men in the Armed Forces or one of the On Your Mark series.

2. Short lectures with immediate questioning to measure performance: The teacher gives rules of grammar or word formation and then has the student apply them to a list of words. Examples: make compound words; add "ing," "ed" or plurals to words; make words by adding a prefix or suffix; etc.

3. Examinations followed by analysis of test performance: timed quizzes which involve reading a passage and then answering a few questions. Test questions and answers are then reviewed by the entire class.

4. Small group-reading aloud: for the few (4 or 5) students who the teachers feel are really poor readers, there is daily reading aloud. The text is an upgraded military version of "Dick and Jane" called "Men in the Armed Forces."

Some of the instruction utilizes games, generally on an individual basis. The exercises involving the making of compound words is an example of this type of game. The teachers take compound words, separate them into two words and put each word on a separate card. The student is given these packages of words (approximately 40 words) and is told to make the proper combinations.

Math and Social Studies

Math instruction was generally conducted in two ways: the teacher put math problems on the board; or the teacher handed out teacher-constructed (from the USAFI math texts) exercises. In either case the students did the work at their seats and then turned in their answers. The math problems involved work with fractions, whole numbers and written problems.

Most of the social studies instruction involved map drawing and labeling. Also there were some reading and writing exercises which involved the social studies text.

Quality Control

A necessary part of any instructional system is some means (internal and external) of quality control for the continual monitoring and analyzing of student progress and course output for making necessary corrective adjustments. Within the Fort Ord APT program, internal quality control was observed to be an informal procedure involving the teacher's monitoring of class activities, and the administrative monitoring of reading improvement. External quality control was, and is, maintained by the monthly training output report which is submitted to HQ CONARC; and by any feedback relative to Project 100,000 men.

The teacher maintained rather loose quality control over the class by monitoring of classroom activities while the students performed their work assignments. Although there was no homework, all of the class assignments were graded. While those grades did not officially affect the student's progress through the course, they did give the student and the teacher an indication of the student's performance. (It is interesting to note that

the grading of the classwork was requested by the students, they objected to turning in assignments and not receiving an indication of their performance.) Some of the teachers posted a weekly total grade. Even though the students were aware that those grades would not affect their graduating from the school, they were interested in seeing how well they performed in relation to others within the class. Teachers used this as a means of motivation.

In addition to the grades and class performance, student progress was monitored by requiring them to accomplish one assignment before going on to the next. Completion of an assignment entailed correcting mistakes and returning the papers to the teachers for correction.

A third method for internal quality control is the monitoring of reading improvement by the school administrator. He administers this test at the end of the 3rd and 6th weeks of training. These scores, plus some additional information are used to fill out the monthly CONARC report. This monthly report provides CONARC with a method of external quality control of the local APT program. These scores, when added to the other APT reports, provide data concerning the performance of each APT in relation to all the other APTs. Noticeable deviation from the group norm will cause investigation as to the reason for such performances.

An additional form of external control which would be desirable would involve the feedback to the APT of information concerning Project 100,000 personnel. At the present, there is no such feedback, at least to the Fort Ord APT. Not even the follow-up data which is being collected on Project 100,000 men prior to their release from active duty, is being disseminated

to this school. Thus, even though the CONARC Reg. 350-100-1 specifically states that feedback must be included as a permanent part of any CONARC training program, it is not possible for the staff in this APT to adjust their program in relation to any external information. However, externally induced changes do occur when there are changes in the CONARC policy statement concerning the APT program.

The Program's Resources

The program's resources have been broken down into several categories for discussion: materials; equipment; environmental conditions; and fiscal costs.

The materials will be discussed in terms of purpose, content, and quantity. All of the materials used in this program are either USAFI-produced, Reader's Digest, or teacher-developed. The USAFI materials are available at various grade levels. These materials are described in terms of coverage and prerequisites in the USAFI catalog (1322.2-C1).

There are four major sets of reading materials being used in this program (listed in order of descending degree of use): the USAFI "Reader for Servicemen" series; the Reader's Digest "Skill Builders" series; and the USAFI "Men in the Armed Forces;" and the USAFI Developmental series of "On Your Mark," "Get Set," and "Go."

The "Readers for Servicemen" are designed "to help the students learn to read and to bring interesting, important ideas to their attention" (USAFI C003, page iii). The Readers, available at three grade levels (4th, 5th, and 6th), have the stories and the vocabulary arranged in order of increasing difficulty. Workbooks are recommended for use with the test by the

instructor's manual; although none were observed in the classrooms nor were the workbooks listed in the USAFI materials catalog for this reading series. The stories' contents are concerned with people, real-life situations, and problems.

The Reader's Digest "Skill Builders" which can be used for either remedial or developmental reading programs, "consists of 23 books: four at reading level 1; three each at levels 2 through 6; and two each at levels 7 and 8...These work-type readers offer students opportunities: to enjoy and understand what is read; to build vocabulary and to develop awareness of semantic principles; to adapt reading rates to materials and to purposes for reading: and to undertake related reading and research" ("Skill Builder" 5-1 teacher's manual). Reading skill development is based on four basic steps: 'word perception' ("defining words in context"); 'comprehension and recall' (main idea); 'reaction' ("making comparisons and seeing relationships"); and 'integration' ("tying new ideas and values to own background") of experience ("Skill Builder" 5-1 teacher's manual). The content of these stories deals with "people and adventures in everyday living" (USAFI Catalog 14th Ed.).

The "Men in the Armed Forces," designed to bring the student's reading ability to the third grade level, was written especially for military men who have great difficulty in reading. According to the authors, the text's reading objectives are: "to develop basic habits and skills in silent reading; to develop enough skill in oral reading to be able to pass on essential information; to obtain individual satisfaction from oral reading class; and to develop interest in reading. The basic reading skills are developed sequentially, proceeding from the recognition of phrases and simple

sentences to the more complex skill of getting the central thought of a paragraph or episode. Habits of 'phrase reading' are encouraged and the emphasis throughout is upon meaning conveyed by word symbols....Emphasis is upon total meaning--phrases, sentences, paragraphs--rather than upon isolated words" (USAFI B001.42). The content of this text is oriented toward the events encountered by a young man entering military life--induction, reception station, basic training, week-end passes, permanent duty assignment, etc.

The USAFI Developmental series of "On Your Mark," "Get Set," and "Go" is comprised of three "programmed worktexts" of increasing difficulty which are designed to teach basic reading ("On Your Mark"); reading improvement ("Get Set"); and reading for information ("Go"). The content of the reading selections, which are found mostly in "Go," use military events, instructions, etc.

This series is not frequently used, possibly because it is an expendable worktext, and secondly, because the answers are included in the text which the teachers feel is tempting to many students to copy the answers rather than to do the work and then check their answers. At least two of the teachers used these texts by cutting out parts of the book and making their own exercises (without answers).

The social studies text is the "Introductory Social Studies" (A 058). However, while the book was found in the classroom, it was not observed to be in use very frequently.

Although there are basic arithmetic books available, the observation team did not note the use of any particular text. The math materials, as mentioned in the techniques of instruction section above, are teacher-developed.

Many of the math problems were taken from the USAFI "Arithmetic for Everyday Life" (A 031.2); and many of the timed tests, the vocabulary lists and work sheets, and the word-forming drills are also teacher-developed. (A sample of the vocabulary lists and worksheets are included in Appendix B). Primarily, the teacher-developed materials are individual exercises which have been pasted on, or reproduced on, heavy paper. The materials which they use are old USAFI texts. In addition to the above text materials, the students have dictionaries. (There are Spanish/English dictionaries available for the Spanish-speaking student, but no other language dictionaries noted.)

There appears to be no scarcity of USAFI materials in on-hand stock. One factor to consider, even though there appears to be ample supply of materials, is that the consumable or expendable materials might not be used as much since use would necessitate replacement. As this report indicates, there are not a large variety of materials available to the students and basically these are all either USAFI or Reader's Digest materials. The teachers complained that there was a lack of interesting, adult materials available for these low readers. However, with regard to the books observed being read in the class, the student interviews did not reveal any discontentment with the content of these stories. It was noted that there were few, or no, low-level books in the book mobile collection which the average APT student could comfortably use. (See Appendix C for the USAFI's description and prerequisite requirements for the above discussed materials).

The resources of this APT in terms of equipment is almost non-existent. The classrooms contain only a couple of old tape recorders, one overhead projector, a large blackboard per classroom, and a paper cutter.

The classrooms are converted mess halls. The major conversion was to remove the dining tables and substitute Army standard metal office chairs and individual tables. Although the rooms are minimal, they appear to be adequate. Each room can accomodate 20 to 25 students.

The students are bussed to school since their billeting is several miles away. The students are attached to the Special Training Company which is under the BCT committee group control. The barracks are two-story pre-WW II wooden buildings which resemble all other military buildings of that era. Due to the meningitis requirements, the beds are spaced so that there is a moderate amount of living area between the beds. There are desks and small pink throw rugs between each set of bunk beds. The recreation room consists of a TV lounge (color TV), a reading and writing room, a main room which has four pool tables and a stereo set. The appearance is fairly typical in relation to other permanent party recreation areas. The main point regarding the recreation room is its limited availability; the APT men have access to it only every other day. The room is used on the alternate day by the road runner platoon which is composed of remedial physical training students. These students and the APT students do not get along, to the extent that both groups are not permitted in the mess hall at the same time. Each group is housed in separate barracks in the same company area, and they share the same mess hall.

The post-class or extracurricular activities of the students are important because of their effect on the student's attitude toward the school and the APT program. These extracurricular activities, such as KP, barracks maintenance, fire guard, company runner, etc., are traditionally part of any military

training program. The APT men find no exception to these activities. The company is a special training outfit for remedial physical training (nicknamed the Beep Beeps), for remedial training in BCT courses, remedial reading training (the Dumb Dumbs). The duties are basically shared across the remedial physical and reading groups since these comprise most of the company. There are two main duties (KP and S-1 cleanup) which are alternated between the two groups. KP requires four men all day, thus these men miss one complete day of school. If the school is operating at regular strength, this duty, which is rotated with new men at the bottom of the list, would occur once per man during the first three weeks. On the days when they are not responsible for KP, the APT men have the duty of cleaning the three floors of the S-1 building. This requires six men after 1700 hours for a flexible amount of time. The cadre say that it generally takes about two hours, but one man reports being there until after 2300 hours one night recleaning the building three times. The APT cadre are not responsible for supervising this duty. Fire guard is a two-hour shift during the night every night. On payday there is an all-night guard posted in the company area and this duty is shared by the APT men with the rest of the company. There is a high rate of sick call among this group of men. Going on sick call means that the man misses the first four hours of school (the trainee is sent out on the mess truck at noon). Other than the above described duties, the APT students have free time after 1700 hours.

Cost of the Fort Ord APT Program

It is always difficult to obtain exact cost figures for education programs which take place within the context of a larger operational

organization. For instance, in the Army there must be some basic cost to maintain (house, feed, clothe, care for) a man on a day-to-day basis, regardless of whether he is in a training program or on the job. Thus, this may be regarded as a fixed cost per day per man.

When a man is in training, the fixed cost to maintain the man remains, while a variable cost, i.e., the cost of the program per man per day, is added to the fixed cost component. Thus, the cost of training might be considered solely in terms of the variable factor--disregarding the fixed cost, daily maintenance figure. However, if the man's time in the training program is considered as unproductive time, and his day-to-day costs considered as investment, rather than as payment for services rendered, then the total daily cost (fixed and variable factor) must be considered in determining the cost of the program. For the present purposes, only the variable cost factor will be considered.

Figures provided by the Deputy Education Officer at Fort Ord show a yearly budget of \$42,000 for the APT program. Of this, roughly \$400.00 is used for books and class materials; \$100.00 for transportation of materials and equipment, and \$41,500 for staff salaries.

Dividing \$42,000 by 52x40 (weeks in a year X hours per week) gives an hourly cost of \$20.00. Assuming 45 students in the program, \$20.00 divided by 45 gives a cost per student-hour of approximately .44 cents, or a daily (8-hour) cost of \$3.52. This compares favorably with cost figures for adult basic education in civilian commercial programs (e.g., \$5.85 for Skill Advancement, Inc.; \$4.63 for New York Bell Telephone; \$4.16 for Midwest

Corp.¹). However, this compares unfavorably with such programs administered in other public institutions (e.g., \$1.89 for the Los Angeles Schools; \$2.38 for the University of Arkansas¹). It might be expected that the APT program would cost lower than the civilian institutions because of the "free" materials provided by the United States Armed Forces Institute. However, such comparisons are tenuous at best, and should be regarded with considerable reserve.

¹William P. Kent, et al., Job-Related Adult Basic Education.
Vol. II, Approach and Detailed Findings. System Development
Corporation, February, 1971 (page 87).

Output Variables

In this section, we discuss the effectiveness of the Fort Ord Program. The data used in this section have been derived from two sources: (1) the historical records kept by the program administrator since the inception of APT at Fort Ord, and (2) data gathered from time to time by the present research team during the period July 1970-July 1971.

Monthly Input and Program Attrition:

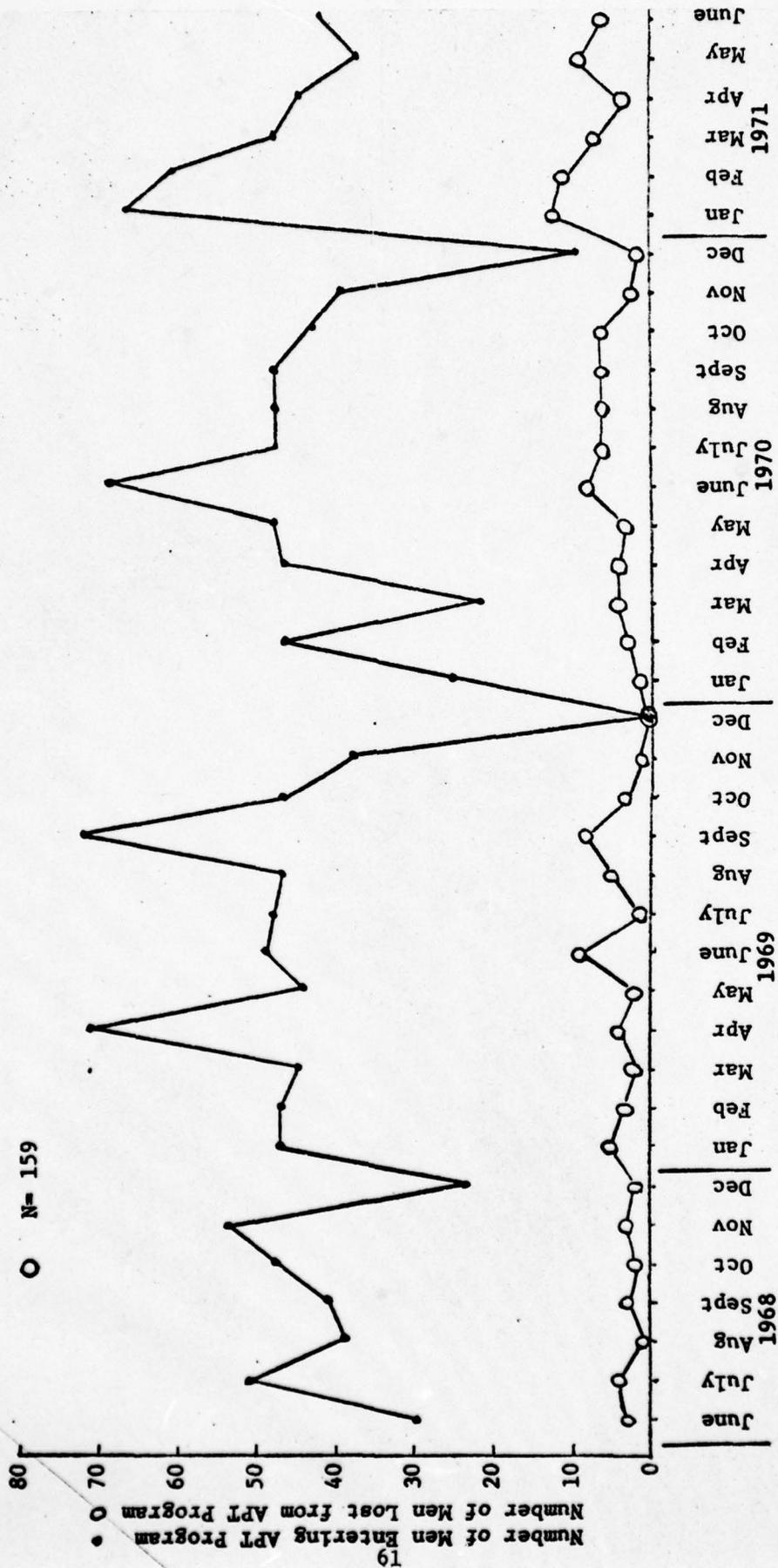
June 1968 was the first full month of operation for the Fort Ord APT program. Starting at this point, the program's historical records were employed to plot a month-by-month input display of the 1,638 student-trainees who have engaged in the APT program over a three-year period ending with June 1971. This data is presented in Figure 1, along with the attrition rate based on these same monthly levels.

[Insert Figure 1 about here]

Outside of a few perturbations, the monthly input of student-trainees averages between 40 and 50 men. The only noteworthy deviations from this scheme are found during December of each year. During this month, the input fell considerably, presumably reflecting the military operations slowdown during the Christmas holiday period.

The total number of program drops over this three-year period is 159. Comparing this figure with the total input of 1,638 men, gives the program an attrition rate of 9.7%. Within the administrative records, this attrition is classified in the following manner:

• N=1638
 ○ N= 159



Calendar Months

Figure 1

<u>Attrition</u>		
<u>Reason</u>	<u>N</u>	<u>% of Total</u>
AWOL	70	44%
Medical Drop	44	28%
Administrative Drop	15	9%
General Drop	30	19%
Total	159	100%

The AWOL category contains those men who physically removed themselves from the military installation and by doing so, precluded their continuance in the APT program. Those men included in the Medical Drop category were either discharged from the service for medical reasons or required medical treatment to an extent where such a disruption of their APT experience occurred that it was decided to send them on to BCT without further remedial education. The administrative and General drop categories, which cannot be clearly distinguished, were used to contain those men who left the program for reasons other than AWOL or Medical.

Time in the Program and Reading Gains:

As mentioned earlier, reading achievement in APT is routinely measured at the end of 3 and 6 weeks. If a man scores at or above the 5th grade level at the end of the 3rd week, he is graduated at that time. If he does not achieve the 5.0 level in 3 weeks, he is retained in the program for three more weeks, for a total of 6 weeks. He is then tested again and graduated, whether or not he achieves the 5.0 level.

Thus, there are two groups of men in the APT program--those who leave in 3 weeks and those who leave in 6 weeks. Table 4 presents frequency distributions of entry and exit RGL (reading grade level) scores for third- and sixth-week graduates, along with the number of men in each group (N) and the median RGLs. These data are also presented for the third- and sixth-week graduates combined.

[Insert Table 4 about here]

As Table 4 indicates, the median entry RGL for the three-week men is 4.5, while the exit RGL is 5.8, giving a gain of 1.3 years, or 0.43 grade levels per week.

For the six-week men, the entry level is 3.9, 0.6 grade units lower than that for the three-week men. Likewise their exit RGL is lower than that of the three-week men: 5.1 as compared to 5.8 for the three-week men. Thus, the difference at entry between these two groups is maintained at their exit from the program. The gain per week for the six-week men is 0.2 grade units, about half the rate of the three-week men.

Also notable is the fact that some 46% of the six-week people failed to achieve above the 5.0 level. Quite clearly then, there are two distinct groups of men who enter the APT program: those who progress rapidly, and those who progress slowly. For instance, of the 91 men who entered APT reading in the 2.6-3.0 range, 37 (41%) achieved the 5.0 (or better) RGL in just three weeks. While these data shed no light as to differences between these groups which might account for their differential rate of advancement, they do suggest that a significant number of men might acquire RGLs well above the 5.0 level if they were retained for the full six weeks of APT.

Table 4

FREQUENCY DISTRIBUTION OF ENTRY AND EXIT READING GRADE LEVEL SCORES
FOR APT MEN COMPLETING THE PROGRAM IN 3 AND 6 WEEKS

Reading Grade Level	3 WEEKS			6 WEEKS			COMBINED		
	N	ENTRY %	EXIT %	N	ENTRY %	EXIT %	N	ENTRY %	EXIT %
1.1 - 1.5	2	0.2		2	0.3		4	0.3	
1.6 - 2.0	6	0.8		14	2.2		20	1.4	
2.1 - 2.5	6	1.0		16	2.5	2	22	1.6	0.1
2.6 - 3.0	37	4.7		54	8.6	13	91	6.5	0.9
3.1 - 3.5	84	10.7		132	21.0	47	216	15.3	3.3
3.6 - 4.0	169	21.6		174	27.8	90	343	24.3	6.4
4.1 - 4.5	175	22.3		114	18.2	81	289	20.5	5.7
4.6 - 5.0	303	38.7		122	19.4	49	425	30.1	3.5
5.1 - 5.5			282			135			29.6
5.6 - 6.0			159			68			16.1
6.1 - 6.5			129			57			13.2
6.6 - 7.0			96			36			9.4
7.1 - 7.5			60			25			6.0
7.6 - 8.0+			56			25			5.8
N	782		782	628		628	1410		1410
MEDIAN	4.5		5.8	3.9		5.1	4.0		5.3

The data for the combined three- and six-week groups indicate the overall success of the APT in fulfilling its official objective--to raise the reading abilities of its students to the 5.0 grade level. The exit-APT distribution reveals that approximately 80% of the students leave the program reading at a level above 5.0. Thus, in relation to this targeted 5.0 RGL, the Fort Ord APT program can claim 80% success.

It should be pointed out, however, that some 30% of the men entered APT reading at or above the 4.6 level, and of these, 70% completed the course in 3 weeks. Since the discrepancy between the entry level of 4.6 and the 5.0 level is within one standard error of measurement in the USAFI test, there is considerable possibility that many of these men may have been reading above the 5.0 level when originally screened for selection for APT, and hence their reading gain may be artifactual--i.e., the result of measurement error. In the absence of control measurements, there is no way to know whether this is so or not.

HumRRO FLIT Scores:

During September and October of 1970, the research team administered the Cook's FLIT Test to a sample of 39 APT student-trainees. This instrument, the HumRRO FLIT (Functional Literacy) test for Cooks, is a reading exam which was constructed under Work Unit REALISTIC. The reading content of the exam is made up of actual job related material for Army Cooks (additional FLIT tests are available for Supply Clerks and Vehicle Repairmen). These student-trainees received two administrations of this exam, one during their first week in APT and again upon completion of the program. Because selection for APT was not based upon the FLIT test, the pre- and post-APT test score

distributions were derived from the same total population of men. This procedure eliminates the problem of statistical regression, a problem which occurs only when a deviant portion of an original population is re-tested on the same (statistically equivalent) instrument used to define the original population.

Figure 2 presents the results of the pre- and post-testing with the FLIT. The line of no change in the figure indicates where scores would fall if no improvement or decrease in reading skill occurred between pre- and post-tests. From the figure it can be determined that 6 (15%) of the 39 men showed a loss or no gain, 30% showed a gain of up to 5 points, 21% showed a gain of 5-10 points and 44% showed a gain of more than 10 points. Overall, the average improvement amounts to some 10% increase between pre- and post-tests. Thus, the APT program does appear to render genuine improvement in reading skills relevant to Army job-related (Cook's) reading materials. It seems reasonable to expect that an even larger increment in proficiency in reading job-related materials would occur if specific training in reading such materials was made a formal adjunct to the general education literacy program.

[Insert Figure 2 about here]

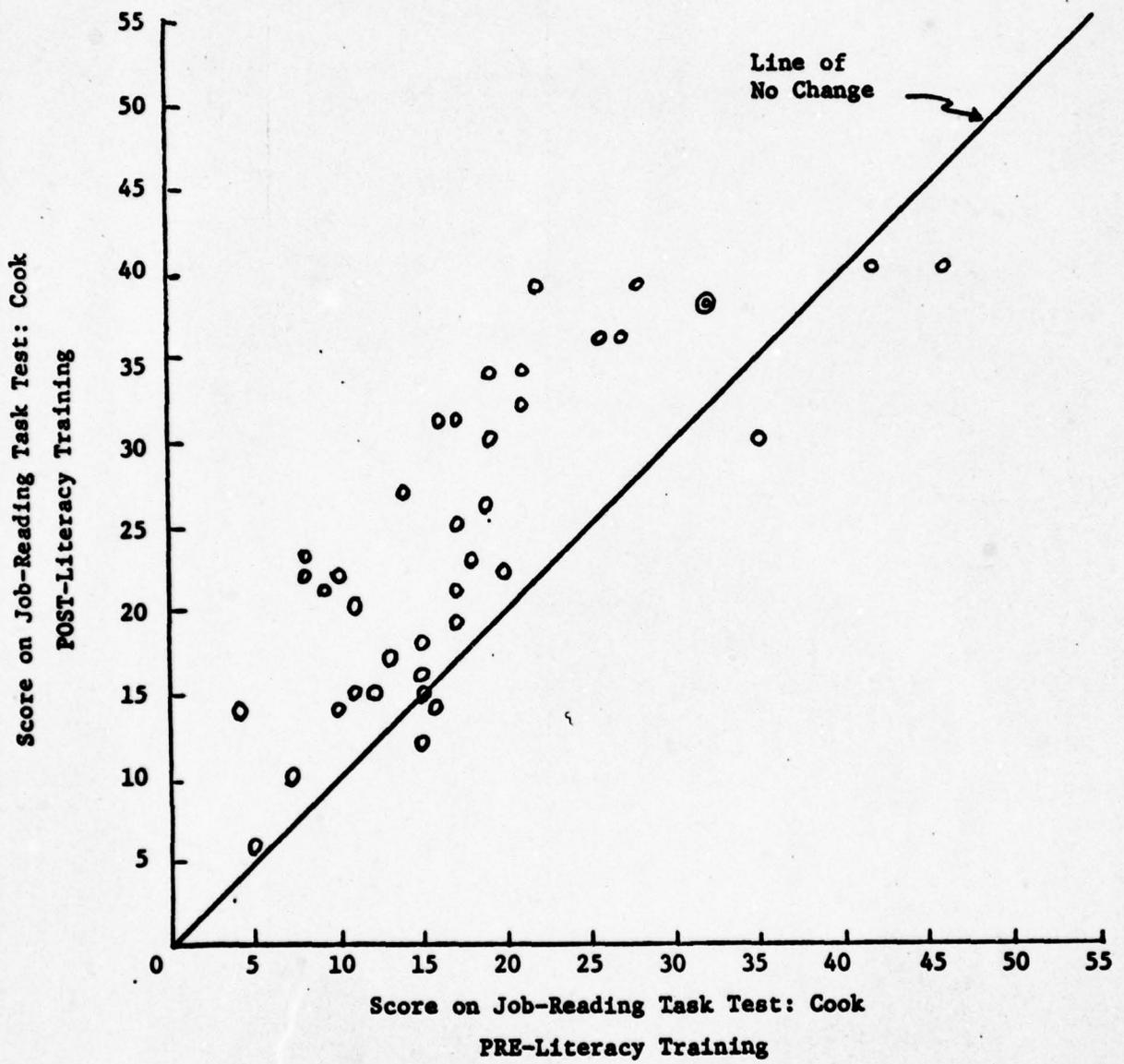


Figure 2

Summary and Overview of Work Unit FLIT

In this paper we have described the Fort Ord APT school prior to its being designated an experimental school for the conduct of HumRRO Work Unit FLIT: Development of a Prototype Job-Functional Army Literacy Training Program.

Information was provided concerning: (1) APT management and administrative policies and procedures; (2) APT staff characteristics; (3) APT student characteristics; (4) APT instructional program characteristics; and (5) outcomes (effectiveness) of the APT program.

In summary, the Fort Ord APT school can be described as a "conventional" adult basic education program, including an administrator who maintains records and is not involved with the teaching, a staff of autonomous, primarily middle-aged, female instructors who work largely independently of one another, each teaching in her own style. Classrooms are conventionally arranged, with the teacher's desk up-front and the students' desks facing the teacher. Student/teacher ratios range around 11-15 to 1, course (USAFI) materials are somewhat scarce; they are typical work-book materials, and are not particularly interesting nor arresting in appearance, especially when compared with other currently available materials. In addition, the military orientation of the materials is minimal, especially when contrasted with materials of World War II vintage (Private Pete series).

Regarding the effectiveness of the Fort Ord APT program, it achieves about 80% success in turning out men who read above the 5.0 level. The fact that some 50% of the men enter reading at the 4.1 level or higher

suggests that much of the success of the school might be due to statistical effects resulting from the use of fallable test instruments, and/or to providing men with some test-taking experience and perhaps some rehearsal in reading skills previously acquired, but which had become "rusty" from disuse.

The fact that only some 12% of the men exit reading at the 7.0 grade level, the level suggested by the REALISTIC research as the minimal desirable level, indicates a need for an upward revision of the goals of APT, and the need for a change in the APT program to permit the attainment of the new goal.

The above needs have been recognized by U.S. CONARC in its sponsorship of HumRRO Work Unit FLIT, in which a prototype APT program will be developed having a targeted reading grade level of 7.0, and which will be capable of Army-wide implementation. The remainder of this paper discusses the general concepts and approach to be used to guide and accomplish Work Unit FLIT.

Work Unit FLIT

The overall objective of FLIT is to develop an experimental Army literacy training program designed to provide a level of functional literacy appropriate to present minimal MOS reading requirements. As indicated above (page 6), the minimal general educational reading level for the four MOSs studied in Work Unit REALISTIC was grade 7.0 for the Cook's job. Using this level as the minimally acceptable level for job proficiency, the results of the FLIT developmental program should be a

prototype literacy training program targeted at producing at least 7th grade reading ability. In addition, the program should provide direct training in the performance of reading tasks involving the job printed material content types defined in Table 5. These content types were identified in Work Unit REALISTIC through interviews with job incumbants at their job sites, and hence represent reading materials actually used by these men--not simply the judgments of supervisors or content experts about what should be read!

[Insert Table 5 here]

Having established terminal objectives for the reading program in the Army, the next step is to develop a literacy program aimed at achieving these objectives.

Guiding Concepts: Underlying the design and development of any instructional program are a set of concepts or theoretical constructs which guide the development effort. In the FLIT work we have defined major concepts and guiding principles with respect to: (1) the reading process, (2) the learning process, (3) the instructional process, and (4) the process of change.

The Reading Process: Our approach to reading defines reading as a psycholinguistic process, i.e., a process involving the combined activities of fundamental psychological processes (perception, cognition) and linguistic processes (phonology, grammar, semantics). The psycholinguistic approach to reading emphasizes a developmental sequence in the acquisition of reading skills which proceeds as follows: first, early in life the new infant adapts to his world by means of the fundamental

Table 5

Job Printed Material Content-Type Categories

1. **Tables of Content and Indexes:**
Content designating the location of information within a publication.
 2. **Standards and Specifications:**
Content setting forth specific rules or tolerances to which task procedures or the completed product must conform.
 3. **Identification and Physical Description:**
Content attempting to symbolically represent an object via an identifying code (stock number, nomenclature) and/or by itemizing its distinguishing physical attributes.
 4. **Procedural Directions:**
Content which presents a step-by-step description of how to carry out a specific job activity. Essential elements are equipment/materials/ingredients to be used, and how they are to be used, with presentation organized in a sequential step-wise fashion.
 5. **Procedural Check Points:**
Content which presents a key word or highly summarized version of what should be done in carrying out a task rather than how it should be done. This content differs from the content classified under Procedural Directions in that it assumes the user knows how to carry out the steps once reminded that the step exists and/or reminded of the decision factors which determine whether the step is required.
 6. **Functional Description:**
Content which presents an operating (cause and effect, dependency relationships) description of some existing physical system or subsystem, or an existing administrative system or subsystem.
-

processes of perception and cognition. Eventually (in the usual case) these processes are brought to bear in the acquisition of language skills. The latter are typically acquired through the processes of speaking and listening: the oracy skills. Following the acquisition of oracy skills, reading skills may be acquired if the person is in a literate society. The literacy skills consist of reading and writing and represent alternative modes of expression and reception of the same language base developed through listening and speaking. Writing is the visual form of the spoken language.

The psycholinguistic approach to literacy stresses both cognitive and language skills, and the more specific perceptual skills involved in using the written symbol system. By this approach, for men to achieve higher levels of literacy skills, they must achieve higher levels of cognitive (reasoning) skills used in conjunction with language. Thus, an implication for the FLIT program is that because these men are generally retarded in cognitive and language competences, as well as in literacy skills, they should first be taught to use the written symbol system at the level of their psycholinguistic capabilities when they enter the program. Then, primarily by means of the oracy skills, an attempt should be made to improve their psycholinguistic level. Reading skills up to the new level of psycholinguistic functioning might then be developed.

The Learning Process: In the ELIT project, learning is construed as an information processing activity. The information processing approach to learning emphasizes internal mental processes involved in learning. It views the person as an active, adaptive organism busily

ordering and arranging an internalized representation of his life space. According to this view, learning is the resultant of an active, constructive process on the part of the learner. This differs from a strict behavioristic conception of learning in which the organism is viewed primarily as a reactive being, whose learned responses are the result of some automatic process of association among stimuli and responses.

The information processing approach to learning stresses internal strategies for dealing with information, such as the use of imagery or mnemonic devices to aid in learning a list of words. Thus, the information processing position would lead us to seek different internal processing strategies even though certain stimulus-response sequences may be the same. For instance, interest would focus not only on whether or not a problem is solved, but also upon how it was solved. It is thus analytic, stressing the detailed analysis of tasks in regard to the mental operations involved, e.g., considering memory processes as distinct from perceptual processes; considering important distinctions between memory storage and memory retrieval processes; and emphasizing the "flow" of information through linear-sequenced stages of processing determinable by various experimental paradigms.

For the FLIT developmental program, the most important aspect of the information processing approach to learning is the stress upon the active, construing nature of the learning person. This means that instruction must stimulate active information seeking and processing, particularly of the type thought to be important to job-related functional literacy skills, e.g., learning how to locate information in job manuals,

how to follow procedural directions in a manual, etc. This approach is consistent with an emphasis upon cognitive processes operating between input and output of information.

The Instructional Process: The principles to be followed in the design of the FLIT instructional program are rooted not so much in theory as in empirical demonstrations of the success of instruction when these principles are followed:

Individualized Instruction: The instructional program will be designed to permit students to work as individuals, within necessary limits (certain communications instruction obviously demands social interaction). The primary benefit of individualized instruction is that students can move through the program at a pace they can tolerate, rather than being shuttled along at the pace of the "average" learner in the classroom.

Personalized Instruction: The psycholinguistic approach emphasizes the student's entering cognitive processing skill levels and his language level as the starting place for reading instruction. Hence an attempt will be made to utilize materials dictated by the students and typed by more advanced students, as beginning reading materials. This material provides a personalized program of reading materials, and insures that the reading material content is part of the student's language repertoire.

Functionalized Instruction: The FLIT program has as its ultimate goal the rendering of men capable of utilizing job reading materials in an effective manner. To this end the program will

emphasize the use of job-related reading materials. These materials will be used to represent the essential reading tasks of military occupational specialties into which many unskilled readers are likely to be assigned. By means of television, men will be provided with vicarious experiences in the use of job-reading materials in various jobs, to provide an understanding of the need for and nature of job reading task skills. The intent is to show the functional utility of job-related reading skills as a means of motivating men to acquire these skills.

Pre-Established Systematic Training: It is planned that the FLIT program will involve linear sequenced skills of reading, with modular format involving module-mastery tests and branching loops for remedial instruction within the program. This program will provide a core of instruction in reading and writing of a general educational development nature. Supplementing the "core" literacy instructional program will be planned instruction in oracy (listening and speaking) skills emphasizing the development of cognitive processing skills (reasoning, critical thinking, organization of thought). The idea is to attempt to raise the student's psycholinguistic level through oracy skills, and to then provide literacy training compatible with the psycholinguistic levels expressed via oracy skills.

In addition to the oracy-literacy training of a general nature, the use of job-related printed materials will be an essential and scheduled aspect of the training program. Thus, graded materials from different MOSs and representing different job-reading tasks will be

introduced in a systematic manner into the program with full quality control procedures initiated to insure mastery of the job-reading task skills.

Finally, the program will involve the planned use of the creative ideas of instructors with special problem cases, to provide teachers with opportunities for exercising professional judgments, and therefore to provide a feeling of individuality and spontaneity which may be lost whenever a rigorously programmed and tightly controlled instructional curriculum is developed.

Student-assisted Instruction: To a considerable degree it is planned to utilize student-produced oracy/literacy materials; to use peer instruction, in which advanced students will tutor less-advanced students; and to involve advanced students in the more routine records management activities. The attempt here is to motivate by giving the students the feeling that they are doing a responsible job in addition to attending school. If successful, this approach provides for more individualized attention to students, and reduces the administrative/-management manpower needs.

Motivation Management: An attempt will be made to create a highly motivating program of instruction through: (1) the use of reading materials dictated by the men, to insure that they are familiar with the materials and hence likely to experience considerable feelings of success; (2) the emphasis of the functional utility of literacy skills in Army jobs; (3) the use of students as peer instructors and as teacher aids; and (4) contingency management, in which arrangements will be made

to provide rewards contingent upon achievement. Week-ends off, access to desirable facilities, social interaction activities, all will be used, as feasible, to reward learning behaviors. This procedure is consistent with the information processing approach to learning which holds that the learner is a self-satisfying, adapting, active organism selectively attending to parts of his environment conducive to his ongoing adaptation needs. Consequently, to have the learner select the instructional materials as effective stimuli for learning, it is necessary to encourage this selection through contingency management techniques.

The Process of Change: In designing an instructional system which is supposed to replace ongoing systems, it is necessary that provisions be made to insure that the new program is understood and accepted by those who will use it. To this end, the FLIT developmental team will visit several Army APT schools to obtain the participation of school staff in suggesting ideas for a new program. The developmental "package" will then include a workshop to be presented to administrators and instructors at the various sites at which the FLIT program is to be implemented. This workshop will stress the fact that most APT instructors and administrators were consulted prior to the development of the FLIT program to determine problems with the ongoing programs, and to solicit noteworthy ideas to be incorporated into the new program.

The process of change is also important in originating the R & D effort at the experimental school. To accomplish this in an orderly and effective manner it is necessary to secure the cooperation and total

acceptance of the civilian and military staffs concerned. In this regard, it is planned to have extensive discussions with the staff of the experimental school-designate, and to provide workshops concerning HumRRO's background in training, ideas about the new program, relationship of the staff to the new program, and to solicit ideas from the staff for consideration for incorporation into the new program.

To further facilitate the development of the experimental program, a design and development sequence is planned which is incremental, involving relatively minor changes at first, with additional changes being implemented over a period of time. The important point is that change will be more "evolutionary" than "revolutionary."

Design and Development Activities

The sequence of design, development, and evaluation (DD&E) activities are summarized in Figure 3. The project is projected to be 22 months in duration. The first block of activities (in progress) involves the planning and designing of the FLIT program; visits to several APT and other literacy schools to obtain information for possible incorporation into the FLIT program, and the preparation of the present report on the Fort Ord APT program as it functioned prior to being designated an experimental school.

[Insert Figure 3 here]

Following the initiation of the foregoing activities, and overlapping them are scheduled workshops with the Fort Ord APT staff and the initiation of baseline data collection.

Beginning in the third month of the project, DD&E Cycle #1 will be initiated. This Cycle involves simply changing the terminal GED objective from grade 5.0 to 7.0, and the cessation of the practice of providing a week-end pass following the third week achievement test. The latter may serve as an enticement for failing the third week achievement test in order to get the week-end pass at the end of the fourth week. During DD&E Cycle #1, a week-end pass will be offered following the week wherein the grade 7.0 level is obtained, regardless of whether this is the 1st, 2nd, etc. week. Men will return to APT following the week-end pass to determine the stability of their 7.0 achievement level, and to determine their ultimate achievement level attainable in six weeks. DD&E Cycle #1 represents a minimal change to the ongoing program and will provide information about what achievement levels can be obtained simply by increasing the target GED level, and hence increasing the retention of men who would ordinarily leave in three weeks.

DD&E Cycle #2, to start in the 5th month of the project will involve the implementation of a new GED program. This program will aim at maintaining current entry standards (accept men who score below grade 5.0 on the presently used USAFI screening test), maintaining current training time (6 hours per day, for 6 weeks), while increasing achievement such that 80% of the trainees exit reading at the grade 7.0 level. Obviously, these are high aspirations, and whether or not they can be accomplished is a matter to be determined by trying. The major principles to be used in this developmental cycle are listed, and are discussed above.

Assuming some success in Cycle #2, DD&E Cycle #3 will attempt to maintain the Cycle #2 GED accomplishments (making certain operational revisions as deemed necessary), while introducing job-related reading task training. Such training will more-than-likely replace the social science component of the present program. Also during the 3rd Cycle, it is planned to initiate a procedure for obtaining feedback about the consequences of APT training on the subsequent school and job performance of APT graduates, to determine whether or not, and what kind of changes should be made to the program.

DD&E Cycle #4 will consist of final revisions to the prototype program, and the construction of implementation-dissemination workshop materials.

Finally, during the last 3 months of the project, time will be devoted to presenting dissemination workshops requested by the sponsor, and a final report will be prepared which will describe the DD&E effort and its outcomes, and contain recommendations for further activities that are deemed important to adequately utilize the marginally literate man in the modern Army.

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A P P E N D I X A

(Inclosure 3 to U.S. CONARC - ATIT-AT Letter
Dated 15 October 1970
Subject: Army Preparatory Training (APT) Program)

Army Preparatory Training Periodic Report

(Reports Control Symbol ATIT-132(R1))

1. Purpose. This inclosure provides for a periodic report on the Army Preparatory Training Program.
2. Preparing agencies. Each installation conducting BCT and APT.
3. Form supply. CONARC Form 392-R (Inclosure 1) will be used for this report and is to be reproduced locally on 8-by-10-1/2 inch paper.
4. Frequency. Monthly.
5. Period covered. Each calendar month.
6. Number of copies, due date, and routing. Dispatch in two copies direct to HQ CONARC, ATTN: ATIT-AT, NLT the 5th working day following each report month.
7. Preparing instructions.

a. Section A.

Line 1: Enter the total number of men leaving USA reception station during the report period who were administered USAFI Intermediate Achievement Test, Form D, during reception station processing, and attained a raw score of 19 or below on the reading section in block titled Eligibles (1a).

b. Section B. Number of participants by score group.

(1) Line 2: Enter number of men entering APT during the reporting period. Total of this line will also be entered in Section A, line 1b.

(2) Line 3: Enter number of men leaving APT during the reporting period. These will not represent the same men as line 2. For men leaving administratively and not retested, enter under raw score group from initial test.

(3) Columns c through i are a breakout by raw score groupings from the reading section of USAFI Intermediate Achievement Tests.

c. Section C. Accomplishments.

(1) Line 4: Enter in appropriate column number of men by level of progress who attend full 6 weeks and those who were released from the program for administrative reasons during the second three weeks of training.

(2) Line 5: Enter in appropriate column number of men by level of progress who attend less than 6 weeks and those who were released from the

Inclosure 3

[Appendix A]

program for administrative reasons during the first 3 weeks of the program. Enter number of men attaining fifth grade level by the 1st week test.

(3) Total of lines 4 and 5 should equal the total of line 3 in Section B.

(4) Columns indicate amount of reading level advancement or administrative loss.

(5) Men temporarily absent for administrative reasons are not to be entered in Admin Loss column unless and until it is determined they will not return. Time absent will be deducted to determine time in training.

d. Section D. In-Training Load.

(1) Line 6: Enter largest number in-training at any time during period.

(2) Line 7: Enter number remaining in-training as of last day of calendar month.

e. Section E. Remarks.

(1) Enter number of men administered the UIAT in the first week of APT. Show 0 men if appropriate.

(2) Explain any difference from the computation: End of period (line 7) equals end of previous period (line 7, previous report), plus entered (line 2), minus completed (line 3).

(3) Provide justification for any difference between the number of personnel who are eligible for and enter in APT (lines 1a and b).

(4) Enter comments as to effectiveness of program and recommendation to improve it.

(5) Use plain paper for continuation sheets.

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ARMY PREPARATORY TRAINING		REPORT PERIOD	REPORTS CONTROL SYMBOL ATTI-132 (R1)					
			Page _____ of _____ Pages					
TO Commanding General United States Continental Army Command ATTN: ATTI-AT Fort Monroe, Virginia 23351		FROM						
SECTION A - ELIGIBLES								
L I N E						NUMBER OF MEN		
						Eligible a	Entered b	
1	Total leaving Rec Sta who had score of 19 or less on the reading section of Form D, UIAT							
SECTION B - NUMBER OF PARTICIPANTS BY SCORE GROUP								
UIAT RAW SCORE GROUP								
L I N E	Form A 0-3	4-8	9-14	15-20	21-25	26-up	TOTAL	
	Form B 0-2	3-7	8-13	14-18	19-23	24-up		
	Form C 0-3	4-8	9-14	15-19	20-23	24-up		
	Form D 0-3	4-8	9-14	15-19	20-23	24-up		
	c	d	e	f	g	h		
2	Entered APT during period				//////	//////		
3	Completed APT during period							
SECTION C - ACCOMPLISHMENTS								
L I N E	ATTENDANCE	Left		No Advance	ADVANCEMENT			TOTAL
		Admin Loss i	1st Week j		1 Group m	2 Group n	3 Group o	
4	Full six weeks		//////					
5	Less than six weeks			//////				
SECTION D - IN-TRAINING LOAD FOR PERIOD								
						NUMBER		
6	Peak for period							
7	Load at end of period							
SECTION E - REMARKS (Continue on back, if necessary)								

ARMY PREPARATORY TRAINING (Continued)	REPORTS CONTROL SYMBOL ATIT-132 (R1)	Page of Pages
SECTION E - REMARKS (Continued)		
REFER QUESTIONS TO		
NAME, GRADE, AND TITLE	PHONE	

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A P P E N D I X B

(Military Vocabulary List Used in Fort Ord APT)

Military Vocabulary List Used in Fort Ord APT

cease	initials	equipment	challenge
kneeling	prone	digits	unannounced
contour	stamina	salute	volunteer
insignia	hazardous	abbreviation	bisect
artificial	identical	prior	court martial

1. Two silver bars is the _____ of an Army Captain.
2. The twin brothers look _____ in their Army fatigues.
3. Army _____ includes a mess kit.
4. When on sentinel duty, a soldier should _____ anyone who does not immediately identify himself.
5. An Army Private should always _____ an officer who passes close by him.
6. Don't let yourself be caught by an _____ barrack's inspection.
7. _____ respiration should be given to anyone who has almost drowned.
8. A _____ map shows the elevation of the terrain (the hills, plains, etc.).
9. Roy Robert Brown's _____ are R. R. B.
10. 1, 2, 3, 4, 5, 6, 7, 8, and 9 are called _____.
11. Wed. is the _____ for Wednesday.
12. You are _____ when you lie flat on your stomach.
13. You are _____ when you are on your knees.
14. "_____ firing." This means to stop shooting.
15. Smoking may be _____ to your health.
16. If you enlist in the Army, you are a _____.
17. A _____ is trial by military (not civilian) authorities to decide whether the accused is guilty or innocent of charges made against him.
18. _____ to coming into the Army, you were a civilian.
19. If you cut an apple once down the center, you _____ it.
20. An obstacle course is used to test a young man's _____.

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[Appendix B]

dumb	lamb	laugh	brought
comb	tomb	tough	thought
bombs	climbed	rough	through
thumb	debts	enough	although
crumbs	undoubtedly	bought	thoroughly

He did not 1. at my joke.

The meat was so 2. that I could not eat it.

I 3. \$35 worth of groceries and 4. them home in the back of the station wagon.

I 5. he would come in 6. the back door.

7. the floor was very dirty, the G.I. did not mop it 8.

The automobile bumped along over the 9. road.

Is there 10. sugar in the bowl for breakfast?

Some of the children in the school were deaf and 11.

The airplanes dropped their 12. on the target and flew back home.

There were some 13. on the plate, but the cake was gone.

The Army General put a wreath on the 14. of the unknown soldier.

It is hard to 15. thick, long hair.

One of the men got his 16. caught in the hole in the bowling ball.

We had 17. chops for supper last night.

The boy 18. up a telephone pole to get his kite which had caught in the wires.

I had so many 19. that I had to go to a bank to apply for a loan.

It is so cloudy and windy that I think it 20. is going to rain.

AD-A063 747

HUMAN RESOURCES RESEARCH ORGANIZATION ALEXANDRIA VA F/G 5/9
RESEARCH TOWARD THE DESIGN AND DEVELOPMENT OF A PROTOTYPE ARMY --ETC(U)
SEP 71 T G STICHT, J H JAMES, L C FOX DAHC19-70-C-0012
HUMRRO-IR-D3-71-1 NL

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APPENDIX C

(Course Description of USAFI Materials used in Fort Ord APT)

Course Description of USAFI Materials used in Fort Ord APT

Course Descriptions**Pre-High School****Communication Skills****FOURTH LEVEL READING AND LANGUAGE DEVELOPMENT (C 002)**
(Developmental noncredit course)

Coverage: This is a course especially designed to improve English language skills. The reading selections included are arranged to promote growth in reading and other English skills. All the selections have been tested for readability and for interest to Servicemen. Over 40 line drawings add to the teaching effectiveness of the 27 stories concerned with people and problems.

Prerequisite: Evidence of ability to read third-level material. **Career opportunities:** A sound basic education is essential to practically all careers and provides a foundation for all further education. **Methods of study and examination:** Primarily tutorial (either in a group or individually) or by conventional class instruction. Enrollment in the Core-GED Program or in a formal class is acceptable. The terminal examination is a USAFI end-of-course test (C 002.7). The text used is "Stories for Today," by Edgar Dale. **Supplementary materials:** "Reader's Digest Skill Builders, I-II," (RM 121.1 & RM 123.1).

FIFTH LEVEL READING SKILLS (C 003)
(Developmental noncredit course)

Coverage: These are carefully graded stories and exercises prepared to improve the student's reading skill, to develop interest in important ideas, and to encourage reading to learn. The 26 stories, tested for vocabulary level and interest, concern real life situations—health, personal economy, and typical family problems—as well as stories from lives of great men.

Prerequisite: Evidence of ability to read fourth-level material. **Career opportunities:** A sound basic education is essential to practically all careers and provides a foundation for all further education. **Methods of study and examination:** Primarily tutorial (either in a group or individually) or by conventional class instruction. Enrollment in the Core-GED Program or in a formal class is acceptable. There is no terminal examination for this course. The text used is "Stories Worth Knowing," by Edgar Dale. **Supplementary materials:** "Reader's Digest Skill Builders, I & II," (RM 125.1 & RM 127.1).

SIXTH LEVEL READING (D 004)
(Developmental noncredit course)

Coverage: This course has been especially prepared for Servicemen. The reading selections concern stories from lives of great people, problems of daily living, and discovery of worthwhile information.

Section II

Prerequisite: Evidence of ability to read fifth-level material. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Primarily tutorial (either in a group or individually) or by conventional class instruction. Enrollment in the Core-GED Program or in a formal class is acceptable. There is no terminal test for this course. The text used is "New Flights in Reading," by Edgar Dale. *Supplementary materials:* "Reader's Digest Skill Builders, I & II" (RM 129.2 & RM 131.2); "Call Them Heroes (4)" (RM 272-272.3).

BASIC READING SKILLS; ON YOUR MARK! (A 011)
(Developmental noncredit course)

Coverage: This course introduces the student to reading and writing, starting with mastery of the alphabet in the context of words. Using a linguistic method, reinforced with the employment of pictures and context, the course takes up only the most regular letter patterns of the language so that the student becomes grounded in the scheme of phonemic-graphemic correspondence. Drill and comprehension exercises provide reinforcement. The student masters a reading vocabulary of about 500 words and acquires the ability to cope with many more through letter patterns and context clues.

Prerequisite: None. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Primarily tutorial either in a group or individually. Enrollment in the Core-GED Program or in a formal class is acceptable. The terminal examination is A 011.11. The text used is "On Your Mark!" by Josephine Bauer, a worktext prefaced by suggestions to the teacher and with personal directions to the student throughout every lesson. *Supplementary materials:* "Letter Patterns for Drill" and Complete Word List.

READING IMPROVEMENT; GET SET! (A 012)
(Developmental noncredit course)

Coverage: This course builds upon the foundation of course A 011. It contains almost all the common letter-sound patterns, including those with digraphs and silent letters. It develops various sentence patterns, introduces connected discourse through dialogues, little stories, and articles of increasing complexity of structure and vocabulary. Drill in phrase reading and exercises to increase eye-span and fluency by deliberate effort increase reading speed. Answers to all exercises are provided to give feedback and develop the man's ability to study on his own. The reading vocabulary is extended to about 2,000 words and skills to cope with more are fostered.

Prerequisite: Course A 011 or ability to pass test A 011.11. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. Accurate reading is indispensable to further study. *Methods of study and examination:* Primarily independent study with the aid of a coach or tutor, either in a group or alone. Enrollment in the Core-GED Program or in a formal class is acceptable. The terminal examination is A 012.11. The text used is "Get Set!" by Josephine

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Academic Programs

Bauer, a programmed worktext prefaced by suggestions to the teacher and with personal directions to the student throughout every lesson. *Supplementary materials:* "Letter Patterns for Drill"; SP-032, Line Tracker Mask.

READING FOR INFORMATION; GO! (A 013)
(Developmental noncredit course)

Coverage: This course is the third in the series of beginning reading texts and builds directly upon the foundation of "On Your Mark!" and "Get Set!" It adds to the letter patterns learned in the first two books so that the student can decode any word he can pronounce orally. It also deliberately increases the student's stock of words and helps him in techniques of vocabulary building. Every lesson gives exercise in reading for information, reading to follow directions, reading for comprehension, and reading for fluency. Phrase reading and timed exercises help the student to increase his reading speed, and self-scoring tests help him to see his progress. Exercises involving prefixes and suffixes, context clues, and definitions--all developed inductively--help the student to increase his vocabulary. The reading selections are chosen from the type of reading the man will need to cope with, namely, newspaper stories, magazine articles from Service magazines, directives, instructions, and the like. When he has mastered this course, the student will have attained functional literacy. Answers to all exercises are given for feedback and to develop the student's ability to study on his own.

Prerequisite: Course A 012 or ability to pass test A 012.11. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Primarily independent with the aid of a coach or tutor, either in a group or alone. No correspondence lesson service is available. Enrollment in the Core-GED Program or in a formal class is acceptable. Individual enrollments are acceptable if the student has a competent person to assist him. The terminal test used is A 013.11. The text used is "Go!" by Josephine Bauer, a programmed worktext prefaced by suggestions to the teacher and with personal directions to the student throughout every lesson. *Supplementary materials:* "Letter Patterns for Drill," "Men in the Armed Forces," by Lowry Harding and James Burr; "Reader's Digest Skill Builders, I-II" (FM 091.1, FM 092.1); Study Cards and Line Tracker Mask.

ENGLISH AS A COMMUNICATION SKILL (A 018) This course is not used at
(Developmental noncredit course) Fort Ord APT.

~~*Coverage:* This course covers the whole range of English language skills usually taught in levels 5 through 8 in civilian schools. It is prepared specially for adults. The course includes abundant exercise materials in spelling; capitalization; word study; verb forms; phrase, clause, and sentence structure; as well as in paragraph development and the writing of letters and reports. A 018 concentrates on modern standard usage and devotes considerable attention to the building of an adult vocabulary.~~

~~*Prerequisite:* Evidence of ability to read fourth-level material. *Career opportunities:* Facility in reading and writing is essential to practically all~~

Section II

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~~careers and provides a foundation for all further education. *Methods of study and examination:* Primarily independent study in a group or individually. Enrollment in the Core-GED Program or in a formal class is acceptable. No correspondence lesson service is available in this course. The terminal examination is a USAFI end-of-course test (A 018.7). The text used is "English as a Communication Skill," by Dr. Josephine Bauer. *Supplementary materials:* "Exercise Book" (A-018-2), "Webster's New World Dictionary," Paperback (RM-120).~~

Arithmetic

ARITHMETIC FOR EVERYDAY LIFE, LEVELS 1, 2, 3 (B 030)
(Developmental noncredit course)

Coverage: This course gives the student an introduction to the first principles of arithmetic. The topics included are writing and reading numbers, counting, learning to add and subtract, adding and subtracting money, and introduction to fractions.

Prerequisite: None. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Primarily tutorial or class instruction. Enrollment in the Core-GED Program or in a formal class is acceptable. The terminal examination is a USAFI end-of-course test (A 030.7). The text used is "Arithmetic For Everyday Life." *Supplementary materials:* "Math Practice Forms" (SP 031.1-3).

ARITHMETIC FOR EVERYDAY LIFE, LEVEL 4 (A 031)
(Developmental noncredit course)

Coverage: This course is a review of the first principles of arithmetic and expansion into more complicated arithmetic. The topics included are learning addition, subtraction, multiplication, division; solving thought problems; addition and subtraction of simple fractions; using measurements and tables of measurement for reference. A workbook is also provided for drill work.

Prerequisite: Evidence of ability to do third-level arithmetic. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Independent study with tutorial help or classroom instruction. Enrollment in the Core-GED Program or in a conventional class is acceptable. No correspondence lesson service is available in this course. A special self-teaching guide has been prepared for students enrolled in the Core-GED Program. The terminal examination is a USAFI end-of-course test (A 031.7). The text used is "Arithmetic for Everyday Life, Part 4," by Milton W. Beckmann. *Supplementary material:* "Student's Workbook for Arithmetic for Everyday Life, Part 4," by Milton W. Beckmann. "Math Practice Forms" (SP-031.1-3).

ARITHMETIC FOR EVERYDAY LIFE, LEVEL 5 (B 032)
(Developmental noncredit course)

Coverage: This is a continuation of the principles of arithmetic begun in B 030 and A 031. The topics include expansion of the more complicated work

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Academic Programs

in arithmetic; extension of addition, subtraction, multiplication, and division; fractions and decimals; measures and scale drawing; and estimating answers to simple problems.

Prerequisite: Evidence of ability to do fourth-level arithmetic. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Independent study with tutorial help or classroom instruction. Enrollment in the Core-GED Program or in a conventional class is acceptable. No correspondence lesson service is available in this course. A special self-teaching guide has been prepared for students enrolled in the Core-GED Program. The terminal examination is a USAFI end-of-course test (B 032.7). The text used is "Arithmetic for Everyday Life, Part 5," by Milton W. Beckmann. *Supplementary materials:* "Workbook for Arithmetic for Everyday Life, Part 5," by Milton W. Beckmann; "Math Practice Forms 1-5."

ARITHMETIC FOR EVERYDAY LIFE, LEVEL 6 (B 033)
(Developmental noncredit course)

Coverage: This is a further expansion of the principles of arithmetic. The topics included are skill in the basic processes, problem analysis, problems dealing in relationships, and solving problems with two or more steps.

Prerequisite: Evidence of ability to do fifth-level arithmetic. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Independent study with tutorial help or classroom instruction. Enrollment in the Core-GED Program or in a conventional class is acceptable. No correspondence lesson service is available in this course. A special self-teaching guide has been prepared for students enrolled in the Core-GED Program. The terminal examination is a USAFI end-of-course test (B 033.7). The text used is "Arithmetic for Everyday Life, Level 6," by Milton W. Beckmann. *Supplementary materials:* "Workbook, Arithmetic for Everyday Life, Level 6," by Milton W. Beckmann. "Math Practice Forms 1-5."

ARITHMETIC FOR EVERYDAY LIFE, LEVEL 7 (A 034)
(Developmental noncredit course)

Coverage: This course is designed to give the student increased facility in using the skills and processes of arithmetic. The topics included are scale drawing, preparation and interpretation of graphs, perimeter and area of straight line figures, formulas and their uses, and application of arithmetic processes to solutions of problems.

Prerequisite: Evidence of ability to do sixth-level arithmetic. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Independent study with tutorial help or classroom instruction. Enrollment in the Core-GED Program or in a conventional class is acceptable. No correspondence lesson service is available in this course. A special self-teaching guide has been prepared for students enrolled in the Core-GED Program.

Section II

The terminal examination is a USAFI end-of-course test (A 034.7). The text used is "Basic Arithmetic I," by Glen Eye. *Supplementary material:* "Math Practice Forms 4 and 5."

ARITHMETIC FOR EVERYDAY LIFE, LEVEL 8 (A 035)
(*Developmental noncredit course*)

Coverage: This is a review of pre-high school arithmetic with emphasis upon increasing the student's ability to think mathematically. The topics included are use of formulas, percentage, interest and discount, circumference and area of circles, volume and lateral area of solids, and the use of the metric system.

Prerequisite: Evidence of ability to do seventh-level arithmetic. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Independent study with tutorial help or classroom instruction. Enrollment in the Core-GED Program or in a conventional class is acceptable. No correspondence lesson service is available in this course. A special self-teaching guide has been prepared for students enrolled in the Core-GED Program. The terminal examination is a USAFI end-of-course test (A 035.7). The text used is "Basic Arithmetic II," by Glen Eye. *Supplementary materials:* "Math Practice Forms 4 and 5."

Social Studies

INTRODUCTORY SOCIAL STUDIES (A 058)
(*Developmental noncredit course*)

Coverage: This course includes the integrated fundamentals of history, geography, government, and the elements of economics and world affairs, as these impinge upon the history of the United States, which is the core of this course. As the story of the development of our nation is unfolded, pertinent information about the social conditions, political systems, and economic affairs is included at appropriate places to illuminate the narrative. Emphasis is given to the 20th century and its problems.

Prerequisite: Evidence of ability to read fourth-level material. *Career opportunities:* A sound basic education is essential to practically all careers and provides a foundation for all further education. *Methods of study and examination:* Primarily independent study in a group or individually. Enrollment in the Core-GED Program or in a formal class is acceptable. No correspondence lesson service is available in this course. The terminal examination is a USAFI end-of-course test (A 058.7). The text used is "Introductory Social Studies," by Eugene Meehan. *Supplementary materials:* "Exercise Book for Introductory Social Studies," by Josephine Bauer; "Student's Classroom Atlas."

Science

INTRODUCTORY SCIENCE (A 068)
(*Developmental noncredit course*)

This course is not used at the Fort Ord APT.

~~*Coverage:* This course, prepared specifically for adults, is essentially a reading course. It includes discussions of the nature of the universe, the~~

~~b. The authorization is permissive and not obligatory in nature.~~

~~c. In order to conserve USAFI materials, each requisition for USAFI materials for counseling purposes will be examined by the appropriate military command concerned to determine that the materials are needed at the installation involved, that the requested texts are required, and that the materials when received will be used at the education center for counseling purposes.~~

11-5. Dictionaries

"Webster's New Practical School Dictionary" (Stock No. RM 120). This is a pre-high school level dictionary offered to help students in pre-high school reading courses learn the meaning, spelling, and pronunciation of words. These dictionaries may be requisitioned as required for supplementary reference material for group study classes in pre-high school subjects.

11-6. Supplementary Reading Materials, Pre-High School Levels

a. "Reader's Digest Reading Skill Builder, Part I" (Stock No. RM 91.1), for use with B 001, Beginning Reading, Levels 1-3. This Skill Builder presents 18 well-illustrated articles adapted by reading specialists to develop interest and skill in reading. The selections include stories about people and adventures in everyday living. Suggested exercises following each story teach clear thinking and develop skills in remembering facts, telling the story, and learning word meanings. This Skill Builder is supplied, if specifically ordered, on the basis of one copy for each student and instructor, on approved requisitions for class use only.

b. "Reader's Digest Reading Skill Builder, Part II" (Stock No. RM 92.1), for use with B 001, Beginning Reading, Levels 1-3. These 18 articles, well-illustrated, continue the emphasis of the Skill Builder, Part I. Part II contains readings on true-to-life stories. Suggested exercises following each story give practice in thinking out answers, learn-

ing new words, remembering and telling the story, and sharing ideas. This Skill Builder is supplied, if specifically ordered, on the basis of one copy for each student and instructor, on approved requisitions for class use only.

c. "Reader's Digest Reading Skill Builder, Student Edition, Part I" (Stock No. RM 121.1), for use with C 002, Fourth Level Reading and Language Development. This Skill Builder presents 22 stories to encourage enjoyment and improvement of reading. Each story is followed by exercises to develop skills in getting main ideas, choosing the right meaning, remembering facts, summarizing what is read, improving vocabulary, thinking clearly, and putting facts in order. This Skill Builder is supplied, if specifically ordered, on a basis of one Student's Edition for each student and one Teacher's Edition (Stock No. RM 122.1) for each instructor, on approved requisitions for class use only.

d. "Reader's Digest Reading Skill Builder, Student Edition, Part II" (Stock No. RM 123), for use with C 002, Fourth Level Reading and Language Development. These 22 reading selections continue the emphasis of the Skill Builder, Part I. The stories and exercises improve skills in understanding what is read, remembering and telling the story, thinking clearly, reading more rapidly, matching main ideas with paragraphs, studying words, and using the dictionary. This Skill Builder is supplied, if specifically ordered, on the basis of one Student's Edition for each student and one Teacher's Edition (Stock No. RM 124) for each instructor, on approved requisitions for class use only.

e. "Reader's Digest Reading Skill Builder, Student Edition, Part I" (Stock No. RM 125.1), for use with C 003, Fifth Level Reading Skills. Twenty-four interesting articles are presented in this Skill Builder. Each selection with its exercise material develops skills in silent reading, judging a story, getting meanings of words from context, recognizing sound words and other descriptive words, remembering and using facts, choosing important ideas, putting facts and details in order, and matching ideas with paragraphs in the story. This Skill Builder is supplied, if specifically ordered, on the basis of one Student's Edition for each student and one Teacher's Edition (Stock No. RM 126.1)

Reference Materials

for each instructor, on approved requisitions for class use only.

f. "Reader's Digest Reading Skill Builder, Student Edition, Part II" (Stock No. RM 127.1), for use with C 003, Fifth Level Reading Skills. This Skill Builder includes 23 interesting reading selections suitable for adult students. Each selection with its exercise material develops skills in silent reading, clarity of thinking, speed in reading, vocabulary building, oral reading, skimming, summarizing what is read recognizing the paragraph as a unit, and selecting main ideas. This Skill Builder is supplied, if specifically ordered, on the basis of one Student's Edition for each student and one Teacher's Edition (Stock No. RM 128.1) for each instructor, on approved requisitions for class use only.

g. "The Reader's Digest Reading Skill Builder, Student Edition, Part I" (Stock No. RM 129.2), for use with C 004 and A 018. This Skill Builder contains 24 informative and interesting articles. The readings and related exercises develop skills in the mechanics of reading, improve reading comprehension, and increase interpretative ability. This Skill Builder is supplied, if specifically ordered, on the basis of one Student's Edition for each student and one Teacher's Edition (Stock No. RM 130.2) for each instructor, on approved requisitions for class use only.

h. "The Reader's Digest Reading Skill Builder, Student Edition, Part II" (Stock No. RM 131.2), for use with C 004 and A 018. This series of 24 articles adapted from "The Reader's Digest" materials continues the emphasis of the Skill Builder, Part I. Selections and related exercises provide training in comprehension, clarity of thinking, memory, word study, and use of the dictionary. This Skill Builder is supplied, if specifically ordered, on the basis of one Student's Edition for each student and one Teacher's Edition (Stock No. RM 132.2) for each instructor, on approved requisitions for class use only.

~~11-7. Kit of Pre-High School Materials
(Stock No. RM 105)~~

~~This kit consists of texts and supplementary materials for use at pre-high school levels through~~

~~grade 8. The kit is available upon approved requisitions to Army, Navy, Air Force, and Marine Corps installations conducting programs of instruction in pre-high school subjects designed to raise Serviceman's educational levels to prescribed military standards. Requisitions should include a statement that such a program is planned or in progress.~~

~~11-8. Kit for Spanish Language Area Courses (Stock No. RM 155)~~

~~a. Description. This kit is designed to help fill the gap between individual or group study in Spanish and experience of hearing the language in the countries in which it is spoken. The kit offers a methodical study of the difficulties in interpreting everyday speech. The aims are to develop hearing skill and the ability to understand spoken Spanish, and to provide practical and cultural information on Latin America and its people.~~

~~b. Use. The kit may be used for conducting group study classes as follows:~~

- ~~(1) As an independent, self-contained course to be conducted in a manner similar to A 609 and A 610, Spoken Spanish, Basic Course, Units 1-30.~~
- ~~(2) As a continuation of Spoken Spanish upon completion of A 609 and A 610.~~
- ~~(3) As an informational, audio-training supplement to the second half of Spoken Spanish.~~
- ~~(4) As a refresher course for those who have had previous contact with Spanish and wish to review and improve their ability to understand and speak the language.~~

~~c. Components. The complete Spanish Language Area Kit contains:~~

- ~~(1) A 609.2, workbook—Latin America Today.~~
- ~~(2) A 609.42, Instructor's Manual, Latin America Today.~~
- ~~(3) A 609.62, Set of 2 double-faced, 12-inch 33 1/3 rpm recordings.~~

~~d. Distribution. One each of item (1) of c above to every group member including instructor or group leader; one each of items (2) and (3) listed above to each instructor or group leader.~~

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report describes the Fort Ord Army Preparatory Training (APT) School prior to being designated an experimental school, to provide a written reference to which the prototype FLIT/APT program may be compared and contrasted. It also presents the major psychological and instructional concepts and principles which will guide the development of the prototype literacy training program (FLIT, Functional Literacy Training). 405 260 alt		

19. (Continued)

Job Requirements
Job Training
Literacy
Program Development
Reading
Reading Training

Reading Requirements
Task Analysis
Technical Manuals
Training
Training Objectives
Systems Engineering/Analysis