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ABSTRACT

The College Adapter Program (CAP) is a program to train inner-city young men and women with high potential for post-secondary technical training. These young men and women either have dropped out of high school, or have been insufficiently prepared in high school for further educational training. The Tutoring Center monograph is a statement of those considerations, objectives, and procedures that the CAP staff believes are important for a comprehensive tutoring center. The primary purpose of the Tutoring Center monograph is to present some practical suggestions for methods to design an inclusive tutoring center, all of which have proven successful at CAP, and models that can be adapted to other programs. The suggestions that the CAP staff believes are significant for an effective tutoring center are presented here: the definition and purposes of a tutoring center; selection and categorization of materials; use of materials; selection and utilization of staff; scheduling of student progress; evaluation of a tutoring center's operation; and, the design and use of a library. The High School Equivalency Preparation monograph is a statement of those considerations, objectives, and procedures that the CAP staff believes are important for effective high school General Equivalency Diploma preparation. An annotated bibliography and factual data regarding the high school equivalency examination are appended. (Author/JM)

MANPOWER EDUCATION MONOGRAPH SERIES

VOLUME III:

COLLEGE ADAPTER PROGRAM TUTORING CENTER

AND

HIGH SCHOOL EQUIVALENCY PREPARATION

Prepared Under Manpower Administration Contract No. 42-36-72-03
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The Manpower Education Monograph Series was prepared under a contract with the Manpower Administration, U.S. Department of Labor. Organizations undertaking such projects under the sponsorship of the Government are encouraged to express their own judgment freely. Therefore, points of view or opinions stated in these documents do not necessarily represent the official position or policy of the Department of Labor.

FOREWORD

The preparation of these monographs has been guided by a desire to share the concepts and experiences of the model College Adapter Program. This approach has given the series its format, in which alternatives and suggestions are offered in place of rigid prescriptions. We have sought flexibility and usefulness in these materials, rather than neat formulas which might have little applicability to the diverse settings characteristic of manpower training programs.

The entire staff is indebted to the Manpower Administration, U.S. Department of Labor, for the generous leeway given to the adoption of this approach and for their support of the Manpower Education Monograph Series. The Administration recognized the encompassing need the monographs could serve and has allowed us to apply our own best judgement. The guidance of Messrs. Judah Drob, Robert Greene, Charles Phillips, Joseph Seiler and Thaddeus Walters, all of the Office of Policy, Evaluation and Research of the Manpower Administration, has provided very substantial encouragement in the development of both the College Adapter Program and the monograph materials.

In New York City, the College Adapter Program has been able to work with and to guide more than 500 students to successful study in the community colleges of City University of New York, largely through the funding of the City's Manpower and Career Development Agency. Joseph Rodriquez Erazo, the Commissioner of this agency, has been one of the first manpower administrators in the nation to implement major changes in the traditional definitions of manpower training, so that students who formerly had training options limited to manual skills now can proceed instead to technical training at the college level. Such college level training is a goal for both high school graduates and non-graduates in the College Adapter Program.

In that each group of trainees and each program staff are of unique nature and, in fact, redefine their objectives and needs as their program develops, I believe the series will be of enormous help in such development. These monographs can provide support where similar solutions to similar training problems are tried; our hope is that they will provide a springboard for still other and improved solutions.

Manpower training efforts are still too frequently ineffective. Our staff is convinced that substantial failures have resulted because the educational services of these efforts have been terribly slighted. Manpower administrators have characteristically left education components without the policy and funding emphasis that will develop them into vital counterparts of skills training components. The trainees themselves in innumerable programs have paid the price by leaving training without the combined skills they need.

For this reason, the Manpower Education Monograph Series is a pioneering work in reporting effective demonstration of linkage between strong educa-

tional services and manpower objectives. As such, the series will assume major significance in the manpower field.

The practical experience in which the monograph materials are rooted has been the result of the educational experiment first proposed and sponsored by the City University of New York (CUNY) through its Office for Community College Affairs. Successively, the program benefitted from the direction and mature insight of Deans Martin Moed, Leon Goldstein, James McGrath and Howard Irby.

Major improvements and continued honing of the quality and effectiveness of College Adapter training have resulted from the guidance provided by the College Adapter Board of Advisors, established by the City University. Members of this Board, who on many occasions have yielded their own precious time in favor of the students and staff of the program, are: the Chairman, Dean Fannie Eisenstein, Office of Continuing Education, New York City Community College; Dean Allen B. Ballard, Jr., Academic Development, City University of New York; President James A. Colston, Bronx Community College; Mrs. Elmira Coursey, Assistant to Vice-Chancellor for Urban Affairs, City University of New York; Dr. Julius C.C. Edelstein, Urban Affairs, City University of New York; President Leon M. Goldstein, Kingsborough Community College; Dean Henry Harris, Staten Island Community College; Professor Peter Martin, College Discovery Program, City University of New York; Vice-Chancellor Joseph Meng, Academic Affairs, City University of New York; Dr. Eleanor Pam, Associate Dean of the College, Queensborough Community College; Dean Seymour Reisin, Bronx Community College. Similarly, the program has benefitted from the experience and advice of members of the Board who are graduates of the College Adapter Program. They are: Mr. Charles Bannuchi, Brooklyn; Mr. Samuel Jackson, Manhattan; Mr. Nelson Nieto, Queens; Mrs. Shelia Williams, Brooklyn.

The College Adapter Program Monograph Series is an expression of the work and devotion of all who have contributed to the evolution of the College Adapter Program, yet I would like to acknowledge those members of the program staff who have assumed particular responsibility for carrying out this challenging work for the Manpower Administration.

The foundation for the work was the experience of the students and teachers, and the expertise of twelve teachers in the College Adapter Program who served as Research Teachers for the duration of the project. Their material and suggestions as to curriculum, assessment and orientation were uniformly excellent.

In the areas of mathematics, they were Iwo Abe, Donald Hamilton and Mary Small; in tutoring and individualized study, Calvin Kenly and Valerie Van Isler; in bilingual education, Florence Pegram and Richard Rivera; in Language Arts, Bill Browne, Bobb Hamilton, Barbara Hill, Ned McGuire and Sipo Siwisa.

The delicate task of translating a working counseling effort into written text was ably assumed by Anthony Santiago, who was guided by the sugges-

tions of College Adapter Supervising Counselors, Robert Belle and Bill Temple, as well as by Counselor Lynn Teplin.

The general direction of the project, which was characterized by an admirably even-handed shaping of the work to conform to the sole criterion that the monographs have maximum practical usefulness, was carried out by Robert Hirsh, Deputy Director of the Higher Education Development Fund. Mr. Hirsh also assisted the General Editor of the series, Carole Weinstein, in writing major sections of the monographs. Ms. Weinstein assumed with enthusiasm and care the mammoth job of organizing the material into its final form, paring it down and expanding it where needed, in order to achieve throughout the series a uniform and readable style of writing. Aiding Carole Weinstein in these tasks, as well as assuring consistency in tone and structure of the text, was the Associate Editor, Louise Baggot. Her work was surpassingly diligent and was critical to the quality of the series. Edwina Dean, a new member of the staff who assumed editorial responsibilities, capably executed the difficult task of guiding the material from original manuscript to final print, as well as contributing to the final additions and revisions in style and format. Finally as the National Coordinator of Technical Assistance for the Higher Education Development Fund, Richard James guided the formation of the monographs with keen insight into their application to a wide variety of educational and manpower training programs, from universities to small but equally important out-of-school Neighborhood Youth Corps programs. He was ably assisted in this effort by the Training Coordinator, Freeman Jackson.

Kyna Jen Simmons, whose proficient organization and direction of the clerical assistants was coupled with her excellent secretarial skills, contributed to the preparation of the monographs -- from drafts to final copy -- with diligence and devotion. Patricia Bryson, Sharon Christopher and Karen Pitter provided outstanding support to Kyna throughout the preparation.

Norman Palmer
Executive Director
Higher Education Development Fund
New York, New York
July 31, 1972

MANPOWER EDUCATION MONOGRAPH SERIES

PREFACE

The College Adapter Program (CAP) is a program to train inner-city young men and women with high potential for post-secondary technical training. These young men and women either have dropped out of high school, or have been insufficiently prepared in high school for further educational training. CAP has taken such individuals and in an average of six months has prepared them for entry into post-secondary technical schools and colleges. Within this period of time, most of those students who are not high school graduates acquire the General Equivalency Diploma (GED). However, the GED is not in itself the ultimate goal of CAP: the ultimate goal is adequate preparation for advanced training.

CAP was begun as a demonstration program in 1969 under a grant from the Manpower Administration, United States Department of Labor, in response to the demand by potential employers for employees with increased technical training and to provide improved Neighborhood Youth Corps - 2 educational services. From its beginning the program has operated on the premises that full employment is the best way to bring about desired changes in low income areas, and that the chief barrier to employability is the lack of attention that educational institutions give to the preparation of students in these areas for advanced technical training and higher education.

The program, which has grown in response to a city-wide demand for such training, now operates two schools that are funded by the New York City Manpower and Career Development Agency, and serves both Manpower and Neighborhood Youth Corps enrollees. Ninety percent of the students who take the high school equivalency examination each year pass it, and 400 dropouts and high school diploma holders enter college.

The high level of success for CAP students in the GED examination and in college derives from the program's rigorous and comprehensive approach to learning. This approach is based upon the fusion of educational modes -- both traditional and innovative -- into a framework that is able to accommodate the learning potential of all of its students. The basic components of this framework are: specifically defined skill objectives that are distributed among a wide range of courses; a thorough assessment of the students' abilities which takes place during a carefully constructed orientation segment; a tutoring center that offers individualized instruction, and group counseling sessions that help prepare the students to function independently upon graduation.

INTRODUCTION

The Tutoring Center and High School Equivalency Preparation monographs, which constitute Volume III of the College Adapter series, are addressed primarily to the teaching and counseling staff members who implement programs. The College Adapter Program (CAP) staff believes that, whether a tutoring center and a high school General Equivalency Diploma (GED) preparation program are offered as components of a larger program or as independent training efforts, the entire staff must understand, determine and accept the essential considerations that lead to training goals in order to ensure coordination and effectiveness.

The substance of the two monographs in this volume is based upon the assumption that a thorough determination of the objectives and procedures of all aspects of a training program is a prequisite for its success. Such a definition is essential for an effective tutoring center and a relevant high school equivalency preparation program.

The specific observations made in the two monographs are aimed to facilitate the incorporation of an effective tutoring center and/or productive high school equivalency program into the academic component, or as sole components, of a federal, state or local training effort. It is pertinent to note that, although these monographs are specifically directed to academic projects, the educational principles and procedures presented in them are applicable to other manpower training units.

The Tutoring Center and High School Equivalency Preparation monographs have been combined in this volume because it is felt that they concern two important types of instruction that may be used independently, or effectively coordinated into a more comprehensive training effort. Further, individualized education techniques are central to each of them.

Although each monograph in the College Adapter series has been written as a separate entity, it is suggested and hoped that not only those combined in each volume, but also the entire series, will be read as a unit in order to obtain a complete perspective of CAP.

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The Tutoring Center monograph is a statement of those considerations, objectives and procedures that the CAP staff believes are important for a comprehensive tutoring center. The primary purpose of the Tutoring Center monograph is to present some practical suggestions for methods to design an inclusive tutoring center, all of which have proven successful at CAP, and models that can be adapted to other programs. The suggestions that the CAP staff believes are significant for an effective tutoring center are presented here:

1) the definition and purposes of a tutoring center;
2) selection and catagorization of materials;
3) use of materials;
4) selection and utilization of staff;
5) scheduling of student progress;
6) evaluation of a tutoring center's operation;
7) the design and use of a library.

The discussion of the Tutoring Center is presented in the same format as the discussion of the other monographs in this series: practical suggestions are followed by a text that offers explanation and/or examples. In addition, there is a summary statement and an appendix including a bibliography and sample student progress sheets. The general sections in this monograph are:

I. *An Overview of the Tutoring Center (Definition and Purpose)*

Detailed listings of the functions and purposes of a tutoring center and consequent benefits that may be derived from a successful center are presented in this section.

II. *Suggestions on How to Select and Categorize Materials and Resources*

A major purpose of a tutoring center is to provide supplementary material to reinforce the students' classroom learning experiences This section presents criteria for the selection of appropriate material and offers suggestions on ways to categorize it for the most efficient utilization.

III. *Suggestions on How to Use Materials*

No material, however worthwhile, will help students learn if it is not used frequently and accurately. Therefore, this section presents ways to ensure the proper use of the tutoring center's material.

IV. *Suggestions on How to Select and Utilize Staff*

Although the available material contributes greatly to the impact of a tutoring center, an expert, concerned staff is also required. Recommendations are made in this section for the criteria to use in selection and utilization of staff.

V. *Suggestions on How to Schedule Student Attendance*

This section offers guidelines for the most beneficial scheduling of students' time in a tutoring center.

VI. *Suggestions on How to Evaluate a Student's Progress*

Periodic evaluation of students' progress is necessary to ensure the most beneficial use of the tutoring center. This section presents methods to conduct ongoing evaluation of student progress.

VII. *Suggestions on How to Evaluate the Tutoring Center*

Since the tutoring center, like all divisions of any academic endeavor, should be evaluated to achieve the optimum benefits from it, specific suggestions are recommended in this section.

VIII. *Suggestions on How to Design and Use a Library*

It is convenient to include whatever library facilities a program may have as part of the tutoring center. This section presents suggestions on how to design and use a library most effectively.

IX. *Summary*

Appendices

This section contains a bibliography, samples of student progress sheets, evaluation questionnaires and activity sessions.

Section I: AN OVERVIEW OF THE TUTORING CENTER (DEFINITION AND PURPOSES)

A tutoring center is an attempt to offer education as an individual learning effort.

Mass educational systems, too frequently, do not meet the needs of people as individuals. Their design is geared toward the skill abilities of groups and is based upon national norms. A tutoring center is a place where individualized instruction is the adopted approach and self-learning is the major activity.

Individualized instruction provides a student with the opportunities, methods and materials to help him teach himself to learn within a structured setting. An instructor or a fellow student is available to guide him, on a one-to-one basis as needed, but the student is required to make his own responses He actively participates in his own learning, and progressively takes on increasing responsibility for his own personal growth.

The natural extension of individualized instruction is independent study in which the student applies learned self-teaching skills to his everyday life and vocational experiences. The ability to do independent study is a high priority goal because structured education that directs learning is only a temporary situation in the lives of the students. Therefore, students should be equipped to assume full responsibility for their own personal growth. Guided independent study experiences are useful practice situations in which students refine their learning patterns while applying self-teaching skills. For example, an instructor may initiate a learning project for a student to pursue but gives the student complete freedom to accomplish it on his own. Although the instructor remains available for consultation at the student's request, he only evaluates the completed project after the student has done so.

A tutoring center is a place that meets the needs of students of all abilities.

A tutoring center should not simply be a place for remedial work Since any group of students exhibits a variety of skill weaknesses and strengths, a tutoring center that primarily concentrates on improving weak skill areas reduces its potential uses. Instead, it should address itself to all of the students' needs, including the slow and fast learner, the poor and good to excellent reader. All students' options in subject areas, materials and approaches to learning should be increased, allowing them to realize their full potential individually. By providing the opportunity for an individual to complete a skill successfully, a tutoring center can establish a base from which other skills can be developed. This results in a more highly equipped student; one who can then initiate his own learning.

Section II: SUGGESTIONS ON HOW TO SELECT AND CATEGORIZE MATERIALS

Diverse forms of materials should be selected.

Because people learn in a variety of ways and at different rates, no single approach to learning a specific skill is sufficient. Often, a student may not be able to master a skill simply because a particular explanation is not appropriate for his individual learning pattern. By providing different forms of material that utilize a variety of teaching approaches, the tutoring center can enable the student to select the particular approach to learning that works best for him.

A selection of comprehensive materials for a tutoring center should include specific considerations.

A primary consideration in determining appropriate materials is the students' needs and interests as they relate to the skill objectives of each course and the overall goal of the program. For example, if a student is being prepared for college (project goal) and is at a low level (need) in reading (skill objective) he must be brought up to a level which will allow him to succeed. Therefore, he should be directed to various skill materials for reading.

A second factor to consider in the selection of materials is that ample materials are needed to provide for the total number of students who constitute the student population. During any one session of use, the center should have more than enough materials to benefit all of its students. By acquiring materials which utilize programmed, non-programmed and quasi-programmed approaches within diverse sources, such as reference books, pamphlets, booklets, textbooks and teacher-prepared study sheets, individual skill needs will be met while provision is made for the realization of the project goals.

In addition, there should be a correlation between course syllabi and tutoring center materials in order to supplement and reinforce what the student learns in the regular classes. Thus, the selection of materials is best determined by an assessment of the students who are to benefit from them.

Programmed instructional materails are particularly useful in a tutoring center.

A program is a written course of study in a subject area that consists of separate units arranged in a logical order of difficulty. Depending upon a student's assessed ability when he begins a program, he is directed to start with a specific unit and proceeds only after he has mastered this initial work.

In programmed materials self-instructional techniques are utilized which require the student to teach himself. Information is presented in an easily readable form allowing the student to learn as he reads and to make responses to questions or statements. Immediate feedback is given as to whether he has responded correctly, and simultaneously he is testing himself by practicing the habit of not looking ahead at answers until after he responds. To reinforce what he is learning, information is frequently repeated in different ways to ensure that he fully learns earlier information before proceeding to new information.

Although a student works on one unit at a time, he works at his own pace and is being presented with a course of study in perspective. The units constitute a whole. In addition, he is learning subject matter in context instead of simply being asked to memorize isolated facts.

The inclusion of frequent periodic testing indicates whether the information in any one unit has been learned and also indicates whether the material is too easy or difficult for the student. Thus, the structure of programmed materials facilities self-instruction.

The scope of materials that are included in a tutoring center should provide for all skill needs.

At CAP the range of material includes:

MATHEMATICS

1. basic arithmetic operations
2. fractions
3. percentage
4. decimals
5. verbal problems
6. algebraic operations
7. geometric principles
8. trigonometry
9. logical reasoning
10. calculus

SCIENCE

1. biology
2. chemistry
3. physics
4. scientific logic

READING

1. rea
2. rea
3. ski
4. or
5. rea
6. rea
7. ma
8. dr
9. rea
10. ju
11. de
12. di
13. id

GRAMMA

1. pa
2. co
3. pu
4. ef
5. st
6. sp
7. ca

LITERAT

1. fi
2. lit
3. es
4. lit

ELECTIV

1. re
2. sa
3. re
4. n
5. de

NG

reading for comprehension
reading for speed
skimming and scanning
organizational reading to follow sequence
reading for generalization (main ideas)
reading for detail
making inferences
drawing conclusions
reading charts, tables, diagrams
judging purpose
detecting bias
distinguishing between fact and opinion
identifying assumptions

MAR

parts of speech
correct usage
punctuation
effective phrasing
structural writing patterns
spelling
capitalization

ATURE

figures of speech
literary devices
essay comprehension
literary analysis techniques

IVES

research techniques
sample research and term papers
relevant elective course books for supplemental work
note-taking techniques
debating techniques

The scope of materials as presented above should be available for bilingual students, preferably in English and in their native language.

It has been shown that the effective learning of a second language is facilitated by mastery of one's native language. Although many students exhibit oral fluency in their native language, their written expression is weak. If writing skills are mastered in one's native language, transferral of these skills to English is easier. Therefore, in order to aid bilingual students the basic skill materials, at least, should be available in the center in their native language.

All materials should be catalogued according to skill, content and suggested level of usage.

Cataloguing the materials facilitates their use for students, tutors and teachers. A catalogue that indicates a specific breakdown of subject areas provides an overall perspective of individual skills in context. It also aids in the efficient organization and presentation of materials and makes it easier to recognize what additional materials may be needed to keep the center up to date. A comprehensive catalogue also decreases the possibility of anyone becoming overwhelmed by so much material when he first enters the center. In general, the catalogue acts as a guide to the materials.

The organization and display of materials, as well as the physical environment, are crucial factors in ensuring their use.

One may select excellent materials, but unless specific consideration is given as to how they are organized and presented, efficient use may not occur. Some recommendations that have worked at CAP follow.

First, divide the materials according to major subject area such as language arts, then according to general skill area such as reading, and finally according to the specific skill component such as reading for main ideas. This type of division simplifies the organization and focuses on specific skills while it presents the skill within its appropriate contextual reference.

Displaying each subject area's materials in separate bookcases in ascending order of difficulty also facilitates their use.

In addition to subject area division, it is also helpful to designate four other separate sections consisting of reference materials, high school equivalency preparation materials, bilingual materials and reserve books for supplementary course work. It is also preferable to house these materials in bookcases, but large tables can be used.

The physical environment affects the use of the center because most people respond positively to a comfortable and pleasant place. Work is encouraged by providing either comfortable chairs with adjoining desk tops or, at least, ample chairs and tables. Furthermore, decorating the room with attractive posters, useful charts and diagrams which provide relevant information (Periodic Table, GED examination divisions and content, mathematics and science illustrations), a blackboard and study carels are conducive to study. Although a blackboard and study carels are not essential, a blackboard may be provided for occasional group instruction and carels for privacy to encourage concentration. Good ventilation also further contributes to more frequent attendance in the center. Finally, furniture and materials should be arranged to provide maximal individual concentration and comfort as the available space will allow.

Ensure that students use a variety of materials.

Although a student may need a great deal of practice to master a specific skill, using a variety of materials will help him to achieve that aim as well as provide him with additional advantages from using the center. Through exposure to diverse materials the student can discover the most efficient method for him to acquire a skill as he becomes familiar with approaches that he will encounter in his future education. He can acquire improved ability to adapt more readily to various test-taking situations, and he can sharpen his own critical skills by experiencing the variety of formats. Although the student is working at his own pace, he should be encouraged to set for himself a discipline which will help him learn as much as he can. And finally, he can be exposed to material and information which he might otherwise not attempt to examine.

Section III. SUGGESTIONS ON HOW TO USE MATERIALS AND RESOURCES

Additional orientation should be given to the students in the first tutoring center session of the regular cycle.

Although students are initially introduced to the center and to the use of its materials during the orientation period (see the Orientation monograph in Volume I of this series for a suggested approach), at least one session of further introduction is recommended to permit students who were absent during orientation to become familiar with the center operation, and to reinforce what the other students have learned.

This session should include a discussion of the various functions of the center, stressing self-teaching concepts, ways to use the materials productively and procedures of operation. Furthermore, this is an appropriate time to discuss and clarify the definitions of teacher, tutor and student responsibilities including the forthcoming student evaluations of the center's effectiveness, in order to promote the successful operation of the center. By clarifying the roles of all participants and the functions and procedures of the center at the beginning of the semester, it is more likely that the center will be used efficiently to its fullest extent.

This first session should be taught by the tutoring center instructor.

The format and design of programmed materials should be fully explained if students are to derive optimum benefit from them.

Since programmed materials utilize a variety of learning techniques that may be unfamiliar to students, a careful review of some sample programs are necessary to ensure effective use. A recommended method of review is group instruction.

All available assessment information should be given to the tutoring center instructor so he may aid the students more efficiently.

Standardized test scores	- obtained from initial assessment
Student's goals	- identified through discussion or a questionnaire.
Student's interests	- identified through discussion or a questionnaire
Teacher and student's evaluation of skill needs	- gathered from orientation period performance

Diagnostic test results	- obtained from orientation class sessions and initial center attendance
Counselor's appraisal of student's attitude	- obtained from admission interview data and orientation seminar sessions

An initial program for an individual student should begin with material that meets his most pressing skill need.

Although it is hoped that students will use the center for a variety of purposes, they may not be able to cope with material in a subject that interests them until their basic skills are strengthened. For example, if a student's reading skills are weak and he wishes to read in psychology, it would be best to help him improve his reading skills before he attempts to read a college textbook. However, simplified reading in his field of interest can be used to achieve improvement of skills, such as reading kits which contain some cards on the subject of interest and reading comprehension exercises. The instructor can then suggest subsequent material depending upon the student's progress.

After a student's needs have been assessed, it is preferable to suggest that he work on one skill or program until he has mastered it.

By working with one area at a time, the student learns the techniques of development and completion. This can carry over to improved study habits. After the student has mastered one skill, change or reassignment can be made jointly by the instructor and student.

The self-teaching and learning process, which is probably the essence of learning, should be stressed throughout the semester.

Even though the self-teaching and learning process has been introduced during the student's first sessions in the center, it is helpful to reinforce the concept at periodic intervals. For example by providing materials which utilize the self-teaching approach (programmed instruction), the student practices and applies it. The instructor should periodically clarify the benefits that can be derived from learning independently, particularly since the imposed, disciplined learning atmospheres, as encountered in educational settings, are only temporary. With this in view, people and materials only serve the purpose of temporarily directing a student toward the goal of teaching himself. The learning process is actually learning to teach one's self.

At times, group instruction is beneficial.

Although the major focus in the tutoring center is on individualized instruction, students attend the regularly assigned tutoring center periods in groups. The instructor may decide that a majority of students can benefit from a uniform lesson on a particular technique or skill such as the use of programmed materials, reading and research techniques, college requirements, or library usage and procedures. Group instruction in these situations is particularly helpful if several students have expressed difficulty with a specific skill or assignment, and is especially useful to reinforce students' experiences in regular academic classes and counseling sessions.

Regularly assigned tutoring center period should not be used for the following purposes.

1. completing homework assignments -- (an exception is if a majority of the students are experiencing difficulty with a particular assignment and the instructor can review it with the group)
2. purposeless talking
3. browsing through materials
4. smoking
5. eating

The above statement is based upon the experiences of the CAP staff in operating the center which indicate that although an informal atmosphere should prevail, it must be a structured one. If the tutoring center is to be meaningful, students must be required to use it for specific learning purposes that do not conflict with the purposes of other components in the program. For example, homework should not be done in the tutoring center just after it is assigned nor just before it is due for a class because this can encourage the student to be lax and to avoid developing his own study habits -- homework should be done at home or in a library.

Section IV. SUGGESTIONS ON HOW TO SELECT AND UTILIZE STAFF

Having one instructor, who is fully responsible for the center's operation and most of the supervision, will make the center more successful.

CAP has found this to be true because most classroom teachers have so much to do in preparation for and in the teaching and evaluation of their respective students that they cannot efficiently share the operation of a tutoring center. With a full time tutoring center instructor on hand, the following advantages can take place:

1. one individual is completely familiar with all available materials;
2. one instructor sees all the students;
3. the utilization and worth of the materials may be consistently evaluated;
4. materials may be readily updated, more may be ordered, irrevelent ones may be eliminated, new and experimental ones can be tried out;
5. one individual has the opportunity to improve his own mastery of tutorial techniques, and to learn what is most beneficial for different types of students;
6. one reliable individual is available for the frequent guidance that students need to select materials, discussion with students to promote further confidence, immediate assistance when needed, appropriate supplementary group instruction, immediate and consistent feedback to students about their progress;
7. more positive correlation can be provided between the students' regular course study and the use of the tutoring center;
8. the use of library and tutoring center materials can be efficiently coordinated;
9. student progress sheets can be maintained;
10. more effective coordination of the operation of the center is probable.

CAP has identified several characteristics that are desirable in a tutoring center instructor.

To be effective, a tutoring center instructor should possess at least some of the following qualifications:

1. low ego needs;
2. a sensitivity to and an understanding of students' needs and attitudes;
3. an ability to relate to students on a one-to-one basis and in groups;
4. a serious concern for each student's improvement;

5. an adequate understanding of all skills covered in the center and program courses;
6. a familiarity with relevant subject areas;
7. an ability to initiate and experiment with a variety of materials and approaches;
8. a strong organizational ability;
9. experience in individual tutoring;
10. an adaptability and flexibility as circumstances may require;
11. the ability to maintain an informal, yet ordered working atmosphere;
12. a willingness to learn and to make changes;
13. a non-authoritarian attitude;
14. an ability to critically evaluate himself, students, methods, materials and the entire operation.

It is essential to orient teachers, directors and counselors to the purposes, functions and use of the center.

Although the center is an independent entity, if it is included as part of a college adapter program, its use should be correlated with the rest of the curriculum. Therefore, all staff members should be familiar with the center and should have some degree of responsibility and participation in its operation. Ideally, the full-time instructor of the center should hold an introductory session for the staff before the 10 day orientation segment begins.

This orientation should include the functions, purposes and uses of the center and its materials; staff participation; coordination and correlation of center use with class study and counseling sessions; sample materials, evaluation of the center and the library. In this way, the entire staff can exchange their ideas regarding ways of operating for efficient use of the center and the optimum benefit of the student population.

It is helpful to schedule one hour per week for each teacher to supervise and participate in the tutoring center's operation.

A teacher's participation in the center's operation can serve the following purposes:

1. to provide an opportunity for each teacher to familiarize himself with the materials and operation of the center;
2. to provide a distinct relationship between classroom work and tutoring center activity;
3. to relieve the full time center instructor for required administrative and related responsibilities;
4. to provide another type of more informal setting in which students may consult with their teachers for individual assistance.

Therefore, of the student's two regularly assigned periods per week in the center, one should be supervised by the tutoring center instructor and the other by another teacher.

It is also helpful if counselors supervise one tutoring center period each week.

If possible, it is recommended that counselors supervise one tutoring center period each week in order to provide for more correlation between the student's academic study and his counseling needs. In addition, it is a further opportunity for the student to see the role of the counselor and counseling as more relevant to his entire progress -- the student may specifically share his academic experience with the counselor.

The utilization of student tutors in the center is highly recommended.

For a center which services approximately 200 students, at least two student tutors are needed. They can assist the instructor in administrative duties and in the selection, distribution and replacement of materials during the periods that students use the center. Furthermore, since the process of tutoring is a mutual teaching/learning situation, desirable peer relationships can be established as the student tutors help others to learn.

Section V. SUGGESTIONS ON HOW TO SCHEDULE STUDENT ATTENDANCE

It is recommended that all students be required to attend the tutoring center for a minimum number of hours per week.

Some degree of required attendance increases the importance of the center's existence. For those students who may need additional prodding and imposed discipline to improve their skills, required attendance at the center will, at least, provide further opportunity for them to achieve. For those students whose skill abilities are at a high level, required attendance at the center can encourage them to advance even further. Moreover, if everyone has to attend the center, it will not become simply a place for remedial work which may be viewed as some sort of punitive device; it will become a place where students can reinforce each other's learning and continual growth.

During a 15 hour week, a minimum of two hours per week of required attendance at the tutoring center for each student is feasible and recommended.

If the students are required to attend the center two hours each week, the correlation between other classes and the center's use is further strengthened since most classes at CAP are offered twice per week. In addition, this amount of required time gives the student ample opportunity to do a substantial amount of individual work.

Additional required hours of attendance at the tutoring center may be assigned according to a student's skill needs.

If a student is progressing at a very slow pace and is in extreme need of individualized skill work, an instructor may recommend that he attend the center more frequently. Otherwise, the student should decide upon his additional hours of attendance.

All students should be motivated to attend the tutoring center during scheduled sessions and in their free time.

Several ways of motivating regular and free attendance are:

1. to instill in the student, a sense of accomplishment and activity during assigned periods -- if he feels that he has done something worthwhile, he will return;

2. to use the library as a magnet drawing students into the -- if the student comes intto borrow books he may begin to e the other materials;
3. to make the students fully aware of the diversified purpo the center so they are stimulated to visit and use it as of possible;
4. to keep the center open between 9 and 5 to allow students w tend either the morning or afternoon sessions to use it before after classes.

The free attendance hours in the tutoring center are most beneficial whe are used for additional skill work, browsing through materials, selectir reading library books or study.

If these kinds of activities are carried out during free attendance center, it will ensure that regularly assigned skill periods are used fo most effective purposes.

The number of students who can use the tutoring center comfortabl efficiently during any one session depends upon available space, furn and the amount of materials.

At CAP this is possible for a group of 20 to 25.

If a tutoring center is the only available instructional source each stu should be required to attend from a minimum of two hours per day a to ten hours each week, to a maximum of three hours per day, a total of fi hours each week.

More than three hours a day in the tutoring center is not recomme since it is likely that an individual will become too tired to remain enough to gain any benefits after so much steady, individualized instru

Section VI. SUGGESTIONS ON HOW TO EVALUATE A STUDENT'S PROGRESS

Some form of evaluation of student progress is necessary.

Students prefer to know how they are progressing and usually request this information. Continual assessment is needed to determine if a student is adequately acquiring a skill or learning and retaining information. Furthermore, in order to provide appropriate skill development material, it is necessary to evaluate whether a student is ready to proceed or needs additional review. Evaluation can also be a motivating factor. If a student experiences success and is informed of it, he is more likely to expect more and want to experience more. He sees that he can achieve, and therefore, can realize more of his full potential.

A standardized, traditional grading system is not necessary.

It is better to inform students of progress individually. This adds to the probability of increased self-confidence since the student is being informed of his progress as it relates to him personally and not necessarily to others.

If a tutoring center is the only source of instruction it is useful to devise a uniform evaluation procedure.

It is appropriate to use a uniform, evaluation procedure if a tutoring center is the only source of instruction because no other procedure exists. This is particularly useful if the students are being prepared for further education in which they will be evaluated in a uniform manner.

Qualitative work and achievement should be stressed

Although standardized and diagnostic test scores are used to initiate the student's activity, a tutoring center should focus primarily on the quality of the individual's work; not the quantity. Therefore, evaluations of student efforts in the center should be designed to reflect quality of achievement.

It is preferable and more beneficial overall not to inform students of initial grade levels in reading and mathematics.

Verbal, informal dialogues between the instructor and student about reading and mathematical abilities are preferred over informing students of their initial grade levels because too many negative connotations are associated with the term "grade levels." Also, more often than not, students in educational programs such as CAP are chronologically older than their

respective grade level and this fact often stigmatizes growth. If it is necessary to inform students of their grade levels, it is more effective to do so midway through or toward the end of the semester.

The individual student's progress should be assessed at least once each week, or at a minimum, once every two weeks.

Frequent assessment will facilitate more appropriate activity and rapid skill development. If a student is having difficulty in one area, he should be given further practice in the development of that skill, but if a student is progressing rapidly and finds the material he is working with too easy, he should be directed immediately to more challenging work.

It is helpful to design a progress sheet and to maintain one for each student.

A progress sheet should be kept on file in the tutoring center for each student to facilitate their use. It is recommended that the student use it each session and fill it out himself, as a way to actively involve him in his own progress. This will serve to:

1. assist the student in keeping his own record of progress;
2. guide the student toward thinking about what he has done, has not done and can do;
3. assist the instructor in accurate assessment of individual progress;
4. provide the student with a comprehensive perspective of his learning situtation;
5. establish an informal self-disciplinary attitude in the student.

Two types of progress sheets are recommended for each student, one for the use of programmed material and another for the use of other skill material.

Many programmed materials appear in a series, while most other skill materials are briefer. Behavioral Research Laboratories, for example, publishes programmed courses in a variety of subject areas consisting of as many as ten or twelve extensive units. In addition, as pointed out previously, programmed materials are complex and employ various techniques which require different criteria to determine progress from other types of material. In these cases, a separate progress sheet is particularly useful.

A progress sheet for the use of specific skill material can include:

1. name of student;
2. material used;
3. purposes it was used for;
4. whether the material helped the student or not;
5. the date it was used.

A progress sheet for the use of programmed material can include:

1. name of student;
2. material used;
3. the date it was used;
4. test given, if any, and name of test, test score, number right, number wrong;
5. review of needed work;
6. specific area in which review is needed.

The tutoring center operation and class study should be closely correlated.

The tutoring center instructor can devise various means to achieve close correlation between the center activities and class work. He can use the weekly class progress sheets that counselors prepare for each student; e.g., if a student receives a low evaluation in a particular course, he can immediately direct the student to work on that skill. In addition, he can inform teachers of the student's progress by distributing the results of the tutoring center progress sheets.

When a student completes a unit of work, he should be given a mastery test to determine if he is ready to proceed further.

Some publishers of instructional materials supply a mastery test for each unit, but if one is not supplied, the instructor should devise one. The student's score on the mastery test should be relatively high before he is guided to go on since the center is attempting to ensure that individual students achieve a higher level of skill.

Section VII. SUGGESTIONS ON HOW TO EVALUATE THE TUTORING CENTER

The overall evaluation of a tutoring center's effectiveness is best determined by its students.

If the students are convinced that their evaluation of the center will be used to improve or maintain it as it is, their evaluation will be a serious one. Since the students are the ones who benefit from the use of the center, they should be involved in determining how well it has worked for them. However, in some cases it is expected that for personal reasons a student will not have gained from the use of the center. Therefore, the staff should also evaluate the center, but the major value of its worth is logically determined by the students.

Questionnaires are useful tools to evaluate the effect that students are receiving from center materials and to identify their further needs.

To devise a useful questionnaire, the following factors should be considered:

1. precise phrasing;
2. brief questions;
3. ask only one question in each statement;
4. the format should be from general to specific;
5. ask questions so as not to suggest the answer.

In addition to questionnaires, the progress sheets are very useful.

To evaluate the center operation consistently, questionnaires should be distributed once a month.

Consistent evaluation by questionnaires will facilitate the identification of any real problems of misuse or operation.

It is not necessary to have every student respond in order to obtain productive results; a sample number is adequate.

Out of 360 students, about 50 responses are enough.

Section VIII. SUGGESTIONS ON HOW TO DESIGN AND USE A LIBRARY

In addition to skill practice materials, a lending library is an effective component of a center.

It can serve the following purposes:

1. to motivate a reluctant reader to read for his own purposes, such as entertainment and information;
2. to encourage the reading student to seek methods that will help him to understand more thoroughly what he reads, to read more quickly, and to employ rational judgments in deciding what will meet his particular needs;
3. to reinforce skill development by making books readily available;
4. to supplement classroom study and fulfill research assignments;
5. to acquaint students with library procedures; e.g., card catalogues fines, organization of materials.

If a library is included, and it is recommended, it should be modeled on a public library.

This type of organization has proven to be workable and will familiarize students with regular library organization and procedures. It includes:

1. card catalogues;
2. library of congress numerical system;
3. division of materials;
4. specified time for lending books;
5. fines;
6. diverse materials.

The library should be located in the same room as the center.

This is recommended to facilitate use, provide further correlation between tutoring center use and library materials and to utilize tutoring center staff so that additional staff is not required.

In a program which is composed of 16-20 weeks of instruction, library books should be loaned for no more than a period of one week.

This provides:

1. frequent use by many students of any one book;
2. maximum use of smaller number of copies of the same book (although at least 2 copies are recommended);
3. opportunity to renew books if necessary;
4. encouragement for students to read within a reasonable amount of time and to establish study schedules.

The library should be coordinated with class study and assignments as frequently as possible.

This can be done in several ways:

1. teachers can suggest materials to be ordered;
2. teachers can put specific books on reserve for assignments;
3. teachers can assign students specifically to use materials to supplement and reinforce classwork.

Section IX. SUMMARY

The CAP tutoring center is based upon the recognition of the importance of individualized instruction and independent study to all skill development. The experience of CAP has been that such a tutorial objective can only be fulfilled by a facility in which a wide range of materials are available and categorized for all levels of skill development. The procedures and materials in this monograph have proven feasible in the creation of a successful tutoring component at CAP, and are presented as guidelines to establish a similar component. Some of the objectives and materials presented here may not be appropriate to training projects that have different goals from CAP. However, the tutoring center can be employed in some form by most programs whether or not they adopt the other CAP models since all training can be reinforced by effective individualized instruction.

APPENDIX I

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APPENDIX II

SAMPLE TUTORING CENTER STUDENT PROGRESS SHEET FOR NON-PROGRAMMED MATERIALS

Name _____

Date	What Materials Did You Use?	For What Purpose?	Did They Help?

APPENDIX III

SAMPLE TUTORING CENTER STUDENT PROGRESS SHEET FOR PROGRAMMED MATERIALS

Name _____ Date _____

Materials Used _____

Number/ Color	Number Right	Number Wrong	Number/ Color	Number Right	Number Wrong
	1.			11.	
	2.			12.	
	3.			13.	
	4.			14.	
	5.			15.	
	6.			16.	
	7.			17.	
	8.			18.	
	9.			19.	
	10.			20.	

Test Given _____

Names of Test _____

Test Score _____ Number Right _____ Number Wrong _____

Review of Work Necessary? _____

Specific area in which review is needed _____

_____

_____

APPENDIX IV

SAMPLE TUTORING CENTER STUDENT EVALUATION QUESTIONNAIRE

In order to make the tutoring center relevant to your interests and aspirations, we need your comments, suggestions, and criticisms. Please answer the following questions as you feel they relate to your needs.

1. Do you feel that coming to the tutoring center has aided you in achieving your goals to date?

☐ YES ☐ NO

a. If you answered yes, explain how the center has helped you.
b. If you answered no, explain why you think the center hasn't helped you.

2. Do you feel that you have gained from the use of the materials in the tutoring center?

☐ YES ☐ NO

a. If you answered yes, explain how the materials have helped you.
b. If you answered no, explain why you think the materials haven't helped you.

3. Do you feel that the tutors have helped you improve your skills?

☐ YES ☐ NO

a. If you answered yes, explain how they have helped you.
b. If you answered no, explain why you think they haven't helped you.

4. Do you have any criticisms about the tutoring center?

☐ YES ☐ NO

a. If you answered yes, what criticisms do you have about the center.

5. What recommendations do you have for improving the functions of the tutoring center?

APPENDIX V

SAMPLE ACTIVITY SUMMARY FOR A LESSON

Individual Lesson

At CAP, during regularly assigned tutoring center periods, each student works with material to suit his individual skill need or to pursue his own learning interest. Thus, distribution of activity for 20 students during a session might resemble the following:

No. of Students	Skill Area
2	punctuation
5	verbal problems
5	chemical equations
2	research techniques
2	subject - verb agreement
2	analyzing short stories
2	reading an economics programmed text
20	

As the students work, they are assisted by the tutors and/or instructor when needed. Although several students may be working on the same skill area, they may be utilizing different materials. If they are using the same material, they may assist each other when it is mutually desirable.

Group Lesson

When several students have expressed interest in a skill area or the instructor has detected a general need for improvement, a group lesson may be appropriate. For example, a lesson in speed reading can benefit any group of students regardless of their current reading levels. A passage consisting of three paragraphs can be distributed to the entire group. The instructor and tutors using a stop watch, begin writing the time on the blackboard after one minute and then consecutively every five seconds up to five minutes. The students are instructed to look at the board when they have finished and to record their time. Then, at their own pace they are directed to answer five comprehension questions. The procedure of how to determine the number of words is explained after all the students have finished. The questions and answers are reviewed, and several points that are the major techniques of speed reading are stressed; e.g., adjusting speed to content and/or purpose. Overall, the distinction between reading word by word and in phrases is emphasized. In this way, students can see whether they are reading at an appropriate rate, or too slow or too fast. After explanation and discussion, another passage is distributed for practice and comparative results.

PART TWO: HIGH SCHOOL EQUIVALENCY PREPARATION MONOGRAPH

ABSTRACT

The High School Equivalency Preparation monograph is a statement of those considerations, objectives and procedures that the CAP staff believes are important for effective high school General Equivalency Diploma (GED) preparation. The primary purpose of the High School Equivalency Preparation monograph is to present some practical suggestions for methods to achieve relevant preparation for the GED, all of which have proven successful in CAP, and models that can be adapted to other programs. The suggestions that CAP believes are significant for an equivalency training effort are presented here:

1) principles and operational techniques of training;
2) methods and materials to approach equivalency training as skill development;
3) presentation of test-taking techniques, and a few additional points about equivalency training within a college adapter program.

The discussion of HIgh School Equivalency Preparation is presented in the same format as the discussions of the other monographs in this series: practical suggestions are grouped under general topics and most suggestions are followed by a text that offers explanations and/or examples. In addition there is a summary statement and appendices which include a bibliography of suggested materials, and some factual data about the GED examination. A separate chart for bilingual preparation is given. The general sections in this monograph are:

I. *Guidelines to Principles and Operational Techniques of High School Equivalency Training*

General principles and techniques for the introduction and clarification of training goals are presented in this section.

II. *Suggestions on How to Approach Equivalency Training as Skill Development–Some Considerations on Method and Materials*

In this section practical recommendations are offered for methods and materials that are useful in training for skill development in all subject areas.

III. *Suggestions on How to Use a Tutoring Center as a Sole Source of High School Equivalency Preparation*

Specific suggestions are offered in this section about the implementation of high school equivalency preparation when a tutoring center is the only source of learning support.

IV. *Suggestions on How to Offer Test-Taking Techniques*

Practical techniques are offered in this section to familiarize the students with the most efficient ways to complete examinations.

V. *Suggestions on How to Schedule Students for the GED Examination*

The importance of appropriate scheduling of the GED examination is considered in this section, and specific recommendations are offered.

VI. *Suggestions on College Adapter Equivalency Training*

All of the preceding sections contain suggestions that are the essence of high school equivalency training with in a college adapter program. However, a few additional points are highlighted in this section.

VIII. *Summary*

Appendices

This final section presents a suggested bibliography for equivalency materials and some factual data about the GED examination.

Section I: GUIDELINES TO PRINCIPLES AND OPERATIONAL TECHNIQUES OF HIGH SCHOOL EQUIVALENCY TRAINING

The GED should be viewed as one step in the process of higher education.

Whether the overall goal of an education program is to develop skills in preparation for college work, or for specific career placement and advancement, the acquisition of the high school GED is best viewed as a means, and not as an end in itself. This point of view is important for several reasons. First, experience in CAP indicates that the academic skills required to pass the equivalency examination are the same as the skills required for success in college. But, perhaps more important is the fact that the very process of life, particularly in our complex modern society, demands continuous learning. It is irrelevant whether this learning will take place in a college or a work situation; the GED cannot signify the end of an individual's education.

Clarification of the purpose and potential uses of the GED are essential to encourage optimal student effort in the program.

Unless the students view the GED as one goal in their total learning experience which is necessary and valuable regardless of whether they plan to go to college or to work, they will not perform at their highest level in the program. Because the students' attitude toward the GED will influence their preparatory efforts as well as their performance on the examination, the introduction to a GED program should begin with a discussion of the purpose of the GED to clarify its potential uses.

Attention should be given to developing the students' attitudinal readiness throughout the program.

A positive attitude toward the program must be nurtured and reinforced continually in order to ensure adequate preparation for the GED examination. Therefore, after the introduction to the program, it is better to de-emphasize the GED as a goal in the classroom and instead to emphasize the overall goal of the program; i.e., college or vocational preparation. This helps the students to relate their experiences in the program to concrete needs in their lives, and thereby, strengthens their desires to participate fully in the program. However, attitudinal readiness is not sufficient to ensure successful performance on the GED examination; the students must also be ready academically.

A thorough explanation of the GED examination should be provided and understood by all students.

Frequently, students who have good academic skills do not do well on the GED examination because they are unfamiliar with content, procedures and evaluation methods of the examination. Therefore, it is important for all high school equivalency preparation programs to provide adequate review of the following components of the GED examination:

1. the five sections and component skills;
2. use of time;
3. use of multiple-choice questions;
4. standard scores -- raw scores;
5. total scoring considerations.

Wherever possible, it is beneficial in this review to present sample questions and format of the equivalency examination to the students for practice. Furthermore, intensive tutoring sessions given one or two weeks prior to the examination help to instill more student self-confidence.

A program that seeks to prepare students for the GED examination should set high standards. Although a passing score is 225, all participants should be qualitatively prepared to expect and to earn higher scores. This means that students should not be scheduled to take the GED examination until they are ready both academically and attitudinally.

Section II: SUGGESTIONS ON HOW TO APPROACH EQUIVALENCY TRAINING AS SKILL DEVELOPMENTS – SOME CONSIDERATIONS ON METHOD AND MATERIALS

The students should be presented with an overview of the GED examination.

In order to help the students gain a perspective of the activities in their equivalency preparation, it is important to give them an overview of the examination as one that requires them to use a variety of specific skills; particularly those that constitute reading. Such an overview helps them to see the relationship of skills in the work they are asked to perform in their various courses.

The curriculum for an equivalency preparatory program should concentrate on increasing the students' competence in the abilities that are measured on the GED examination.

Although many of the skills that are required for the GED examination are also valuable for other future endeavors of the students, the primary purpose of this program is to prepare the students to obtain the GED. Therefore, it is essential that the curriculum be designed to develop those skills that are measured on the GED examination. A general ability that is of the highest priority for success in the examination is the ability to think clearly. This should be stressed in all aspects of their training. Two natural extensions of this are the ability to comprehend material precisely and the ability to evaluate it critically. Another area that requires emphasis in all courses is the ability to use major generalizations, concepts and ideas.

To design an equivalency preparatory program, the students' capabilities and needs must be accurately assessed.

The skills that are required to pass the GED examination remain constant, but each group of new students that enter the program has varying levels of competency in the required skills. Therefore, it is necessary to assess the skill level of each group before an adequate program can be designed. For example, one group of students may be especially weak in mathematical abilities but have a moderate competence in reading and composition. This will necessitate more concentration on elementary mathematical work and will permit a more rapid pace of instruction in reading and composition. Another group may be weak in both mathematics and composition but have moderate skill in reading. Again the program will have to reflect this fact in order to reach its overall goal which is to prepare all the students to obtain the GED.

Through experience, the CAP staff members have found the follov tools to be particularly useful for assessment of the students' entering levels:

1. standardized test results;
2. diagnostic test results;
3. written assignments;
4. examples of mathematical ability;
5. examples of interpretive skill.

For those readers who wish a comprehensive discussion of these tools the techniques for their use, the Assessment monograph in the Col Adapter series will be helpful.

Individual skills are learned faster and retained longer when they are tau in context.

Many students have had difficulty developing academic skills beca they were asked to perform unrelated mechanical repetitions of the sk which led to frustration and boredom. When these skills are introduced the context of material that is informational, the students' interes stimulated and they are able to grasp the skills faster and tend to remem them longer. Reading skills in particular can be included in selected passa which focus on specific skill identification and application. Furtherm skills can be supplemented and reinforced by using practical resources s as newspapers and written products of the students.

Particular attention should be given to developing accuracy and precision written expression.

Many students have difficulty in expressing their ideas accurately a precisely in writing when they enter the program. This is a skill that will required of them not only to pass the GED examination but in many ot situations such as future college work or employment. Therefore, it essential that the high school equivalency preparation program concentra on helping students to develop these crucial skills. Several key points emphasize in this area are:

1. punctuation, especially commas and terminal punctuation;
2. subject-verb agreement;
3. word usage;
4. parts of speech.

Other less important points that should be included are spelling and capi ization.

The interpretation of literary materials has several skill components.

In order to prepare the students adequately for that part of the GED examination that requires interpretation of literary materials, it is necessary to help them develop their abilities in the following areas:

1. to recognize mood in poetic forms;
2. to distinguish between figures of speech, particularly inversion, simile, metaphor, personification and alliteration;
3. to identify literary genre, particularly epic, ballad, sonnet;
4. to determine vocabulary meaning in context;
5. to interpret symbolic statements.

Several facets of mathematical ability must be stressed in order to ensure readiness for the GED examination.

To achieve the best mathematical preparation, students should be assigned to homogeneous groups. Homogeneous grouping is important because mathematics has a pyramid quality; i.e., higher mathematical understanding can occur only after certain fundamental arithmetic operations have been mastered. Therefore, when students are grouped heterogeneously, it is confusing for those who have not mastered the basic operations and boring for those who have. If it is not possible to separate the students into homogeneous groups, individualized instruction should be provided in the heterogeneous group for those students who need further practice in basic skills.

Sometimes students grasp the concepts involved in an arithmetic or algebraic operation but they are unaware that there are different ways to solve problems using the operation, and become confused when they are faced with a new problem. Thus, it is important that students be given practice in the various methods of solving both verbal and symbolical problems. However, equivalency preparation programs should be designed to give extra practice with verbal problems in all arithmetic and algebraic operations since the general mathematical ability section of the GED examination requires the student to solve many verbal problems.

Specific courses in social studies and science are not necessary for adequate GED preparation.

Specific courses in social studies and science can be helpful preparation but they are not essential since the interpretation of reading materials in the social and natural sciences sections of the GED examination do not require much content knowledge. Because the information required to answer the questions is usually given on the examination, it is more important to

stress reading comprehension techniques and the use of related terminology rather than content in these areas. Students should be given practice in the skill of determining the meaning of a work from its context. If students see that they can determine the meaning of unfamiliar material in this way, they will apply this skill in test-taking and other learning situations.

At least two instructors are necessary in order to offer students a minimal equivalency preparatory program.

Because many students lack adequate mathematical competence to pass the GED examination and because reading ability is the basic tool required for the examination, a mathematics instructor and an English instructor are required for every equivalency preparation program. The mathematics instructor should be strong in general mathematical ability, and the English instructor must be knowledgeable in techniques of teaching reading.

A variety of materials are suitable for equivalency training programs.

Some useful materials to help students prepare for the GED examination are:

1. specific, selected sections from GED preparatory books;
2. specific, selected reading skill materials which are required for the examination;
   a. reading for main ideas,
   b. reading for detail,
   c. reading for organization,
   d. skimming,
   e. making inferences,
   f. contextual vocabulary;
3. specific, selected mathematics skill materials;
4. clarification and practice of literary terminology.

Reading and mathematics skill kits, also, are helpful tools to focus on specific skill needs in both group and individual training. For example, McGraw-Hill Study-type kits offer interesting content in the form of reading comprehension exercises and Science Research Associates (SRA) Computational Skills Kits provide individual practice cards for specific arithmetic operations. Teacher-prepared study sheets to use at home to reinforce practical study are another source of material to aid equivalency preparation whether the training is offered in the classroom and/or in a tutoring center. For example, teacher-prepared sheets on literary terminology, mathematical concepts and reading teachniques are useful supplementary devices.

Section III: SUGGESTIONS ON HOW TO USE A TUTORING CENTER AS A SOLE SOURCE OF HIGH SCHOOL EQUIVALENCY PREPARATION

A tutoring center provides an excellent opportunity for GED preparation.

Whether it stands alone or is part of a larger educational setting, a tutoring center can make a major contribution to GED preparation because it is a place where individual programs can be designed for improved skills. These individual programs can be completed through the use of ample and diverse materials which are available in the center, and the student can continually assess his progress and further needs as he works with the materials and tutors.

For those readers who wish information and guidelines for the operation of a tutoring center, the Tutoring Center monograph in Volume III of the College Adapter series will be helpful.

A tutoring center can handle the entire equivalency preparation of a student.

The following procedure can be used if a tutoring center is the only source of equivalency preparation:

1. use standardized test scores as an initial placement factor;
2. administer a diagnostic test designed to measure present skill abilities as they relate to the GED -- this is supplementary to the standardized test;
3. help the student to recognize his academic strengths and weaknesses;
4. devise an outline for the duration of the preparatory period that is flexible enough to permit modification where necessary;
5. re-administer a standardized test midway through the preparation to help determine whether the student is ready or not;
6. administer progress and/or mastery tests periodically where applicable;
7. review *all* the sections of the examination to ensure success;
8. concentrate on individual student needs; e.g., if a student has a high mathematical ability, he should concentrate on reading skills, but should periodically review mathematics to ensure his competence and to advance further.

When a tutoring center is the only available instructional source, each student should be required to attend from a minimum of two hours per day, a total of 10 hours each week, to a maximum of 3 hours per day, a total of 15 hours each week.

More than three hours a day in the tutoring center is not recommended since it is likely that an individual will become too tired to remain alert enough to gain any benefits after so much steady, individualized instruction.

An initial program for an individual student should begin with material that meets his most pressing skill need.

Although it is hoped that students will use the center for a variety of purposes, they may not be able to cope with material in a subject that interests them until their basic skills are strengthened. For example, if a student's reading skills are weak and he wishes to read in psychology, it would be best to help him improve his reading skills before he attempts to read a college textbook. However, simplified reading in his field of interest can be used to achieve improvement of skills, such as reading kits which contain some cards on the subject of interest and reading comprehension exercises. The instructor can then suggest subsequent material depending upon the student's progress.

After a student's needs have been assessed, it is preferable to suggest that he work on one skill or program until he has mastered it.

By working with one area at a time, the student learns the techniques of development and completion. This can carry over to improved study habits. After the student has mastered one skill, change or reassignment can be made jointly by the instructor and student.

Some form of evaluation of student progress is necessary.

Students prefer to know how they are progressing and usually request this information. Continual assessment is needed to determine if a student is adequately acquiring a skill, or learning and retaining information. Furthermore, in order to provide appropriate skill development material, it is necessary to evaluate whether a student is ready to proceed or needs additional review. Evaluation can also be a motivating factor. If a student experiences success and is informed of it, he is more likely to expect more and want to experience more. He sees that he can achieve, and therefore, can realize more of his full potential.

When a tutoring center is the only source of instruction for GED preparation it is useful to devise a uniform evaluation procedure.

Although a standardized grading system is not necessary if the tutoring center is only one part of a GED preparatory program. However, it is

appropriate to use a uniform evaluation procedure if the center is the only source of instruction because no other form of evaluation exists. This is particularly useful if the students are being prepared for further education in which they will be evaluated in a uniform manner.

Programmed instructional materials are particularly useful for GED preparation in a tutoring center.

A program is a written course of study in a subject area that consists of separate units arranged in a logical order of difficulty. Depending upon a student's assessed ability when he begins a program, he is directed to start with a specific unit and proceeds only after he has mastered this initial work.

In programmed materials, self-instructional techniques are utilized which require the student to teach himself. Information is presented in an easily readable form allowing the student to learn as he reads and to make responses to questions or statements. Immediate feedback is given as to whether he has responded correctly, and simultaneously he is testing himself by practicing the habit of not looking ahead at answers until after he responds. To reinforce what he is learning, information is frequently repeated in different ways to ensure that he fully learns earlier information before proceeding to new information.

Although a student works on one unit at a time, he works at his own pace and is being presented with a course of study in perspective. The units constitute a whole. In addition, he is learning subject matter in context instead of simply being asked to memorize isolated facts.

The inclusion of frequent periodic testing indicates whether the information in any one unit has been learned and also indicates whether the material is too easy or difficult for the student. Thus, the structure of programmed materials facilitates self-instruction.

When a student completes a unit of work, he should be given a mastery test to determine if he is ready to proceed further.

A mastery test may be supplied by the publisher of the unit but if it is not, the instructor should devise one. The student's score on the mastery test should be relatively high before he is guided to proceed because the center is attempting to ensure that individual students achieve a higher level of skill.

The individual student's progress should be assessed at least once each week, or at a minimum, once every two weeks.

Frequent assessment will facilitate more appropriate activity and rapid skill development. If a student is having difficulty in one area, he should be given further practice in the development of that skill, but if a student is progressing rapidly and finds the material he is working with too easy, he should be directed *immediately* to more challenging work.

It is helpful to design a progress sheet and to maintain one for each student.

A progress sheet should be kept on file in the tutoring center for each student to facilitate their use. It is recommended that the student use it each session and fill it out himself, as a way to actively involve him in his own progress. This will serve to:

1. assist the student in keeping his own record of progress;
2. guide the student toward thinking about what he has done, has not done and can do;
3. assist the instructor in accurate assessment of individual progress;
4. provide the student with a comprehensive perspective of his learning situation;
5. establish an informal self-disciplinary attitude in the student.

Two types of progress sheets are recommended for each student, one for the use of programmed material and another for the use of other skill material.

Many programmed materials appear in a series, while many other skill materials are briefer. Behavioral Research Laboratories, for example, publishes programmed courses in a variety of subject areas consisting of as many as 10 or 12 extensive units. In addition, as pointed out previously, programmed materials are complex and employ various techniques which require different criteria to determine progress from other types of material. In these cases, a separate progress sheet is particularly useful.

A progress sheet for the use of specific skill material can include:

1. name of student;
2. material used;
3. purposes it was used for;
4. whether the material helped the student or not;
5. the date it was used.

A progress sheet for the use of programmed material can include:

1. name of student;
2. material used;
3. the date it was used;
4. test given, if any,
   a. name of test,
   b. test score,
   c. number right,
   d. number wrong;
5. review of needed work;
6. specific area in which review is needed.

Section IV: SUGGESTIONS ON HOW TO OFFER TEST-TAKING TECHNIQUES

A comprehensive equivalency preparatory program should include test-taking techniques.

It is possible that some students who have adequate skills in subject content will not perform satisfactorily on the GED examination because they lack test-taking ability. Test-taking, a skill in itself, can be learned and at least a few sessions of all equivalency preparation programs should be devoted to methods of test-taking. For the greatest learning effect, the students should be introduced to test-taking techniques at the beginning of their preparation, given a practice session midway through their preparation and a reinforcement session just before the GED examination. Some specific facts about the GED examination are presented in the appendix and may be referred to as you read this section.

Emphasis should be placed upon the efficient manipulation of multiple-choice questions.

Since all the questions on the GED are multiple-choice type questions, particular attention should be given to familiarize students with the multiple-choice format. After students have become familiar with the format, it is extremely helpful to request them to devise their own multiple-choice questions based upon a poem, essay, play, scientific passage or social studies passage. Such exercises reinforce understanding of the logic and construction of multiple-choice questions.

Instruction in the efficient utilization of time on examinations is important.

Although ample time is allotted for the GED examination performance, students benefit from instruction in ways to use the allotted time most efficiently. For example, even though the GED examination presents questions in a specific sequence, participants can answer questions out of order and return to those questions that they are more unsure of. Therefore, they should be encouraged and *shown how* to answer questions that they know immediately and not waste time on questions that they do not know. This is particularly true of the mathematics section.

It is necessary to teach students how to analyze questions.

CAP experience has shown that students make higher scores on the GED examination when they have been sufficiently prepared to analyze questions; e.g., a reading question requires the ability to find a detail, detect an organizational structure, detect a generalization. Another essential factor

that should be stressed is that, although a participant's judgement is often requested on the GED examination, subjective views should be avoided. That is, most reading questions on the examination are based on the passage presented and may ask the participant to make inferences or draw conclusions but do not call for the individual's opinion. Finally, since students are not penalized for incorrect answers on the GED examination, they should be encouraged to guess and *shown how* to carefully eliminate probable incorrect choices.

Students should be encouraged to increase their reading speed.

Although reading comprehension is essential to successful performance on the GED examination, in future college study and in employment efforts, it should not be attained at the expense of speed in reading. It is a fact that most people do not comprehend 100% of the material they read and if the students are able to do so, they are probably reading too slowly, word by word. In order to promote their self-confidence, students should be informed that most people do not understand 100% of the material they read, and the students should be encouraged to read at a speed in which they comprehend about 75% of the material.

The GED examination scoring practices should be explained to the students.

If the students understand the scoring practices for the GED examination, they will be able to concentrate their efforts more efficiently during the test. Although the average passing score for all five sections of the examination is 45, the passing score on any one of the five sections is 35. Therefore, students who are weak in one area can compensate for this by making a higher score in another area. Furthermore, since all questions on the examination are weighted equally, the students should be encouraged to answer all questions that they are sure of before attempting the more difficult ones. However, since the examination is scored on the number right and there is no penalty for wrong answers, the students should be encouraged to answer all questions.

Students should also be told that the score on an individual section is *not* the raw score of the number right (10 correct answers might yield a standard score of 25), and therefore, they should not be discouraged if they believe they only answered 10 or 15 questions correctly in a particular section.

Section V: SUGGESTIONS ON HOW TO SCHEDULE STUDENTS FOR THE GED EXAMINATION

The scheduling of the GED examination is crucial to the success of an equivalency preparatory program.

The GED examination should be scheduled approximately in the middle of the training period. Early scheduling of the examination de-emphasizes the GED as a final goal, and thus puts its purpose and use in a more appropriate perspective. If the examination is given at the end of the semester, the students usually concentrate on it which distracts their attention from more realistic goals.

Appropriate scheduling of the equivalency examination helps the students see the GED as only one step in their educational experience.

Training programs that have college admission as their goal want to prepare students as effectively as possible. This requires giving priority to course objectives. Therefore, students should be told that the GED will not be the deciding factor as to whether they go to college or not, and that they will have to complete all course requirements. Early scheduling of the equivalency examination reinforces the idea that the GED is only one part of the program and encourages the students to complete their required and elective courses.

Students should be scheduled to take the equivalency examination as soon as they are assessed to be prepared.

Although students should not be scheduled for the GED examination until they are ready both academically and attitudinally, they should take it as soon as they are prepared. If the examination is postponed after a student is prepared to pass it, he may lose his interest and incentive to do well. Furthermore, some students may be anxious about the impending examination, and frequently delay in scheduling it increases such anxiety.

Although it should not be anticipated, if a student takes the examination and fails, very careful assessment must be made of his academic and attitudinal strengths and weaknesses in order that he may be guided in the areas that require more efficient preparation.

Section VI: ADDITIONAL SUGGESTIONS ON COLLEGE ADAPTER EQUIVALENCY TRAINING

If students who need the GED and students who have a high school diploma are served in a college adapter program, it is best to group them together rather than separately.

As mentioned previously, evidence from the CAP experience indicates that the same academic skills are required to perform successfully on the GED examination and in college work. Therefore, since the same skills must be taught, more efficiency (in terms of using instructors' time, using facilities, scheduling students' classes and purchasing material) often can be accomplished by grouping both kinds of students together. Moreover, being in the same group illustrates the general applicability of the skills that are being learned and may encourage the students who are preparing for the GED to continue their education.

A bilingual program that serves Spanish-speaking students who are learning English should have them take the GED examination in Spanish.

For those students in a bilingual program whose dominant language is Spanish, it is better to have them take the GED in Spanish for several reasons. First, it will probably reduce any tension that may be associated with the examination and contribute to self-confidence in their ability to perform well. Second, the participants will be able to utilize their time during the examination to concentrate on skills in the subject content rather than on understanding the language of the examination. Third, since most of their previous education has been in Spanish, the students will probably be ready to pass the GED examination in Spanish before they are ready to pass it in English. The accomplishment of obtaining the GED will contribute to the students' positive self-image, will be beneficial to their employment prospects, and perhaps, will encourage them to continue their education.

Equivalency preparation for Spanish-speaking bilingual students should include skill practice in several areas.

If students are to take the GED examination in Spanish, equivalency preparation for these students should include extensive practice in Spanish language arts with special attention given to grammatical practice, reading and related tachniques. This is necessary for the same reasons that extensive practice in English language arts is essential for those students who are to take the GED examination in English; i.e., reading is the basic tool demanded for success on the examination. Furthermore, effective preparation should include a mathematics class in Spanish because the mathematics section of the GED requires the student to understand mathematical concepts and operations that are expressed in Spanish.

Section VII: SUMMARY

Preparation for the high school equivalency examination is best achieved through a skills development program which gives greatest emphasis to reading skills. But an effective preparatory program must also give students the opportunity to become familiar with the instructions and format of the GED examination and to practice answering questions structured similarly to those on that examination. The procedures and considerations in this monograph have proven to be useful in the preparation of a large portion of the CAP student population for success on the GED. Moreover, experience in CAP has shown that diverse manpower training goals, including both job placement and college entrance, are best accomplished through a skills development approach. Therefore, a GED program utilizing a skills approach can stand alone or be incorporated as a highly compatible component of a job placement or college adapter program.

APPENDIX I

ANNOTATED BIBLIOGRAPHY

Altenbernd, L. and L. Lewis. *Introduction to Literature: Poems.* New York: Macmillan Company, 1969.

An anthology of poetry from the middle ages to contemporary Americans with accompanying handbook for the study of many poetic forms. It is primarily intended for developing mature reading skills. No exercises given. Primary tool for a course in poetry with teacher-directed discussions. Reading level 9-12.

Basic College English Series. New York: New Century, 1970.

The Basic College English Series contains ten pamphlets entitled: *Spelling I, Spelling II, Subject-Verb Agreement I, Subject-Verb Agreement II, Punctuating Quotations, Using Apostrophes, Words Frequently Misused, Pronoun Reference, Capitals and End Marks, Commas I.* These pamphlets are recommended for use in individual conferences in Academic Skills Laboratories, rather than as actual texts in composition courses. Reading levels 9-12.

Benner, P. A. and V. L. Law, *Troubleshooter: Book 1-Spelling Skills, Book 2-Spelling Action, Book 3-Word Attack, Book 4-Word Mastery, Book 5-Sentence Strength, Book 6-Punctuation Power, Book 7-English Achievement.* New York: Houghton, Mifflin. 1965.

A non-graded basic language skills program, designed to meet the specific skills of students who need remedial work. The seven workbooks are primarily self-teaching, self-correcting and self-directing tools for individualized English-skill development. A clear five step lesson plan involving pretest, practice and post test avoids needless drilling by pinpointing each student's particular weakness and providing him with exactly the kind of practice he needs. Reading levels 5-8.

Bens, J. H. *A Search for Awareness.* New York: Holt, Rinehart & Winston, 1966.

A brilliant achievement in publishing a writing text. Each of five sections moves from the visual (paintings and sculture) to short stories, poetry and a play. The sections are entitled "Early Years," "Finding a Philosophy," "Coming of Age," "Man in Society," and "Old Age and Death." Reading levels 9-12.

ANNOTATED BIBLIOGRAPHY

Beyrer, J.A. *Correctness and Effectiveness of Expression.* Chicago, Ill. Cowles Book Company, Inc., 1970.

This is a structured combination of instructional material and drill in grammar and usage, spelling, punctuation and other essential topics in English. Book includes diagnostic tests, simulated English usage examination and answers with explanations. This series of Cowles Books in GED preparation is the most comprehensive program in equivalency preparation. It most closely approximates the kinds of questions on the examination. Very good GED preparation materials. Reading levels 8-10.

Blumenthal, Warriner and Whitten. *English Workshop Grades 7-12,* 4th edition. New York: Harcourt, Brace and Jovanovich, Inc., 1970.

These texts help the students to learn and develop basic and complex grammatical rules. Each grade level reviews the basic grammar rules and terms and then delve in the more complex and abstract rules. They aid vocabulary building and spelling skills. After each unit of work, there are review exercises which reinforce the skills that were originally introduced. Reading levels 7-12.

Burstein, J. *General Mathematical Ability.* New York: Cowles Book Company, Inc., 1970.

Easy to use study program. It prepares the student for the mathematics section of the GED examination. The book covers basic arithmetic, fractions, decimals, percentage, word problems, graphing, geometry and algebra. There are practice exercises with answers and fully explained solutions for each problem. It also includes a thorough review and two simulated GED tests. Reading levels 7-12.

Cambridge Book Company. *The G.E.D. Handbook of Basic Science.* Bronxville, N.Y.: Cambridge Book Company, Inc., 1968.

A handbook in the basic fundamentals of science which begins with an explanation of the scientific method and concludes with chemistry and space. Each chapter has exercises and good visual presentation. The language is clear and the vocabulary is basic. A good book for teaching basic concepts and as a review for science section of GED Reading levels 7-9.

ANNOTATED BIBLIOGRAPHY

Career Institute. *Instant Spelling Dictionary.* Mundelein, Ill.: Career Institute, 1967.

This 4" x 6" hardback pocketbook contains the spelling, division, and accent of 25,000 words. All homonyms are briefly defined to avoid confusion. In the back of the book are brief sections on spelling rules, abbreviations, capitalization, etc. All reading levels.

Dressler, Isidore. *Ninth Year Mathematics.* New York: Amsco School Publications, Inc., 1966.

The book treats the topics that are included in a modern elementary algebra course. It is organized in a way so that it can be used by the teacher in conjunction with various mathematics text books now in use. Levels 7-10.

———. *Preliminary Mathematics: Review Guide.* New York: Amsco School Publications, Inc., 1965.

A comprehensive mathematics program for 1-8 grades treated in the traditional topic sequence. Best used as a supplement to text and for remedial work in specific areas. Organized into learning units with sample problems and application exercises. Range includes whole number arithemtic, ratio, decimals, algebra and geometry. Levels 1-8.

———. *Tenth Year Mathematics.* New York: Amsco School Publications, Inc., 1965.

A traditional approach to tenth year mathematics which integrates algebra and numerical trigonometry into the geometry curriculum. A major objective is to develop creative and critical thinking in mathematics and non-mathematics areas. Clear presentation, model problems and extensive practice in skill areas are good recommendations for this book. Levels 8-10.

ANNOTATED BIBLIOGRAPHY

Dunning, Carrigan. *Scholastic Poetry Unit.* Englewood Cliffs, N.J.: Scholastic Book Services, 1970.

This unit consists of the following pocket books:
Poetry -- voices, language and forms;
Pop-Rock Lyrics (2 books);
Reflections on a Gift of Watermelon Pickle -- Central Anthology;
Cavalcade of Poems;
Charge of the Light Brigade and other story poems;
100-Plus American Poems -- most advanced.

These 7 books begin with *Poetry:* voices, language and forms -- a discussion with exercises about what poetry is and how to analyze it. The next 3 books are short, interesting poems by major writers; e.g., Dylan Thomas, Ezra Pound, et al. The last 2 books are *Pop/Rock* lyrics which treat song lyrics as valid poetic forms and includes works of Bob Dylan, The Beatles, et al.

The series is well designed, with some illustrations and a subtle, adult approach to poetry and the many voices it has. The content is designed in clear, simple grammar and introduces poetry to adults in the intermediate reading range of 5-9.

Farley, Weinhold, Crabtree. *High School Certification through the GED Tests.* New York: Holt, Rinehart & Winston, Inc., 1967.

This book is designed for students preparing to take the GED. It contains exercises in the 5 areas of the GED along with several hints and suggestions pertaining to test-taking skills, reading and interpretation. Reading levels 8-12.

Farley, Eugene. *How to Prepare for the High School Equivalency Examination: Reading Interpretation Tests.* New York: Barron's Educational Series, 1970.

The book covers reading materials in all three GED areas -- literature, social studies, science. Reading passages are graded for difficulty from easier to more advanced. Techniques of interpretation are followed with practice exercises. Reading techniques specific to each area are also included. Many exercises and problems with answers are given, but there are no explanations. Reading levels 8-12.

ANNOTATED BIBLIOGRAPHY

Gedamke, R. and N. Kropp. *Reading as Thinking-Paragraph Comprehension.* New York: Curriculum Research Associates, 1970.

An introduction of paragraph elements: components of paragraphs, getting details, main thoughts (stated and implied) etc. Exercises stress paragraph analysis, synthesis and reading comprehension. Reading level 5-8.

General Education Curriculum. *Basic Algebra. (Career Advancement Programs).* New York: General Learning Corporation, 1968.

This set of basic algebra programs begins with the language of mathematics 1 and ranges through lesson 11 — solving simultaneous Linear Equations. It includes a diagnostic mastery and course mastery tests. Useful resource tool for learning labs in mathematics and remedial work in specific area. Levels 5-8.

_____. *Biology (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A series of programmed lessons in biology from introduction to cells to the nervous system. It includes diagnostic, mastery and course mastery tests. Best used as a supplement to a text and as an introduction to biological concepts. Good for GED preparation in the natural sciences. Reading levels 5-8.

_____. *Chemistry (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A programmed series of five lessons in one book on basic chemical concepts. Diagnostic and lesson mastery tests are included. Pre-GED tool for self-instruction in chemistry or as supplement to class work. Reading levels 5-8.

_____. *English Usage (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A set of programmed lessons in English Usage that starts at "What is a sentence?" and ends with "effective expression." Each set includes a diagnostic test, a mastery test at the end of each section, and a curriculum course battery. This set is very useful as a supplement to other texts on English grammar. The student can use it on his own and progress at his own rate. Reading levels 5-8.

ANNOTATED BIBLIOGRAPHY

_____. *Fundamentals of Physical Science (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A programmed set in 11 lessons from matter to chemical and nuclear energy. The areas covered are the fundamental bases of science. Set includes diagnostic, mastery and course mastery tests. GED resource for gaining insight into the bases of sciences and good preparation for the biology and physics sets. Reading levels 5-8.

_____. *Mathematics: The Theory of Numbers. (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A set of programmed materials in the theory of numbers which ranges from sets to power and roots. Included in each set are diagnostic, mastery and course mastery tests. Useful for supplemental and remedial work in the mathematics curriculum, especially in specific areas. Levels 5-8.

_____. *Physics (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A programmed set of 12 lessons in elementary physics. It begins with motion and includes light (lesson 12). The set includes diagnostic, mastery and course mastery tests. Useful for GED science preparation and as introductory material to concepts of physics. Reading levels 5-8.

_____. *Problem-Solving Skills. (Career Advancement Programs.)* New York: General Learning Corporation, 1968.

A programmed book without lesson divisions in problem-solving skills. The book includes a mastery test. Useful for reinforcing problem-solving skills and introducing students to other techniques. Levels 5-8.

_____. *Skillful Reading (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A set of programmed lessons in skillful reading in eleven chapters--lessons ranging from extracting information and dictionary skills, to test-taking skills. Each set includes a diagnostic test, a mastery test and a course mastery test. This set is a very useful tool for specific skill area work in reading. Answer frames give immediate response to students' work. A *necessary* tool for any type of learning lab and good for remedial work in specific skills. Reading levels 5-8.

ANNOTATED BIBLIOGRAPHY

———. *Social Studies (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A set of programmed materials in 21 lessons in the social studies area. It ranges from basic economics (1) to social legislation (21) with reading passages, multiple-choice questions and answer frames. Lesson mastery tests for each unit, a diagnostic and a course mastery exam give the set a thorough and comprehensive approach. Reading levels 5-8.

Gilmore, Sack and Yourman. *100 Passages to Develop Reading Comprehension.* New York: College Skills Center, 1966.

Short reading selections with accompanying question booklet. Breaks reading down into six elements and trains in each area. Selections calibrated in order of difficulty. Readings are varied and interesting for adult intermediate levels. Good comprehension, word study and concentration exercises. Can use individually or for group work, emphasis in reading as thinking. Reading level 7-10.

———. *Spelling (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A set of programmed lessons in seven sections from word endings to word pairs. Student learns by applying the principle; then the principle is stated and reinforced. This set includes a diagnostic test, a mastery test and a course mastery test. Reading levels 5-8.

———. *Understanding Literature (Career Advancement Programs).* New York: General Learning Corporation, 1968.

A set of programmed lessons in understanding literature in thirteen sections from Lesson 1 (Feeling) to Lesson 13 (Inference). Each set includes diagnostic, mastery, and course mastery tests. Reading levels 5-8. This set is a resource tool and supplement to class work in literature studies. The design and over-all plan make it ideal for remedial work in specific areas.

ANNOTATED BIBLIOGRAPHY

Hodges, MacCaskill and Pimentel. *College Word Study.* Providence: Programs for Achievement in Reading, Inc., 1971.

The primary purpose of this book is to improve the spelling ability of the student and to increase his vocabulary development. A limited but carefully selected vocabulary is presented in this text, and a method of study and development of vocabulary is suggested. Exercises to ease the burden of study and memorization have been developed. In addition to sequential spelling development, each lesson incorporates vocabulary studies organized into subject matter areas. Reading levels 9-12.

Hopper, Vincent and Gale, Cedric. *Practice for Effective Writing.* Woodbury, New York: Barron's Educational Series, Inc., 1971.

Workbook--progressing from elementary and basic structures in English grammar to the more complex skills needed on a 12th grade level.

Johnson, G. *High School Equivalency: A Self-Teaching Program to Prepare You to Pass the High School Equivalency Examination.* Albany: Learning Technology, Inc., 1970.

A series of 4 programmed books: *Interpretation of Reading Materials (I); Correctness and Effectiveness of Expression (II); Mathematics I and II.* Books I and II cover the reading areas on the GED and the grammar--usage section. Basic vocabulary and grammar, clear design, large print are decisive indicators that this series is much below real equivalency levels. The reading level is listed as 8th grade. It ranges from 6.0-8.0. A pre-equivalency tool of limited use. It is a better instrument for 8th grade equivalency. Reading level listed: 8.0. Reading range 6-8.

McCall, William A. and Smith, Edwin. *Test Lessons In Reading--Reasoning.* New York: Teacher's College Press, 1964.

Helps the advanced student to polish up basic reading skills--reasoning, inference, comprehension. *Thinking as Reasoning Workbook* is available. Reading level 8-10.

ANNOTATED BIBLIOGRAPHY

MLI Associates. *Commas.* Lexington: D.C. Death and Co., 1968.

Programmed book designed to teach student proper use of the comma. Reading levels 7-12.

Manley, M. *Interpretation Of Literary Materials.* New York: Cowles Book Co., Inc., 1970.

The instructional material and exercises in this book prepare the student for the literary materials section of the GED. Various literary skills are included such as reading prose, poetry, drama. Inferring plot, setting, character, tone and style are also discussed. Reading levels 8-12.

Millman, Jason and Pank, Walter. *How to Take Tests.* New York: McGraw-Hill, 1969.

This book concentrates on the principles of test taking -- both teacher-made and standardized. Testing is divided into 2 categories: (1) testing for knowledge exams and (2) testing ability exams. It is a comprehensive explanation of 12 different types of test questions. The book does not include extensive exercises but suggests student work out samples and practice on real problems. A good text for pre- GED students and will expose them to the principles and reasoning behind test questions -- necessary knowledge for them. Reading levels 8-10.

Miner, Richard. *Interpretation Of Reading Materials in the Social Studies.* Chicago: Cowles Book Company, Inc., 1970.

This book covers GED preparation in Social Studies from World History to United States Constitution and Government. It includes charts, maps graphs with specific skill work, a glossary and simulated test. A good section in reading comprehension covers main idea detail questions and the specialized vocabulary of social studies. Very good preparation for those near GED levels. Thorough and clear presentation. Reading levels 8-10 +.

ANNOTATED BIBLIOGRAPHY

MLI Associates. *Programmed English Skills: Agreement of Subject and Verb*, 2nd ed. New York: D.C. Heath and Co., 1968.

Teaches student how to find singular and plural, subjects and verbs -- basic rules of agreement, etc. Good for remedial work in this area and can be used by students independently. Reading levels 7-12.

_____. *Programmed English Skills: Capitalization*, 2nd ed. New York: D.C. Heath and Co., 1968.

Programmed book. Excellent for teaching proper capitalization. Reading levels 7-12.

Morgan, Clifford and Deese, James. *How to Study*. New York: McGraw-Hill, 1957.

A practical guide in methods of studying with exercises, written for students in high school who plan for college training. It covers organizing time, reading, taking exams and the art of studying. Useful tool for good readers in 8-11 range who are preparing for GED exams but plan to go further. Reading levels 8-12.

Murray, Alma and Thomas, Robert. (eds.). *Scholastic Black Literature Series*. New York: Scholastic Book Services, 1971.

Six Pocket Books with short stories, poems and plays by well-known black writers, poets, musicians and historians. Very interesting, up-to-date material written in basic vocabulary, grammar and style for both urban and non-urban people. Reading levels 6-12.

New Dimensions in Education. *Name of the Game Series: "A Piece of the Action," "Up Tight," "With It," "It's What's Happening."* Jericho: New Dimensions in Education, 1968.

Stories by a representative collection of minority group authors. Selections are not common, read fast, and some according to students are "relevant." Reading levels 5-8.

ANNOTATED BIBLIOGRAPHY

Niles, Bracken, Daugherty, Kinder. *Tactics In Reading I.* Glenview: Scott, Foresman and Company, 1961.

A reading skills kit designed for remediation in the following reading skills areas: Word attack--using context structure, compounds, suffixes, sound, clues, prefixes, vowels, syllabication the use of a dictionary; imaginary-sight, sound, touch; Following sequence-meaningful order, logical order, Understanding sentences; Drawing Inferences; Understanding Paragraphs; Analyzing word families. Diagnostic test geared to analysis of the above skill areas. Reading levels 7-9.

_____. *Tactics In Reading II.* Glenview: Scott, Foresman & Company, 1961

This program has the same design as Tactics In Reading level I: Skill cards in specific areas, diagnostic and evaluation tests. It is designed for intermediate and good readers who need more intensive work in word study, central idea, relationship area. Thorough exploration of each skill. High reading level needed to understand directions, so teacher must often administer program and assist. Diagnostic will specify need area. Skill cards give intense work for each. Reading level 9-12.

Olsen, James and Swinburne, Lawrence. *Crossroads.* New York: Noble and Noble, 1971.

A new motivation reading program--powerful selections for the slow learner. This inductive, sequential program includes four books per grade level. Supplementary record and teacher's guide are available. The student activity book helps the student overcome reluctance to read and write through the non-test-like activities. Reading level 7-12.

Perrine, Laurence. *Sound And Sense: An Introduction To Poetry.* New York: Harcourt, Brace & World, Inc., 1956.

This book is primarily for the college student who is beginning to study poetry. It introduces the elements and forms and emphasizes the *how* and *why* of poetry. Each poem is followed by questions. Selections mostly by 19th century English poets. Pre-GED students will find exercises useful in analyzing poetic forms and language. Reading levels 9-12.

ANNOTATED BIBLIOGRAPHY

Proctor, Charles M. and Lacy, Joseph. *Algebra Skills Kit.* Chicago: Science Research Associates, 1969.

A programmed kit designed to strengthen skills through a series of diagnostic tests, exercise cards and progress tests. It includes survey tests for designations and is appropriate for diagnostic use. Students work independently once problem area is pinpointed. Valuable tool for Skill Center work. It reinforces algebra skills at all levels. Also good for review and remedial work. Set includes exercise cards, reference cards, teacher handbook and student record book. Reading levels-grade 8-12.

_____. *Computational Skills Kit.* Chicago: Science Research Associates, 1965.

A programmed skills kit of basic operations in arithmetic, fractions, decimals and percents. Survey test locates skill need and diagnostic test leads to specific exercise cards. Includes reference cards, progress tests, teachers' guide and student record book. Once the design and use of the kit is understood, this programmed series proves to be a valuable tool for math labs or skills center programs. Students work independently and check their answers as they work. Best used as supplement to the math curriculum, for review and remedial work. Grade levels 6-12.

Programs For Achievement In Reading. *The Powereading Study Set; Books 1, 2 and 3.* Providence, R.I.: Programs For Achievement In Reading, Inc., 1971.

Book 1, Reading for Power; Book 2, Reading for Speed, and Book 3, Word Study are 3 accelerated skill development books extremely useful in teaching reading skills and word study. The selections are of high interest, informative and literary. Reading levels 6-12.

Reaske, Christopher Russell. *How To Analyze Poetry.* New York: Simon and Schuster, Inc., 1966.

An introduction to poetry, its elements and terms used in critical analysis of it. Reading levels 8-12.

ANNOTATED BIBLIOGRAPHY

Roberts, Edgar V. *Writing Themes About Literature.* Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969.

A valuable tool to the teaching of literary essays, this book takes the student through the various kinds of literary essays, i.e., character, point of view, comparison-contrast, imagery, etc. In addition to providing sample essays of each type, the book includes the works about which it talks. There is also an appendix which concerns the problem of taking exams and evaluation. Levels 8-12.

Rockowitz, Brownstein, Peters and Bleifeld. *Barron's How To Prepare For The High School Equivalency Examination.* Woodbury, N.Y.: Barron's Educational Series, Inc., 1968.

This book provides simple, speedy and successful preparation for the five tests on the GED exam, namely, English, mathematics, social studies, science and literature. It contains 1,337 practice questions and problems completely answered. Reading levels 7 +.

Schweitzer, Paul and Lee, Donald. *Harbrace Vocabulary Workshop.* New York: Harcourt, Brace & World, Inc., 1957.

Improves dictionary skills. Vocabulary is developed using Greek and Latin roots and prefixes, synonyms, antonyms, and homonyms. Mastery test available for entire book. Reading levels 7-12.

Science Research Associates. *Reading For Understanding.* Chicago: Science Research Associates, Inc., 1964.

This individualized reading program is designed to develop the student's ability to grasp the full meaning of what he reads by teaching him to analyze ideas and reach logical conclusions. It is available in three editions, each accommodating a number of grade levels. Exercises consist of a card-bearing ten short, provocative paragraphs in areas such as education, politics, history, art, science, business, sports, agriculture, and philosophy. The student reads the selection and chooses the best of four suggested conclusions, implied in the selection but not stated directly. Correct conclusions are provided in the Answer Key Booklets.

ANNOTATED BIBLIOGRAPHY

Science Research Associates. *Reading For Understanding: Senior.* Chicago: Science Research Associates, 1963.

Developmental reading kit calibrated for difficulty with 400 reading selections on lesson cards. Answer key booklet separate-coded for number and symbol, student record book, teacher manual and placement test, for use 2 or 3 times a week. An advanced course in critical thinking using rate builders and power builders. Lesson cards with short reading selections and multiple choice completion at end. Can be timed as student progresses. Designed for helping students in understanding what they read, getting anothers' point of view, thinking about a book you read, judging or evaluating what you read. Good content reading, interesting material.

Shea, James T. *Working with Numbers.* Books 4, 5, 6, 7 & 8. Austin, Texas: Steck-Vaughn, 1957.

A series of worktexts in arithmetic which are useful for self-instruction. A mastery test is included with each volume. Levels 5-8.

Sherbourne, Julia F. *Toward Reading Comprehension, Forms 1 and 2.* Boston: D.C. Heath, 1966.

Exercises on topic ideas, supporting details, comparison and contrast, analogies, quotations, repetition and guide words to develop greater comprehension. Also includes exercises on evaluating what is read and on skimming. Levels 7-12.

Shostak, J. *Reading Comprehension Workshop, Book I & II.* New York: Oxford Book Company, 1964.

These books provide a program for growth in reading that is interesting and practical in terms of classroom procedure. There are several timed tests with multiple-choice questions at the end of each text. There are also several short reading comprehension passages from the sciences, social studies and other fields. Reading levels 7-12.

Smith, Nila Banton. *Be A Better Reader.* Books IV, V & VI. 2nd ed. Englewood Cliffs, N.J.: Prentice-Hall, 1963.

A study and workbook series designed to develop basic reading skills with special emphasis on the fields of science, social studies, mathematics, and literature. Teacher's guides available. Reading levels 7-12.

ANNOTATED BIBLIOGRAPHY

Spargo, Edward. *Selections From The Black.* Providence, R.I.: Jamestown Publishers, Inc., 1970.

A collection of stories and essays written by black authors. Two page reading selections followed are by questions which are broken down into the following categories: reading comprehension, vocabulary and various exercises in word usage. Answers are in the book. There is also a chart in the back listing the number of words in each selection so that they may be used for timed readings. Reading levels 9-12.

Stein, Edwin. *Refresher Mathematics.* Boston: Allyn and Bacon, Inc., 1970.

This text is ideal as a refresher or remedial text book in general mathematics with emphasis on arithmetic and consumer applications. It may also be used as a basic text book providing individualized assignments accounting to each student's need. Levels 5-9.

Sullivan, Marjorie Doyle. *Programmed Mathematics,* Books 9-15. New York: McGraw-Hill Book Company.

These programmed books introduce the students to such important information as consumer and personal mathematics, algebra, geometry and trigonometry. Because of the programmed format, the student works at his own pace with the help of the teacher whenever necessary. Most suited for remedial work. Levels 3-6.

_____. *Programmed Mathematics: Multiplication, Division, Subtraction, Addition and Fractions (A Sullivan Associates Program).* New York: McGraw-Hill Book Company, 1968.

An approach to dealing with teaching the operation of mathematics from a programmed point of view. Students may start at beginning of book, or at a desired place within the book depending on the area of difficulty. Most suitable for remedial work or low achievers. Reading levels 3-6.

Turner, David R. *High School Equivalency Diploma Tests. (Secondary Level).* New York: Arco, 1965.

This book is recommended to students who are almost ready to take G.E.D. exam. It contains materials on the five subject areas that are given on the G.E.D. exam, with over 3,000 exam-type questions and answers. Reading levels 8-12.

ANNOTATED BIBLIOGRAPHY

University of the State of New York, The State Education Department. *High School Equivalency Part II: Curriculum Resource Handbook, Science.* Albany: The University of the State of New York, The State Education Department, Bureau of Continuing Education Curriculum Development, 1970.

This book provides information concerning techniques designed to help students prepare themselves for the Science ability test of the GED. Sample questions and answers are provided. An annotated list of useful instructional materials is included. Levels 7-12.

_____. *High School Equivalency Part II: Curriculum Resource Handbook, English Language.* Albany: The University of the State of New York, State Education Department, Bureau of Continuing Education Curriculum Development, 1970.

This book provides information concerning techniques of instruction designed to help students prepare themselves for the English Language test of the GED. Sample test questions and answers are provided An annotated list of useful instructional materials is included. Levels 7-12.

_____. *High School Equivalency Part II: Curriculum Resource Handbook, Mathematics.* Albany: The University of the State of New York/State Education Department, Bureau of Continuing Education Curriculum Development, 1970.

The book provides information concerning techniques of instruction designed to help students prepare themselves for the general mathematics ability test of the G.E.D. Sample questions and answers are provided. An annotated list of useful instructional material is included. Levels 7-12.

_____ *High School Equivalency Part I: Theory and Design of the Program.* Albany: The University of the State of New York, State Education Department, Bureau of Continuing Education Curriculum Development, 1969.

The book provides adminsitrators and teachers with a curriculum from which they may develop individual programs geared toward the preparation of adult students who desire a New York State High School Equivalency Diploma. Programmed and self-directed materials, bibliography of books and other learning materials and addresses of publishers are included. Levels 2-12.

ANNOTATED BIBLIOGRAPHY

Termac Programmed Learning Materials. *Math Learning Center.* New York: Encyclopedia Britannica Education Corp., 1968.

A comprehensive math program to prepare students for the GED exam. It includes basic and advanced skills. Reading levels 6-12.

Wallace, Mary C. *Figure it Out.* Books I, II & III. Chicago: Follett, 1965.

Beginning arithmetic books. These are combined instruction and work books. Reading levels 5-9.

Walsh, John T. *Interpretation of Reading Materials in the Natural Sciences.* Chicago: Cowles Book Company, Inc., 1970.

This is an instructional program with many practice exercises and tests in the natural sciences. It covers specialized scientific vocabulary, diagrams and charts, biology, chemistry, physics, earth sciences. Each content section has answers and explanations as well as a glossary of terms. A diagnostic and simulated test are included. Very good preparation for students close to the GED levels. Clear explanations and good design. Reading levels 8-10 +.

Witty, Paul. *How to Become A Better Reader.* Chicago: Science Research Associates, 1962.

Discussion of purposes in reading, critical reading, skimming, vocabulary development and broadening reading interests. Explanations of skills precede practice exercises. Reading levels 6-12.

Young, William L. *Teach Yourself English.* Woodbury: Barron's Education Series, 1968.

This programmed book examines grammar, punctuation, word usage and spelling. Workbook with exercises is available. Intermediate vocabulary levels. Explanations of grammar rules should be explained by teacher. Student has to make right or wrong choice. A supplemental text for students who need work in specific areas. Reading levels 5-7.

APPENDIX II

The following are some factual data regarding the high school equivalency examination.

The equivalency test is comprised of the following five two hour examinations:

- Interpretation of Reading Materials in the Social Studies;
- Interpretation of Reading Materials in the Natural Sciences;
- Correctness and Effectiveness of Expression;
- Interpretation of Literary Materials;
- General Mathematical Ability.

The order of each examination differs e.g., science may precede mathematics or vice versa.

Suggestions for the High School Equivalency Examination – Correctness and Effectiveness of Expression

An average test of two hours consists of recognizing errors in the areas of grammatical usage, sentence structure, spelling, diction, punctuation, capitalization and punctuation.

The test usually contains about 120 questions which are divided and labeled under specific topics. For example, 20 questions may be devoted to spelling and five to capitalization. In some questions, four correct choices will be given. A fifth space is included to indicate that the question is correct as is. This space should then be blackened. Each question contains only one error or no errors.

The format is multiple choice, as in the other tests; but the presentation of questions specifically need explanation because it is done in context, numbers are used in sentence questions to indicate where to determine errors.

Specific knowledge of effective written expression is necessary to pass this test; reading skill alone is not adequate.

The componen sections of this examination include:

1. spelling -- groups of words are presented; the misspelled word in the group has to be identified. Spelling rules and using a dictionary are particularly helpful devices to practice;

2. grammar and usage:
   a. sentence parts, e.g., subject, predicate, complements of a verb, independent and dependent clauses, prepositional phrases;
   b. sentence structure, e.g., fragments, run-on-sentences, lack of parallel construction, faulty modification;
   c. usage:
      verb tenses,
      principal parts of verbs,
      the verb *BE*,
      principal parts of irregular verbs,
      subject and verb agreement,
      verbals,
      pronoun usage,
      modification.

3. style and clarity -- unclear and awkward phrasing;

4. word choice, e.g., lie-lay, principle-principal, except-accept;

5. punctuation -- primarily the period, comma, exclamation point, but also other marks used to separate words, phrases and sentences;

6. capitalization -- rules;

7. pronunciation -- phonetic spelling, stress syllabication, accents and writing words the way they sound.

The number of questions in each section are approximately distributed in the following way:

1.	sentence structure	14
2.	style and clarity	10
3.	grammar and usage	22
4.	word choice	12
5.	capitalization	10
6.	punctuation	22
7.	spelling	20
8.	pronunciation	10
	Total	120

Since more questions are asked regarding grammar and usage, punctuation and spelling, greater stress should be placed on these.

Suggestions for the High School Equivalency Examination – Interpretation of Reading Materials in the Social Studies

An average two hour test consists of about 10 passages, each 15 to 30 lines long, with a total of about 75 questions. Each passage is followed by five to nine questions based on its content. The questions usually require the reader to recognize major points and details that the author has referred to, drawing conclusions from information that has been mentioned, following the author's logic and point of view.

The content usually includes: world history, U.S. history, U.S. Constitution and government, terminology. Each question has four or five possible choices (multiple-choice format).

Some specific techniques that should be included are:

1. reading for main ideas;
2. reading for details;
3. contextual vocabulary;
4. reading charts, graphs and maps;
5. test taking techniques;
6. skimming.

High reading skill is adequate to pass this test. Little content knowledge is needed, although it is helpful to study commonly used terminology. An additional and essential consideration is to refrain from using the reader's opinion to select answers to questions. Most opinion questions are phrased in such a way as to request the reader to detect and indicate the author's opinion, not his own.

A very effective means of teaching the reading skills that are necessary is to provide enough practice for the student to be able to identify what type of reading question he is being asked. For example, is it a main idea or detail question? It is also useful to request students to write their own reading passages with corresponding comprehension questions.

Suggestions for the High School Equivalency Examination – Reading Comprehension in the Natural Sciences

An average test of two hours consists of 10 passages, each about 30 to 35 lines long with a total of about *65* questions. Each reading passage is followed by from five to nine questions based on its content. The test usually contains five passages of material from the biological sciences and five from the fields of chemistry, physics, and earth science including astronomy.

The questions usually require the reader to choose an answer (one out of four possible choices in the multiple choice format) that directly or indirectly repeats information given in the passage, or to infer an answer from the material he has just read. A general knowledge of science in sometimes required and certainly helpful, but the major requirements is high reading skill. Therefore, the following techniques should be included in preparation for the test:

1. reading -- stress on finding main ideas, locating details, making inferences, skimming, reading diagrams, charts and graphs;
2. test-taking:
   a. effective use of time,
   b. careful elimination of incorrect choices and guessing,
   c. following directions,
   d. order of answering questions,
   e. scoring considerations;
3. contextual vocabulary -- determining the meaning of scientific terminology as used in context and some common prefixes, roots and suffixes;
4. content -- general concepts, e.g., photosynthesis, chemical reactions, the heart, blood circulation.

Suggestions for the High School Equivalency Preparation -- Interpretation of Literary Materials

An average 2 hour test consists of 14 to 15 passages, each 15 to 30 lines long, with a total of *80* to *85* questions. Each passage is followed by six to 10 questions based on its content and the readers literary knowledge. A sample test might contain four complete poems, two dramatic excerpts and eight passages taken from prose works.

Of the prose passages, four are usually selected from novels and short stories; and four are selected from essays, biographies and autobiographies. The excerpts are from various periods of American and English literary history, with more taken from the works of modern writers.

The questions usually require the following skills:

1. choosing the meaning of a word, phrase or line;
2. selecting the theme or main idea of a passage;
3. inferring the mood, motivation or point of view of a character, poet or writer;
4. identifying the plot or setting of a passage;
5. identifying the author's viewpoint or style;
6. identifying literary genre, poetic forms and structures and figures of speech.

Stress should therefore be placed on practicing the above, as well as reading skills.

Suggestions for the High School Equivalency Examination – General Mathematical Ability

An average two hour test consists of approximately *50* multiple choice questions.

The following skills need to be covered for preparation:

ARITHMETIC

1. fractions
2. decimal fractions
3. percentage
4. graphs
5. properties of numbers
6. signed numbers

ALGEBRA

1. equations
2. evaluation of algebraic expressions and formulas
3. verbal problems
4. monomials and polynomials
5. factoring
6. quadraic equations
7. simultaneous equations

GEOMETRY

1. plane and solid figures
2. angles
3. triangles
4. rectangular coordinates

MODERN MATH

1. set theory
2. inequalities
3. relations and functions
4. properties of mathematical operations
5. the number line

Students should be shown various ways of solving problems. For example, three ways to solve a decimal problem.