

THE EFFECTS OF SPECIAL PREPARATION  
FOR THE VERBAL SECTION OF THE SAT

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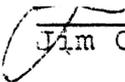
Harriet Winokur

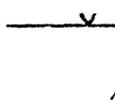
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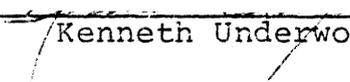
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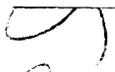
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(ABSTRACT)

The purpose of this study was to investigate the effects of a special preparation program of coaching on the verbal section of the Scholastic Aptitude Test (SAT). The coaching program was designed to familiarize the students with test-taking strategies and to enhance their sequential deduction and reasoning abilities through the use of classwork as well as homework. This special preparation course covered a period of six weeks and was held directly after school.

The sample for this quasi-experimental study included 170 seniors from three public high schools in a suburb of the Greater Washington Metropolitan Area who had first taken the SAT in May of their junior year and again for a second time in November of their senior year. The May SAT verbal scores served as the pretest measures and the November SAT verbal scores served as the posttest measures. An analysis was made using the regressed gain scores to see if there was a significant difference between the

students who were coached for the second test and for those who were not coached. The findings of this study indicated that coaching was effective for those students who received the special preparation.

Additionally, the study examined the following:

(1) the effect of coaching across schools; (2) the interaction of controlling variables such as sex, grade point average, final grade in junior English, and parental education levels; and (3) the difference in regressed gain scores of those students who volunteered for coaching programs and for those students who did not volunteer when neither group received any coaching.

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## Chapter 1

### INTRODUCTION

The Scholastic Aptitude Test (SAT), sponsored by the College Entrance Examination Board (CEEB) and produced by Educational Testing Service (ETS), has been one of the most visible and widely used college entrance examinations available. The test was designed to measure developed verbal and mathematical reasoning abilities which have been acquired through experience in school and real-life situations. The exam was also designed to measure aptitude for college-level studies rather than intelligence. Some educators have stated that aptitude tests, such as the SAT, have provided a good assessment of students' educational progress and performance "to the extent which applicants have 'at the time of testing' developed or acquired, and can exhibit through their performance on a test, certain general intellectual skills in handling verbal, quantitative, and symbolic information that are contributory or even necessary to high-level success in academic studies" (Carroll, 1978). More succinctly, the results of the SAT have been a good indication of academic learning and may have also been valid in predicting first-year success for students desiring to enter college.

While the SAT's predictive validity has been agreed upon by many, there also have been some educators who question the fairness of the test and its validity as a measure of future academic performance. For example, Warner Slack and Douglas Porter of Harvard Medical School have contended that the SAT does not add to the prediction of college success if the admissions officers of colleges have also examined a student's high school records. The predictive validity of the test has been one of the controversies surrounding the test and, perhaps, the basis for the coaching dilemma (Slack & Porter, 1980).

In response to this report, Rex Jackson (1980) of ETS stated that Slack and Porter's interpretation of the SAT was incorrectly based upon restricted groups of enrolled students. Jackson added that studies of this nature should be based upon entire applicant groups. He also accused Slack and Porter of having presented a one-sided appraisal of the SAT in their report.

Regardless of the controversy, the SAT is continually a part of the college admissions process. Since high school grading policies vary among the many school systems in the country and because secondary school curriculum has varied from one system to another, this standardized admissions test has provided a common denominator which college officials have used to place students on similar levels of

academic ability. Therefore, the use of the SAT has had a beneficial effect for all students who have gained access to quality education.

In 1980 a survey of colleges was conducted by The American Association of Collegiate Registrars and Admissions Officers and The College Board. One of the results of this survey indicated that the usual criteria in evaluating students for admissions to college included class rank, grade point average, letters of recommendation and SAT scores. Approximately 48% of the surveyed population required SAT scores from all applicants, and an additional 22% required the tests of some applicants; a total of more than 1,000 college officials required the SAT as part of the evaluation procedure used for admissions (CEEb, 1980a). Additionally, 30% of these officials said they had a minimum SAT score requirement for prospective students which, they added, was sometimes flexible. For these reasons over 1.5 million students took this college entrance examination during the 1980-81 school year. Seemingly, then, the test has not only been one of the most visible and widely known admissions tests, but has also been one of the most important to many aspiring college students and admissions officers.

## Background

The SAT has received adverse publicity in newspapers, magazines, and professional journals for many years. Some of this notoriety has been directed at declining test scores. The average scores for the SAT have been falling consistently over the past several years. In 1963 the mean verbal scaled score was 478 out of a possible 800. This score dropped to 434 in 1975 (Wirtz, 1977); and in 1980 the average score was down to 424 (CEEB, 1981b). Figure 1 graphically illustrates this decline. Similarly, the math scores have fallen. In 1963 the mean scaled score was 502 out of a possible 800; in 1975, 472; and in 1980, 466 (CEEB, 1981b). Consequently, the two point increase in the verbal scaled score in 1982 seemed insignificant in the presence of a nineteen-year decline.

In 1975 Dr. Sidney P. Marland, Jr., then president of CEEB, appointed a 21 member committee to uncover the cause of the downward trend of SAT scores. The objective of the Advisory Panel, which was headed by Willard W. Wirtz, former U. S. Secretary of Labor, was to investigate the issues pertinent to the problem of declining test scores and then to interpret the findings to the general public. Two years after the Panel was formed, the findings were published in the report On Further Examination. Although the Panel uncovered several causes for the decline, their

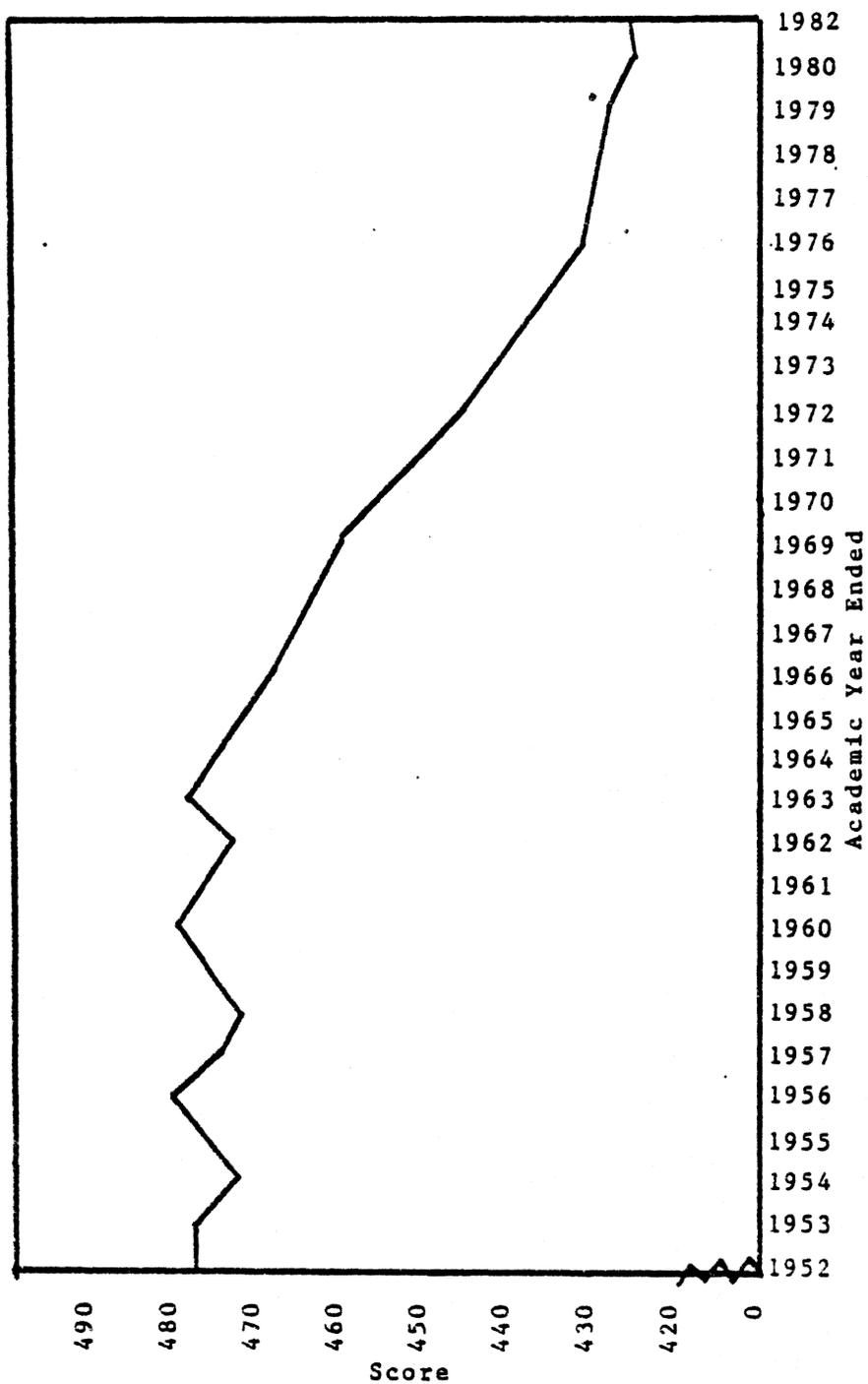


Figure 1. SAT-V scaled score means 1952-1982.

explanations were later classified into four general categories: (1) problems with the test, (2) changes in the population taking the test, (3) changes in the schools, and (4) changes in societal factors (Wharton, 1977). More specifically, the report of the Panel indicated the possibility that the test might have become extremely difficult and not as relevant for the general population to whom it was being administered. Basically, the findings of the Advisory Panel were not conclusive; and all members acknowledged the fact that numerous factors could be attributed to the decline.

Many educators were discouraged with the inconclusiveness of the findings of the Advisory Panel. Some educators indicated that the test-score decline had more complex interpretations than those which had been suggested in On Further Examination. There seemed to have been implications either that the test needed to be updated or that secondary school curriculum needed revision. Additionally, some educators implied that the declining scores of the test might result in changes for management objectives as well as for instructional procedures. William Harris from ETS also stated that, "in spite of the inconclusiveness [of the Panel], the phenomenon does have some implications for colleges, universities, secondary schools, and the students themselves" (Harris, 1977).

As a result of the issue of declining SAT scores and the indecisiveness of the Advisory Panel on this matter, college bound students and their parents began to search for a resolution to the SAT dilemma. Unlike educators, they did not want to know why the scores were declining; they wanted to know how to raise the scores. One relevant solution seemed to be the special preparation classes at commercial coaching schools where students could study for the SAT. Students, assumed they needed something in addition to their high school training and turned to these special courses for assistance in increasing their test scores. Both parents and students believed that even a small coaching-attributed score gain could mean the difference in acceptance to or rejection by a preferred college. Adding to the complexity of the parents' and students' quandary, many authors of books and magazine articles supported the principle that coaching was the remedy for low SAT scores. For example, some authors have implied that coaching was one of the ways to "beat the system" if students had the time and the money for a coaching course. Other writers have also implied that students had a good possibility of increasing their test scores from special preparation and that this increase could be beneficial to them when applying for admissions to colleges (Donner, 1981; Levy, 1979; Strenio, 1980).

Public interest in coaching had been aroused by these commercial coaching schools.

In addition, despite repeated claims by CEEB and ETS that last minute preparation would have no significant effect on student performance (CEEB, 1959, 1965, 1968, 1978, 1981a), thousands of students turned for assistance to preparation methods. These methods included practice books as well as coaching schools. In fact, even the College Board developed a practice booklet in 1978. This booklet was entitled Taking the SAT and was developed to familiarize students with the test. The reaction of the students to Taking the SAT and to other methods of preparation was later examined through the results of a questionnaire (Powers, 1980). Powers survey was sent at random to 2,024 candidates of the June, 1978, SAT. Most students believed that some preparation would improve SAT scores and the most frequently used method was reading Taking the SAT (92.2%). Additionally, 20.5% of those surveyed reported attending some type of review or coaching sessions before taking the exam. Only 6% reported that they did not use any methods of preparation. These percentages seemed to indicate that students believed in the efficacy of test preparation and that many had, in fact, resorted to one or more methods of studying for the SAT.

As indicated above, the pressure to do well on the SAT had led some students to various methods of preparation for the test including commercial coaching schools. The expenditure for this preparation had ranged from \$40 to \$500 for one testing course. The Federal Trade Commission reported that coaching schools such as Stanley H. Kaplan Education Centers had enrolled more than 30,000 students in 1978 and had grossed over \$9,000,000 the same year (Federal Trade Commission, 1978). Additionally, one news reporter estimated that coaching schools in the United States grossed approximately \$60,000,000 (Betchkal, 1979).

On October 13, 1979, a government investigation of coaching schools was initiated. The Federal Trade Commission (FTC) issued a resolution which authorized and directed its Boston Regional Office to conduct the research. The FTC study, one of the largest coaching studies, was undertaken to determine whether testing centers had a basis for their advertising claims which stated that the schools could increase scores on college entrance examinations. The following explicit directions were handed to the investigating committee:

Determine whether or not various examination and test preparers, review courses, coaching schools and other persons, partnerships, or corporations, may have been or may now be engaged in unfair or

deceptive acts and practices in or affecting commerce in violation of Section 5 of the Federal Trade Commission Act as amended, including but not limited to false, misleading and deceptive advertising, non-disclosure of material facts, unfair and deceptive point of sale misrepresentations, and other unfair or deceptive acts and practices ... (Federal Trade Commission, 1978, p. 5)

The original results of the FTC study indicated that coaching was highly effective for the SAT. A staff memorandum stated that, "score increases resulting from coaching have a practical, educationally meaningful, effect in that coaching can be the determining factor in deciding who is admitted to undergraduate and graduate colleges and universities" (Federal Trade Commission, 1978). According to Ralph Nader and Allen Nairn (1980), the coaching schools studied by the FTC raised scores by an average of more than 100 points. However, the FTC decided to postpone the release of these findings in order to reanalyze the data based on various student traits. Arthur Levine, who was in charge of the initial investigation, viewed this postponement as an abrogation of the FTC's responsibility to the consumer. As a result, Arthur Levine resigned from the Boston Regional Office of the FTC the following year. Additionally, Terry Herndon, executive director of the

National Education Association (NEA) in 1979, accused the FTC of the inability to conduct an impartial investigation and said that the FTC was "aligned" with ETS and CEEB (National Education Association, 1979). Despite this criticism, the FTC's Bureau of Consumer Protection released the "official" study several months after the initial results were reanalyzed. This report modified the original FTC findings with revised statistical analysis and was published for consumer use. The results of the reanalysis indicated an average gain of approximately 25 points which could have been attributed to coaching for the SAT-V (verbal) as well as the SAT-M (mathematics). The FTC concluded that coaching had been effective for certain students, depending upon the traits of those students.

The controversial FTC study elicited additional attention aimed at the results of college entrance exams. Consequently, consumers of education and teacher's organizations began questioning whether it were necessary for students to spend money at coaching schools or whether all high schools should be offering special preparation courses for the SAT. As a result, some public as well as some private high schools have offered preparation sessions designed to help their students achieve higher scores on this college entrance exam.

### Statement of the Problem

The preoccupation with standardized test scores has been a dilemma that has existed in our schools and our communities. Students, parents, and educators have known that many colleges use SAT scores in the evaluation procedures for admissions. Therefore, "high" test scores have been sought by most students. The issue of preparation for higher scores has resulted in a multitude of controversies. However, if coaching for the SAT can help students gain access to colleges of their choice, then these students, regardless of personal economic considerations, should have the opportunity to participate in such programs.

### Purpose of the Study

The focus of this study has been to examine the relationship between coaching and SAT scores. However, this study has been limited to the verbal section of the SAT only. The intent of the writer has been to see if a special preparation course, designed by the writer, could help students raise their SAT-V scores.

### Significance of the Study

Although there has been criticism directed toward the coaching issue, the fact has remained that even an increase of 25 points on the SAT may have made a practical

difference in the admissions decision to undergraduate schools. Albert Kramer, head of the Bureau of Consumer Protection in 1979, contended that those who believed the claims of ETS that coaching could not help raise scores would be at a disadvantage. In a memo to the FTC, he said:

The greatest consumer injury suffered by an applicant taking a standardized test comes not at the top or in the middle range, but as the student's score approaches whatever arbitrary cut-off the college or university imposes....If the school's cut-off is 500, the difference between 520 and 495 is critical. Therefore, perhaps even the small coaching-attributed score gains acknowledged by CEEB/ETS portend some degree of unfairness to test-takers and would render deceptive their admonition not to be coached....The score gains we have found are more clearly significant in view of the ETS/CEEB admonition. (Kramer, 1979, p. 2)

The implication that coaching could help students raise their test scores has been far reaching. If special courses have increased scores on the SAT, then a student who can afford a coaching school might enjoy an advantage over the student who can not afford a coaching school when both apply for admission to college. The advantage of one student over another has raised the question of the equity issue of educational access and therefore may be in viola-

tion of the United States policy of equal educational opportunity, which states,

Recognizing that the Nation's economic, political and social security require a well-educated citizenry, the congress (1) reaffirms, as a matter of high priority, the Nation's goal of equal educational opportunity, and (2) declares it to be the policy of the United States of America that every citizen is entitled to an education to meet his or her full potential without financial barriers.

(20 U.S.C.A. 1221-1)

If SAT coaching were effective, there could be important implications for high school instructional practices as well as for management objectives. Assuming that the reasoning skills and comprehension measured by the SAT can be taught, perhaps curricula will need to concentrate on the development of the thought processes along with the development of subject-matter knowledge. On the other hand, if coaching increases test scores without also increasing the ability of the student, the implication might focus on the validity of the test and the test-taking process.

#### Limitations of the Study

1. Subjects were seniors from three public high

schools. Generalizations of this study must be limited to schools that enroll students with similar backgrounds.

2. In the event of content "leakage" from the treatment group to the control group, students were asked to sign a pledge not to reveal the substance of the preparation course to any other student.

3. Students volunteered for the coaching program. To offset this self-selection process, a random sampling of these volunteers was conducted for inclusion in the treatment and control groups. Further explanation of this sampling procedure is contained in the methodology section.

4. Due to the voluntary nature of the experiment, some students withdrew from each of the treatment groups.

#### Assumptions of the Study

1. Students in the treatment groups would complete 70% of the assignments given in the special preparation class.

2. Students in the control group would not be enrolled in any classes designed to increase SAT scores. A questionnaire related to this assumption was completed by all students after the November, 1982, SAT.

3. Students in the treatment groups would not be enrolled in any additional courses designed for SAT preparation. A questionnaire related to this assumption was

completed by all students after the November, 1982, SAT.

4. All students in the study would take the November, 1982, administration of the SAT.

### Definition of Terms

1. Aptitude test--a test that measures mental operations which improve little with practice and also provide a basis for predicting levels of future performance.

2. Coaching--any instructional program designed specifically to increase performance on the SAT over a short period of time.

3. Commercial coaching school--a test preparation center that charges a fee for teaching services aimed at increasing scores on a standardized test.

4. Regular administration of the SAT--one of the six pre-scheduled Saturday mornings at an approved center.

5. Special administration of the SAT--when the test is given at any time other than the pre-scheduled six Saturday mornings.

6. Test-wiseness--a subject's capacity to utilize the characteristics and formats of the test and/or test taking situation.

### Summary and Organization of the Study

This dissertation is divided into five chapters. The

first, which the reader has just completed, gives the introduction and background to the problem of coaching. Additionally, Chapter 1 attempts to tie the problem of coaching to the current literature. The limitations of the study and an explanation of some of the vague terms are included in this first chapter. Finally, the writer has included in this chapter, an explanation as to why the study might be significant to educators. The review of the research which is related to the problem of coaching is the focus of Chapter 2. Here, the writer reports the procedures and findings of similar studies and also looks at some issues relevant to the SAT. Chapter 3 begins with the development of the hypotheses and also states research questions related to these hypotheses which the writer intends to explore. The method and sampling procedures of this experiment as well as a detailed account of the coaching course designed by the writer and the materials used are a part of Chapter 3. The data analysis is the focus of Chapter 4. In this chapter the hypotheses are tested and the research questions discussed. The final chapter has a summary and interpretation of the results of this study. This chapter also contains recommendations for the utilization of this study and recommendations for further research.

## Chapter 2

### REVIEW OF THE RESEARCH

A review of the literature in the area of coaching for the SAT has revealed that some generalizations must be considered about methodology. The design of many of the studies have differed in such important variables as the number of subjects, the use or non-use of control groups, the use of pretest and posttest scores or alternatives, and the selection process for the control groups (Pike, 1979). These inconsistencies along with the differences in sample sizes have yielded confounding results when attempts were made to compare data from the studies. There have also been differing opinions as to the value of coaching by educators. Therefore, it seemed misleading to infer from the mixed results of these studies that coaching was ineffective. None the less, this is the position of the College Board.

In the 1968 publication, Effects of Coaching on Scholastic Aptitude Test Scores, the College Board summarized the results of seven studies by having stated,

Despite variable factors from one study to another, the net result across all studies is that score gains directly attributable to coaching amount, on the average, to fewer than 10 points - a differ-

ence of such small magnitude on the SAT score scale of 200 to 800 that it is unreasonable to expect it to affect college admissions decisions. The magnitude of the gains resulting from coaching vary slightly, but they are always small regardless of the coaching method used or the differences in the students. (CEEB, 1968, p. 4)

Four of the studies referred to in this quote were conducted by ETS and the College Board, and three were carried out by independent researchers.

This philosophy has been restated over the years in the many booklets distributed by ETS for students scheduled to take the SAT. For example, in the 1981 publication Taking the SAT, the College Board has reminded students that "short term drill and cramming are likely to have little effect on scores." Additionally, the message has indicated that increases in test scores as a result of special preparation courses ranged from 0 to 30 points for "particular students or particular programs" and that this increase was neither practical nor effective in improving scores for college admissions (CEEB, 1981b).

The following seven studies were included in the booklet Effects of Coaching on Scholastic Aptitude Test

Scores. Dyer (1953), an associate director of the College Board, conducted the first study. The next two studies (1955 and 1959) were conducted by French, a research psychologist for ETS at the time of the studies. Another researcher for ETS, Dear, collaborated with French on one of these research projects. Dear also completed a study in 1958. The last three studies in this booklet were conducted by three independent individuals; Frankel (1960), Whitla (1962), and Lass (1965). A summary of each of these studies is included in this chapter.

#### Studies with Non-Equivalent Groups

In 1953, Dyer conducted the first study on the effects of coaching on SAT scores. In this study, 225 seniors from one boys' school formed the treatment group and 193 senior boys from a similar school formed the control group. The results from the verbal section of the SAT disclosed that the treatment group scored 4.6 points higher on the posttest than the control group did. The pretest measures for both groups were the results of the SAT given in a special administration of the test. The posttest measures were the results of the scheduled administration of the SAT given six months later. The preparation for the SAT-V consisted of 12 verbal exercises in sessions which lasted 30 to 60 minutes each. The control variables in this study included the initial SAT

scores and student background characteristics including number of years in the school attended and number and level of foreign language and mathematics courses taken in the senior year. This was the first time a study of coaching provided data for the interaction between size of effects and student characteristics, and subsequently indicated the possibility that some coaching programs may have different effects for different students. Dyer's conclusion, using analysis of covariance, was that the effects were not statistically significant.

In 1955, a more detailed study was sponsored by the College Board. Two studies were conducted by the same researcher, French. The larger study examined the effect of coaching using unspecified test items and the smaller study (an extension of the larger study) examined the effects of coaching using identical items which were to be included in the posttest. In the larger study, instruction was provided for 314 students in two schools and for 158 students in a third school who did not receive instruction. Additionally, the preparation courses for the SAT-V at the two schools were different: the course at School A emphasized vocabulary skills for 126 students while the other course at School B for 188 students included a representation of all the SAT-V skills. The SAT was given in a special administration and the scores were used as

the pretest measures and as the control variable. The posttest measures and subsequently the dependent variable were the results of the regularly scheduled SAT given six months later. School A provided four and one-half hours of verbal study while the amount of time at School B was not specified. Having used an analysis of covariance, the results of the SAT-V showed that the scores of the coached groups in School A had increased more than the scores of the uncoached students. The average score difference between the treatment group and the control group was 18.3 points where the emphasis was on verbal items similar to those on the SAT. Additional item analysis showed that two-thirds of the total effect was due to analogies. The use of vocabulary skills for the preparation course resulted in average differences between the groups of five points and the major effect was due to antonyms. One conclusion of the study was that analogies were more susceptible to short term instruction than the other items on the verbal section of the SAT. However, the gains were not found to be significant enough to support the hypothesis that coaching could increase test scores. Although a statistical difference was found, French (1955) reported that there was no practical importance in view of the 32 point standard error of measurement of the test.

He concluded that:

Specific coaching for the SAT does raise the test scores slightly, on the average, but so slightly that the same amount of study on regular school assignments is likely to help just as much on the test and much more toward the student's understanding of the subject. (French, 1955, p. 7)

Additionally, French looked at score gains broken down by sex and noted that girls benefitted more than boys from coaching. He also noted that the coached students worked more slowly and attempted fewer test items on the posttest. This effect was probably due to practice or test-wiseness, a subject which will be discussed later.

French and Dear (1959) conducted the smaller study which was actually done with the same groups as above. This study employed "identical item" preparation. On the verbal section, French and Dear found an average increase of 47 points over the regular coaching scores in the larger study for the treatment group. The College Board responded to the results of French and Dear's study by having stated that "if it were possible to coach with as many as one-tenth of the items that would be used on a future form of the SAT-a virtual impossibility-the effect on the scores of students coached with these items would be negligible" (CEEb, 1968). In light of French and

Dear's study, this author feels that this statement is ambiguous and lacks clarity.

Dear (1958) wanted to find out if a coaching course designed for a longer period of time and for smaller groups than the previous studies offered could produce significant gains on the SAT. He randomly selected six public and four private high schools where 90 students were chosen for inclusion in the treatment groups on a volunteer basis. The 81 students in the control groups were chosen from nine different schools in the same area. Most of these students had taken the SAT in May of their junior year. These junior scores served as the control variable. The weekly coaching sessions which were conducted over a period of five months were supplemented with a homework assignment of one hour each week. Students repeated the SAT halfway through the coaching program in January and again when the coaching program was completed in March. The January adjusted scores for 60 of the coached students showed a disadvantage of 2.5 points on the SAT-V when compared to the adjusted gain scores of the control group. The results on the SAT-V for the March test were never determined due to significant differences in the variances and regression slopes of the experimental and control groups.

The College Board also reported the results of an informal study in their 1968 publication. This research

was conducted in 1958 by Abraham Lass, a high school principal. Lass selected three groups of students from the senior class of his high school. One group of 38 students had taken a commercial preparatory class; another group of 21 students received a program of orientation given in his high school, and a third group of 82 students served as the control group. The points gained between the junior and senior year on the SAT-V were 44 points for the group prepared by the commercial school, 53 points for the group given the orientation for the SAT, and 41 points for the control group. All groups showed sizeable mean gains between pretest and posttest. However, these gains when compared between groups were not statistically significant.

The five studies by Dear (1958), Dyer (1953), French (1955), French and Dear (1959), and Lass (1958) were conducted with non-equivalent control groups. This methodological problem confounded the coaching effects with other factors. In two "independent" studies cited in the 1968 College Board publication methodological problems also existed. Frankel (1960) and Whitla (1962) did not use randomly assigned subjects. Instead, students were matched on selected variables which allowed for differences on other non-assessed variables.

#### Studies with Matched Groups

Frankel (1960) studied the effects of commercial

coaching on 45 high school students who were selected by means of a questionnaire. The researcher matched students on the basis of sex, with both members of the pair having taken the same two regular administrations of the SAT. The scores of these tests then served as pretest and posttest measures. Students were also matched on the basis of their pretest scores having been within 10 points of each other. The characteristics of the special preparation courses in which these students were enrolled all included 10 sessions lasting 3 hours each with no more than 25 students per class. The quality of these courses was unknown at the time of the study. The uncoached students gained 38.2 points on the SAT-V posttest compared to the 46.6 points gained by the coached students, a difference of 8.3 points, an increase which was not statistically significant. However, the total gain scores would seem practically significant for both groups in college admissions decisions. In response to the commercial coaching courses, the Trustees of the College Board stated:

The evidence collected leads us to conclude that intensive drill for the SAT does not yield gains in scores large enough to affect decisions made by colleges with respect to admission of students. Of the two parts of the test, the Verbal part seems almost totally insensitive to drill....It is not

reasonable to believe that admissions decisions are allowed to turn on such slender differences.

(College Board Trustee, 1959, p. 3)

Frankel (1960) also studied the effect of growth and practice. On examining the growth effect, he compared the SAT scores of two groups of seniors; one group took the test December, 1958, and the other group in January, 1959. The difference was not found to be statistically significant for the one month difference. He examined the practice effect by comparing senior SAT scores with the junior preliminary (P) SAT scores. The students who took the PSAT scored 18 points higher on the SAT-V than those who did not take the PSAT. These effects were statistically significant at the .05 level.

Matched control groups were also employed in another "independent" study. Whitla (1962) compared the SAT scores of 52 students who attended a reading institute with 52 students who did not attend the school. The students in both groups took a regular SAT in March or May of their junior year and their scores were within one point of each other. They also took a special SAT in the fall of their senior year and these scores were within two points of each other. The course provided by the Reading Institute in Boston concentrated on vocabulary, reading skills, concept mastery, and verbal problem solving. The program consisted

of five sessions lasting two hours each with additional homework assignments. The design of the coaching course was not intended to raise SAT scores but actually designed as a program organized to help develop study habits and reading skills. Whitla justified the use of this school by stating that the courses at the Institute affected the skills which the SAT measured. The comparison of the posttest scores on the SAT-V indicated that the coached group gained 11 points more than the non-coached group between the pretest and the posttest. This was not statistically significant.

These seven studies are repeatedly cited by ETS and CEEB as the basis for their belief that special preparation for the SAT is not effective. Table 1 summarizes the results of these studies and compares the differences of these research reports. The reader should notice that all these studies have had some type of control group. However, there were three studies by Coffman and Parry (1960), Marrone (1963), and Pallone (1960) which did not employ control groups that the 1968 Board publication did not mention.

#### Studies with No Control Groups

Nathanial Pallone, a guidance counselor in 1960, decided to conduct a study to determine the effects of coaching on SAT-V using short and long term instruction.

Table 1

Average Difference Between Experimental and Control  
Groups in Seven Studies of SAT-V Coaching

| Study/control design                       | School          | Sex | Difference | Significance level | Experiment/Control N |
|--|-----------------|-----|------------|--------------------|----------------------|
| Dyer/diff. school (1953)                   | Private         | M   | 4.6        | .05                | 225/193              |
| French/diff. school/(1955)                 | Public          | M,F | 18.3       | .01                | 161/158              |
| French & Dear/diff. school (1959)          | Public          | M,F | 5.0        | .05                | 110/158              |
| Dear/same and diff. school (1958)          | Public, Private | M,F | -2.5       | n.s.*              | 60/256               |
| Frankel/same school, stats. matched (1960) | Public          | M,F | 8.4        | n.s.*              | 45/45                |
| Whitla/stats. matched (1962)               | Public, Private | M,F | 11.0       | n.s.*              | 52/52                |
| Lass/same and diff. school (1958)          | Public, Private | M,F | 3.0,13.0   | n.s.*              | 38, 21/82            |

\*not significant

Unlike the studies before, the content of these preparation courses would include training in logical reasoning ability as well as in sequential deduction. It seems that none of the coaching programs cited in this paper studied the way in which students approached problem solving. According to Pallone, traditional coaching methods would not be used because students needed to strengthen their basic skills in reading before their test scores would improve. Approximately 20 seniors received the short term program which lasted for six weeks in the summer with a daily session lasting 90 minutes. The average gain on the August SAT-V was 98 points more than the March SAT-V. The longer program consisted of daily classes lasting 50 minutes over a period of six months. During this time, Pallone's students were involved in an intensive developmental reading course. The results showed that these students gained 109 points over a 12 month period from pretest to posttest.

Although there were no controls for this study, Pallone suggested comparing his results with the expected gain of 35 points which ETS predicted over the same time period. This would seem to indicate that the increase in students' scores would be practically significant. In an article by Slack and Porter (1980), a suggestion was made to compare these results with average gains in national administrations of the SAT. However, these results would

not be satisfactory because the students in Pallone's study were not typical high school seniors. In fact, Pallone stated that these students were "fantastically motivated" (Pallone, 1982) because of their aspirations for college and subsequently their careers. Another suggestion made by Pike (1979) recommended a comparison of Pallone's results with average gains of control students in superior schools from other studies. This would indicate a significant gain of 80 points for the summer pilot program and 45 points for the long-term program. However, this comparison was still not acceptable to many researchers. The point here is that no statistical effects can be significant if control groups are not employed by the researcher.

In an attempt to counter Pallone's study, ETS sponsored Coffman and Parry (1967) to examine the effects of a developmental reading program on SAT-V scores. These researchers administered the SAT to three groups of college freshmen before and after a speed reading course. The course covered a period of eight weeks and met in double periods which were equivalent to six hours each week, a total of 45-50 hours of instruction. It should be noted that Pallone did not include accelerated reading in his program because he did not feel it was important. Also, the students in the Coffman and Parry study were not as

highly motivated as the students in Pallone's study because they did not need the SAT for admission into college; they were already enrolled in college (Pallone, 1982). Regardless of these differences, comparisons were made between Pallone's study and this one by Coffman and Parry. In one group the mean score increase between pretest and posttest was 3.5 points, and in the other group, this increase was 9.9 points. The researchers also reported the results of 25 additional students whose reading course met for 3 hours a week for 15 weeks, a total of 45-50 minutes of instruction. These freshmen exhibited a 28.9 point mean loss possibly due to instructional problems or problems in testing or scoring. This last change was statistically significant. Once again, the lack of control groups weakens the results.

Another researcher, who also did not employ control groups and was not included in the Board's 1968 publication was Marrone (1965). This researcher investigated the SAT scores for students at 10 preparatory schools that specialized in preparing seniors for college admissions. The programs at these schools lasted for six months each and focused on courses directly related to the SAT. The weighted overall increase from the pretest (the SAT-V given in a special administration) to the posttest (the SAT-V given in a regular administration) was 57.6 points. Having

applied the expected mean gain of 16.5 points, the mean gain was 41.1 points. Slack and Porter (1980) used the pooled variance model  $t$  test and estimated that these results were significant. However, because of the lack of control groups, there was difficulty in appraising the preparatory schools' effects.

All the previous studies reported have had problems in methodology. As a result, the effectiveness of the coaching or the preparatory class has been subject to dispute. There have been researchers, however, who applied randomized designs to their coaching studies.

#### Studies with Randomized Control Groups

In 1966, Roberts and Oppenheim conducted a study using minority students from rural and urban Tennessee schools. Volunteers from six predominately black high schools were randomly assigned to coached and non-coached groups. The PSAT was used both as a pretest measure and as a posttest measure. The instruction for these students involved seven and one-half hours of preparation over a four to six week period. The PSAT-V scores of the treatment group resulted in a mean 1.44 point increase (equivalent to 14 points on the SAT-V) above the control group, an increase which is not significant. However, the reader should also note that this 14 point advantage of coached groups over control groups was due in part to a

7 point decrease in scores of the control group. Other researchers have suggested that this decrease could be due to problems in motivation or attrition on the part of the students in this study.

In the second randomized study, Alderman and Powers (1980) examined the effects of coaching courses already in existence in eight high schools. The preparation at these schools averaged three hours of individual study, four hours of assignments, and nine hours of classtime using a commercial review book. There was one school that deviated from this instruction by using some teacher-made materials, however. This last school had the best results. For the pretest, Alderman and Powers used the PSAT scores of the randomly selected students in both the treatment and control groups. The posttest results were from a special administration of a retired form of the SAT. The overall increase across the eight schools was approximately 8 points on the SAT-V, a gain which was attributed to coaching. This was statistically significant. The actual effects ranged from -3 points to 28 points (at the school where the teacher-made materials were used) at the eight different schools.

In this last study, the motivation factor should be considered because the students knew that the SAT which they took would not be used for college admissions. The

problem of motivation occurred when a special administration of the SAT was given and the results used as posttest measures. Also, in a study such as that by Alderman and Powers (1980) where the preparation course was delayed for the control group, the motivation of these students often can result in a score "decrease" from the pretest to the posttest. These "decreases" complicated the estimation of the coaching effects found by these researchers.

#### Federal Trade Commission

The largest investigation of coaching was conducted by the Federal Trade Commission in 1979. The data which covered the periods of 1974-1975, 1975-1976, and 1976-1977 came from two sources. The names and addresses of the students who were enrolled in two separate coaching schools were obtained from the coaching schools and the data from 514 of these coached students were included for the experimental group. Then the test records for all the students who took the SAT during the same time period were obtained from ETS and the data from 2,240 of these students comprised the control group. Several sub-groups were formed based upon the following criteria: (1) when the students took the SAT, (2) whether the students were first or second time SAT-takers, and (3) whether they were juniors or seniors. This criteria along with other information about the students was obtained from the Student Demographic

Questionnaire which the students voluntarily completed when they applied for the SAT.

The characteristics of the groups were compared and several differences were found on such variables as class rank, parental income, and recent English grades. Although statistical adjustments were made for these group differences, the factors of motivation and self-selection confounded the results. Additionally, the programs at both schools were compared, and in School B where negligible effects were found, the program involved 24 hours of coaching. In school A where significant effects were found, the program consisted of a 10 week course with 4 hours of class per week plus unlimited use of library tapes and homework assignments equivalent to a minimum of a one-day eight-hour program. The researchers used multiple regression for the statistical analysis and found a 30- and 20-point gain respectively for first and second time test takers over the pooled time periods. However, the FTC findings had three major flaws: (1) there were no controls for the personal and demographic characteristics of each student, (2) the study used a non-experimental design, and (3) the first results failed to provide tests of statistical significance (Federal Trade Commission, 1979). For these reasons, a major reanalysis of the data was needed.

### Reanalyses of the FTC Study

Shroud (1980) was the first to reanalyze the data from the FTC study. He applied an analysis of covariance type of model which differed from the original analysis. He also included additional covariates and was able to control the analysis which resulted in fewer assumptions. The results of Shroud's investigation indicated that the students at School A were the only students who had higher test scores. The difference in scores was equivalent to 20 to 35 points on the SAT-V which was similar to the FTC estimates.

A second reanalysis of the FTC data was conducted by Rock (1980). This study controlled for differential rates of growth in SAT scores over time if they occurred. However, due to the statistical model used by Rock, only the students who had taken the test three times could be considered for his study. When the growth effects were controlled, the results indicated that the coached students only scored 17 points higher on the SAT-V than the uncoached students, about half the increase which the FTC and Shroud studies reported.

A more recent reanalysis was completed by Sesnowitz, Bernhardt, and Knain (1982). Multiple regression analysis was used to test the hypothesis that coaching did not have an impact on SAT scores. The results indicated that

coaching at School A was effective and coaching at School B was ineffective, the same results as the other studies had found. The reanalysis further indicated that students who enrolled in School A scored more poorly on the average than expected on an earlier standardized exam and were helped to overcome this inability. Additionally, coaching at the school where the effects were significant were the same whether or not self-selection was present. This seemed to indicate that coaching could have been effective for certain students depending upon the coaching program used.

The last six studies are summarized and compared in Table 2. The reader should be aware that although the Pallone study (1960) and the Marrone study (1965) were completed before the Board published Effects of Coaching on Scholastic Aptitude Test Scores, these two studies were not included in that publication.

The effects of growth and practice were evident in most of the studies cited. Students who took the SAT more than once developed a sense of familiarity and most likely understood the general directions better the second time. Furthermore, the coaching courses may have helped the students to develop appropriate pacing techniques after they had taken the test once before. Therefore practice may have accounted for some of the effects in these studies. This practice effect is sometimes referred to as test-

Table 2

Average Difference Between Experimental and Control  
Groups in Studies of SAT Coaching Intervention

| Study/design                                 | School             | Sex | Difference        | Significance level | Experimental/<br>Control N |
|--|--------------------|-----|-------------------|--------------------|----------------------------|
| Pallone/no control(1960)                     | Private            | M   | 98, 109           | n.c.*              | 20, 100                    |
| Coffman & Parry/no control(1967)             | College            | M,F | 3.5, 9.9<br>-28.9 | n.c.*              | 19, 25                     |
| Marrone/no control(1965)                     | Private            | M,F | 58                | n.c.*              | 715                        |
| Roberts & Oppenheim/<br>randomized<br>(1966) | Public             | M,F | 14.4              | .05                | 154/111                    |
| Alderman & Powers/<br>random.(1980)          | Public,<br>Private | M,F | 8.4               | .05                | 239/320                    |
| FTC/control test score files(1979)           | Public,<br>Private | M,F | 31.7<br>5.2       | .01<br>n.s.**      | 393/1729<br>163/1729       |

\*not calculated

\*\*not significant

wiseness. Levine and Angoff (1958) attributed 10 points of an increase in verbal scores to the effect of practice where students have previously taken the SAT. Bowers (1972) agreed with Levine and Angoff that a practice effect occurred whether or not the student was a boy or a girl. Furthermore, Bowers added that the students who took the SAT for the first time in May of their junior year and for the second time in January of their senior year could show an average gain of 20 points on the SAT-V.

Based on the studies cited and on having a consideration of the effects of practice and growth, coaching programs have yielded confusing empirical results. The College Board has made no official statement directed at the effects of practice and growth. However, the Board has stated the following:

If you are a junior, you may be interested in estimating the scores you would receive if you repeated a test in your senior year. Approximately 65% of all students who take the SAT a second time find that their scores increase, and about 35% find that their scores decrease. Both increases and decreases are usually small, and only a small percentage of students obtain significantly higher or lower scores when they repeat a test in their senior year. The average score change is a small increase, but changes

as small as the average should not affect anyone's standing or chances for admission to college. Therefore, it is best to consider your junior-year scores as rough approximations of your probable senior-year scores. (CEEB, 1971, p. 14)

In a booklet designed for high school and college counselors, the topic of practice and growth has been dealt with in the following way:

A reason for score changes may be a real increase in the student's ability. Students may learn between the time they first take the test and the time they repeat it. We have found that a student's growth in verbal ability, as measured by the SAT, is relatively independent of the curriculum he is exposed to in his senior year....Another possible reason for score changes is the student's familiarity with the test's format and procedures when he repeats it. However, because of the widespread use of such tests today, fewer students gain for this reason than did years ago, and their gains are smaller. (CEEB, 1974, p. 20)

When educators have tried to draw conclusions about the effects of coaching on SAT scores, they have had a great deal of difficulty. This has been due in part to the complex task of their having tried to make correlations

between relevant studies which have been confounded by the use of diverse methods used by the researchers and by the differences in the preparation courses. Therefore, the improvement of SAT scores, when it has occurred, may have been a function of a variety of circumstances.

## Chapter 3

### METHODOLOGY

The College Board has stated that coaching has had little effect on student performance for the SAT. This philosophy has appeared in many of the publications from the College Board and ETS, most recently appearing in Taking the SAT (CEEB, 1981b), a booklet distributed to students to familiarize them with the test. The Board has also indicated that studies have shown various results of coaching effects which indicate that special preparation over a short period of time has little or no effect on test scores (CEEB, 1981a). The hypotheses which have been stated in this dissertation are in contrast to the College Board's philosophy.

The empirical evidence related to coaching for the SAT has been conflicting. Some of the studies have indicated that the SAT is not susceptible to coaching efforts (Dear, 1958; Dyer, 1953; French, 1955; French & Dear, 1955). Other studies have indicated that the SAT is susceptible to coaching (Marrone, 1965; Pallone, 1960). Additionally, there have been flaws in many of these studies which confounded the results. Having reviewed these studies, this writer has several questions which warrant exploration. These questions will be explored

in the data analysis of Chapter 4.

### Research Questions

1. Were SAT-V gain scores of coached students significantly higher than gain scores of students who were not coached when taking the test a second time?

2. How much, if any, of the gain score of the SAT-V could have been attributed to coaching?

3. Did coaching effects vary from school to school as they did in the FTC study?

4. Was there a significant difference between gain scores of the SAT-V for those students who volunteered for the special preparation and for those students who did not volunteer for the class when neither group had received the coaching?

5. Did the personal characteristics of sex, grade point average, or year end grade for junior English of the coached students affect or interact with their November, 1982 verbal scores on the SAT?

6. Did socio-economic status (a combination of family income plus parental education level) interact with the coaching effects?

### Hypotheses

The research questions posed were explored through testing the following hypotheses:

H<sub>1</sub>--Seniors who experience a special preparation course will show a greater improvement in adjusted gain scores on a second testing of the SAT-V than will the seniors who do not experience the coaching classes.

H<sub>2</sub>--There is a significant difference in the second testing gain scores of the SAT-V for students who volunteer for a special preparation course than for those students who do not volunteer for the course when neither group receives the coaching preparation.

H<sub>3</sub>--There is a significant difference across schools on the second testing of the SAT-V.

H<sub>4</sub>--The student characteristic variables of sex, grade point average, and year end grade in junior English, each interact with the observed treatment.

H<sub>5</sub>--The socio-economic status of the parents of the coached students interacts with the coaching effects.

### Setting and Sample

This study was conducted in a school system in a suburb of the Greater Washington Metropolitan Area. In 1980 the median income for the adult community in this area was \$39,500, and the median education level for this population was 16 years with approximately 50% of the adults having been graduated from college. The three schools included in this study were public high schools

which contain grades 9-12. In School A approximately 82% of the 1982 graduating students have continued their education in post-secondary schools, in School B this percentage was 77%; and in School C this percentage was 73%, possibly having indicated that post-secondary education has been important to most students in this suburb.

Students were selected through the use of a questionnaire which was given to 1,388 seniors in these schools during the first week of September, 1982 (see Appendix A). From these 1,388 seniors, 180 were randomly chosen. Before the treatment group could be selected, the students had to meet the following criteria:

1. The student's first SAT had been taken in May, 1982, in his junior year.
2. The student had planned to take a second SAT in November, 1982, in his senior year.
3. The student had not previously experienced any preparation course specifically designed to improve scores on the SAT-V since the May, 1982, exam.
4. The student was interested in attending an after-school preparation course which would last for six weeks and would be designed to increase SAT-V scores.
5. The student had to sign a consent form which allowed the researcher to use personal data about the student.

Having met the above criteria, 30 students from School A and 30 students from School B were randomly selected for the treatment group. Another group of 30 students was selected in each of these two schools for the control groups. In School C there were also two groups randomly selected; however, these two groups were both control groups. One of the control groups at School C met all the stated criteria; the other group was not interested in attending any special preparation course for the SAT-V. For purposes of differentiating between these two groups, one was termed the "volunteer" control group and the other was termed the "non-volunteer" control group. At the conclusion of the study and after all the students had taken the November, 1982, SAT, a second questionnaire was distributed (see Appendix A). The purpose of this second survey was to find out if any of the students in the study had taken a coaching course other than the one designed for this project. One student from the treatment group at School A had enrolled in a night class designed to improve SAT scores. This student's scores were not used as a part of this study. Additionally, one of the students in the treatment group at School A was not able to take the November test. This student was also dropped from the treatment group. The remaining 178 students took the November, 1982, SAT and were not involved in any other

coaching course. However, there were four students in School A and four in School B that dropped out of the study for various reasons. This resulted in 24 students in the treatment group at School A and 26 students in the treatment group at School B. The control groups remained intact.

### Research Design

For this experiment a Randomized Pretest-Posttest Control Group Design was used. According to Kerlinger (1964), when this design is used the effects of history and maturation, if present, are present in both groups because of randomization. Similarly, Kerlinger says that the effect of testing is also controlled because it affects the members of both groups equally. Finally, if something happens to affect the treatment subjects between the pre- and the posttest, this factor should also affect the subjects in the control groups (Kerlinger, 1964). These are the main strengths of a well-planned, before-after, experimental-control group design. The dependent variable in this design is the posttest scores of the November, 1982, SAT verbal section only. Additionally, the selection of controlling variables are included based upon the recent research reanalysis of the FTC study (Shroud, 1980). These controlling variables include sex, grade point average, most recent English grade, and socio-economic status

(parental education plus family income).

### Instrument

The subjects of this study were pre- and posttested, using the Scholastic Aptitude Test. The SAT, a standardized group examination, measures basic reasoning ability in two areas, verbal and mathematics. The results of this test are intended to supplement school records and other information about students when college officials assess students' abilities for college-level studies (Angoff, 1971). The verbal section of the SAT is divided into 3-30 minute sections of 90 items each. In every verbal section the following five-choice items are arranged in ascending difficulty: antonyms, analogies, sentence completions, and reading passages for comprehension. The content of these items is governed by a committee who also balance the difficulty of the concepts in the questions. The areas which test the students' knowledge include the sciences, philosophy, social studies, and the humanities.

The test is administered on six Saturday mornings a year at approved testing centers which are selected in advance by ETS. The center supervisor is appointed and instructed by ETS to assure that the tests are correctly administered. Each candidate must show proper identification before he is seated in the testing area. Associate supervisors are responsible for the administration of the

test. One of the responsibilities of the center supervisor is to select capable people for this duty and to be sure that the test booklets and answer sheets are collected and returned to ETS where they are machine scored. After several weeks, scaled scores are sent to the students, the high school, and the colleges which the student has selected. These scaled scores range from 200 to 800 on the verbal part.

The reliability data for the SAT was estimated by using the Kuder-Richardson Formula #20 with the Dressel adaptation for use with formula-scored tests. The reliability coefficient for the SAT-V was found to be .91, based on three forms of the test administered in November and December, 1979, and in May, 1980 (CEEB, 1981a). An item analysis at that time revealed that the SAT was a very reliable instrument with about 90% of the items significantly correlated to the total score.

The purpose of the predictive validity studies of the SAT-V was to see whether or not the test could accurately predict the student's academic performance in college. In the ATP Guide for High Schools and Colleges, 1981-1982, the validity coefficient of the SAT was reported as .43. The median coefficient for high school grade point average (GPA) was reported as .47, which has indicated that the SAT was almost as successful as high

school records in predicting first-year college achievement. When SAT scores were combined with GPA (as intended by the College Board), the median validity coefficient increased to .55 (Educational Testing Service, 1981). Therefore, the SAT has raised the median correlation .08 over the high school record alone when predicting college success. ETS has referred to this meager amount by having stated, "though a small improvement, it represents an appreciable increase in the accuracy of academic prediction" (CEEB, 1977). Some educators have felt that this slight increase is not worth the anxiety which the test seems to evoke from the students who take the exam (Slack and Porter, 1980a).

### Treatment

The special preparation course was designed by this researcher. Materials from various sources were used as references and as classwork and homework assignments (see Appendix B). Materials were taken from Miller's Analogies, Barron's How to Prepare for College Entrance Examinations, Cliff's PSAT Preparation Guide, McGraw-Hill's How to Prepare for the Scholastic Aptitude Test, Cebco's Practice for the Scholastic Aptitude Test, CEEB's Taking the SAT (1978, 1981), and CEEB's Five SAT's. (Further information about the use of these materials is given in the week-by-week description of the coaching course.)

The coaching course included a combination of skills instruction and test-taking techniques plus exploration of the sequential deduction and reasoning processes that could be used to arrive at correct solutions to problems. The program continued for a period of six weeks, and each weekly session lasted for 90 minutes. In addition to the classwork, the students were given a weekly homework assignment on which they were told to spend a minimum of one hour. All of the classwork materials as well as all of the homework materials were provided by the researcher. Equal amounts of time were devoted to the four types of questions of the verbal section of the SAT: antonyms, analogies, sentence completions, and reading passages for comprehension. The general design of the course was based on a test-practice-test model.

#### Week-By-Week Description of the Course

Week 1--Introduction and pretest. The objective of the first weekly session was to familiarize the students with the SAT and to give them an opportunity to take a 30-minute practice section of the verbal portion of the SAT. The teacher defined the SAT as a test of reasoning ability and briefly explained the College Board's theory concerning coaching. She also stated the opposing theories. The students were reminded of the four types of questions

in the verbal section, the amount of time allotted to each section, and the type of behavior expected of an SAT candidate during the exam. Additionally, an explanation of the formula for scoring the test and the penalty for guessing were given. A short discussion followed concerning when and how to guess. A source used for this discussion was Michael Donner's How to Beat the S.A.T. Several test-taking strategies were given including the procedure of going through the test answering the easier questions first and then going back and answering the more difficult ones. In addition, the students were instructed in techniques for knowing which questions required less time to answer, and techniques for pacing themselves when working through the test. Some helpful hints concerning what to do the night before the test, what type of clothing to wear to the exam, what time to arrive at the testing center, and what materials could and could not be brought to the testing center, were also discussed. Students then had an opportunity to ask any questions concerning the SAT. Some of these questions referred to the use of the scores by colleges, and other questions were related to the validity of the test as a measurement of students' abilities. The teacher answered these questions to the best of her ability and promised to find the answers to the questions for which she did not have adequate information.

Section 1 of Taking the SAT (CEEB, 1978), was then given. The students used a sample answer sheet which was copied from the same source. After 30 minutes the correct answers were given by the teacher; and the sample section was then scored by each student, according to the formula used by ETS (number right -  $\frac{1}{4}$  number wrong). Having used the conversion chart in Taking the SAT, the teacher converted each of the raw scores to scaled scores. The students were told to bring this test with them the following week when the correct answers would be discussed. Section 1 of Taking the SAT (CEEB, 1981b), was given for homework. The students were asked to spend 30 minutes on this homework section; to use the answer key to correct the test; and to calculate the raw score, using the given formula. Additionally, they were instructed to review the test and to define the words in any questions which they had answered incorrectly. The teacher reminded the students that they were to spend at least one hour on homework assignments.

Week 2--Vocabulary and antonyms. During this second session the teacher and the students discussed how to arrive at correct answers for the sample test taken the previous week and for the homework. Not all the test questions and answers were discussed, only the ones with which the students had problems or the questions which the

teacher felt might need additional clarification. Each student explained how he had arrived at an answer to a question. Sometimes the students were asked to express the step-by-step reasoning process they had used to arrive at an incorrect answer. Then, other students participated by explaining what was wrong with the sequential deduction of the incorrect answer and what step was missing to arrive at the correct solution.

Next, the teacher discussed how the students could increase their vocabulary over the upcoming weeks. Each student was asked to set a realistic goal for himself regarding how many new words he anticipated learning in one week. Some students felt they could learn seven new words a week while other students thought twenty-five was a reasonable amount for which to strive. Suggestions were made by the teacher to divide this goal by seven, thereby setting a daily goal. Each student was then told to use his new words at least three times during the course of each day's normal conversations with friends, parents, and teachers. Additionally, students were instructed to use these new words when they were given a written assignment or when they wrote letters to friends. Another vocabulary builder suggested by the teacher was related to the understanding of prefixes, suffixes, and word roots. Lists were supplied by the teacher (see Appendix B) and suggestions

were made for the use of these lists. Students were asked to mix and match word parts and give examples of how these word parts could be used in sentences. The teacher then read some unusual words in context for which the students guessed the meanings. The homework packet was distributed and suggestions were made by the "coach" to find a partner with whom to work this week, playing such word games as Scrabble, Hangman, crossword puzzles, etc.

Week 3--Analogy items and practice test. The third session followed a pattern similar to the previous session. Students posed questions related to the homework assignment and answers were correctly deduced through oral recitation of sequential reasoning patterns. All students were encouraged to participate in the discussion. Next, the teacher gave an explanation of the analogy items on the test. She outlined the process used to analyze similar and parallel word relationships. The first step was to define the symbols : (is to) and :: (as); and then she explained how to make sentences from the given pairs of words, using the symbols. The various types of word relationships were discussed (see Appendix B), and every student was encouraged to give an example of each type of word relationship. The 30-minute test, Section 3 of Taking the SAT (CEEB, 1981b), ended this session. This practice test was graded by each student while the teacher

gave the correct answers; and then the students computed their scores, using the appropriate formula. Following this scoring procedure, the teacher approximated each scaled score, using the guide in Taking the SAT. The students then met in small groups to discuss their scores and their answers, and were told to bring the practice test with them for the next session. Homework was then distributed.

Week 4--Sentence completion. The fourth session began with small group discussions of the practice test given the third week. The students were told to verbalize the reasoning process they had used to arrive at each correct answer and to share this procedure with the other students in their groups while the teacher monitored the interactions. Next, there was a large group discussion of the practice test. Again students were encouraged to delineate the sequential deductions made for each correct solution. In addition to the students' participation, multiple meanings of words were presented by the teacher to explain the ratiocination of some of the more difficult relationships. Then there was a quick review of prefixes, suffixes, and root words, followed by the introduction of the next item type, the sentence completion question.

The homework was given to all students (see Appendix B) and the first two pages were explained. Helpful hints were

given for this assignment involving techniques for selecting the best possible answers. The teacher told the students to look for key words such as but, nor, in addition to, and however. She also explained to the students that all the given words should be tried in the blank space(s) before reaching any conclusions. In the sentence completion question where two words were needed, the teacher reminded the students to be sure that both words were suitable for the sentence. She also explained how to use the process of elimination when one of the words of the pair was not applicable to the meaning of the sentence. One student made the suggestion of placing the second word in the sentence first, a technique which she said was more helpful to her. The teacher told the students that each student needed to know what method worked best for him before he took the SAT. She explained that each student was different and that what might work for one might not work for another. She also added that the students needed to know where their strengths and weaknesses occurred so that they might spend some extra time in their weak areas. The rest of this session involved a review of the proceeding weeks' test-taking strategies. Before the students left, the teacher gave them a vocabulary list which she had obtained from a coaching school (see Appendix B). She read the list to the

students and told them to write antonyms for these words. Several students were able to accomplish this task in class but most said they would do this for additional homework.

Week 5--Reading comprehension and practice test. The fifth session began with a recapitulation of the vocabulary goals which had been set by the students three weeks previous. First, the teacher wanted to know how many students were able to achieve their goals; then she asked for a demonstration of the knowledge of their "new" words. Some students were able to use as many as 50 "new" words while others could remember fewer words. However, all the students had made an attempt to strengthen their vocabularies by using these words in their everyday conversations. Each student admitted a feeling of success and accomplishment in whatever they had attempted.

The homework was discussed and the students were again told to give reasons for their answers. By this session the students were able to give a step-by-step analysis of how they had arrived at their responses.

Section 4 of Taking the SAT (CEEB, 1978), was given as a practice test for the next 30 minutes. Correct answers were given by the teacher; and the students scored themselves, using the ETS formula. Once again the teacher used the guide in Taking the SAT and attempted to

associate a scaled score for each raw score. The students were then asked to compare the results of this test with the results of the first practice test which they had taken during the first coaching session. Some students showed significant improvement over their first test, others scored approximately the same, and a few scored somewhat lower than the first time. The students were asked to bring the practice test with them the next week for a discussion of the correct answers and the reasoning processes behind the solutions. At this point the teacher explained that there was no guarantee that all the work created by this preparation course would increase test scores. She reminded them of the College Board findings and also of the other research findings.

The last type of test question was discussed during this session--the reading comprehension question. The teacher initially explained that this question took the longest to answer because the student first had to read the paragraphs. Then the teacher explained that, although this question took longer to answer, it was not weighted more heavily than the other types of questions. She suggested that these passages should be left until the other questions had been answered. Another suggestion she made was that the students should skim the passages first to see if the material presented in the passage was of par-

ticular interest. She informed the students that they should first answer the comprehension questions which were related to a paragraph of interest. Then, if they still had time, the other paragraphs should be attempted. In reference to the questions for these paragraphs, the teacher told the students to look for words such as tone, mood, inference, and author's intent. The type of questions which employed these words were called inferential questions, and the answers could not be found directly in the paragraphs. Other types of questions that asked for factual information were more easily answered. The students were told to read for meaning after they had skimmed for interest in order to avoid spending unnecessary time going back to find answers. Finally, the students were told to skip any questions for which they felt uncertain and for which they could not take an educated guess.

The reading comprehension homework was handed to each student (see Appendix B). The teacher explained that this assignment was time consuming and that she did not expect more than one hour from each student. However, she added that there might be some students who would like to get more practice, so they could complete as much as they felt they needed.

Week 6--Summary of all test item types. The first part of this sixth session included a discussion of the

test which had been given the previous week. The rest of the session was devoted to a summary of helpful hints for taking the SAT. Each item type was reviewed, each test-taking strategy was repeated, and each homework assignment was reexamined for particularly difficult concepts. The students were again given an opportunity to ask questions related to the test. The coaching sessions were ended with one final test to be taken home. This test, Section Form Code OZ from Five SAT's (CEEB, 1980a), included all the sections of the regular SAT, and the students were told that they should work on this test during the week so they could maintain the level of practice to which they were accustomed during the coaching sessions.

## Chapter 4

### RESULTS OF THE STUDY

The results reported in this study encompassed 170 students, 120 uncoached students and 50 coached students. Thirty students in the uncoached group were not interested in receiving any coaching for the verbal section of the SAT. The remaining 90 uncoached students indicated they would be willing to stay after school to receive the coaching; however, these 90 students did not receive any preparation. Additionally, a minimum number of class sessions was established for which the students needed to attend to be included in the study: the coached students had to be present for 83% of the coaching sessions or five out of the six weekly sessions.

#### Data Collection

The test scores obtained by the researcher were taken from the SAT's administered in May and November, 1982. The total verbal scaled scores of the test were subsequently retrieved from each of the high schools after ETS had submitted the results to the schools. Additionally, background data on demographic and personal characteristics of the students were obtained through use of the responses to the Student Demographic Questionnaire which the SAT test-

takers voluntarily supplied when registering for the test. The responses were given on the data sheets supplied by ETS to the high schools. Further background data was secured from a survey which 1,388 seniors completed prior to the special preparation sessions in September, 1982 (see Appendix A). Shortly after the November SAT was taken, a second survey assessed whether the students had received any coaching for the SAT-V other than the course described in this paper. Both questionnaires were distributed in English classes. Figure 2 summarizes the procedures used in this study.

An issue of concern was that, during the implementation of the special preparation course, the treatment group, which originated with 60 students, diminished to 50 students, which resulted in unequal sample sizes. This decline was attributed to the following reasons:

1. personal illness-loss of three students
2. mandatory extra-curricular activities-loss of one student
3. family problems-loss of one student
4. a move from the area-loss of one student
5. November test not taken-loss of one student
6. an enrollment in a commercial coaching school-loss of one student.

Some researchers (Campbell & Stanley, 1963) have

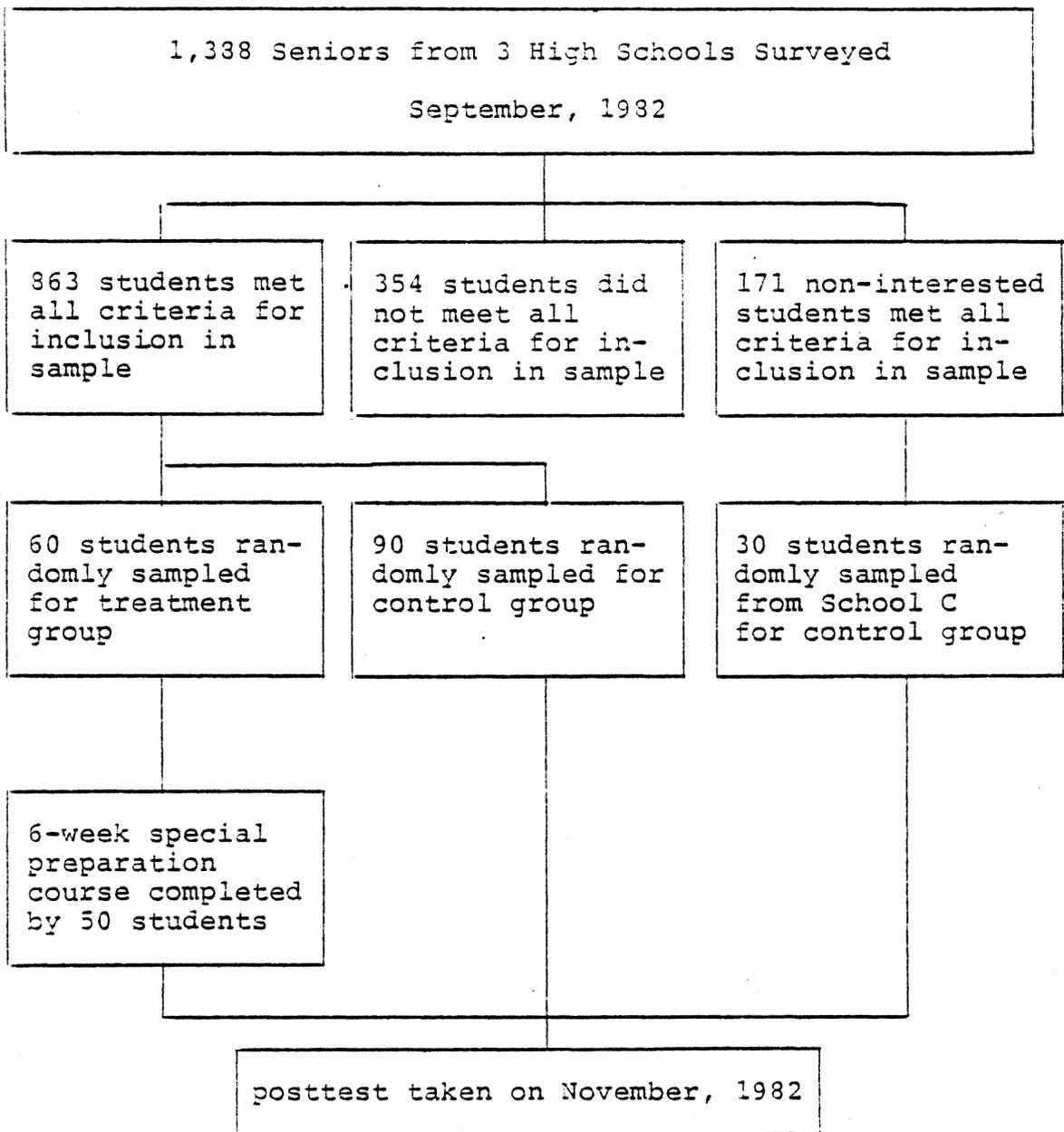


Figure 2. Procedures for the study.

argued that the use of unequal n's may have posed serious threats to the internal validity of some studies. Additionally, subject mortality may have resulted from a problem of self-selection, thereby reflecting sample groups composed of different kinds of subjects (Pedhauzer, 1982). However, Pedhauzer added that the more the researcher was able to discern the reasons for subject mortality, the less was its potential threat to the internal validity of the experiment. Having acknowledged the problem of the threat to the internal validity of this study, the researcher identified the myriad reasons for the decline of the coached group. Once these reasons were obtained, an assumption was then made that the difference between the sample groups had remained equal. The reason for this assumption was that the subject mortality rate appeared to be due to circumstances beyond the control of the ten students and apparently was not due to a lack of motivation or to self-selection. Therefore, because randomization was employed, both groups (the treatment group and the control group) continued to be composed of subjects with similar characteristics.

### Data Analysis

The main purpose of this study was to investigate the effects of special preparation for the verbal section of the SAT. Only verbal scaled scores were considered in the

analysis procedures.

Kerlinger (1973) has recommended that in pretest-posttest designs, residualized or regressed gain scores be used. Therefore, the regressed scores were calculated by predicting the posttest scores from the pretest scores and then by subtracting these predicted scores from the posttest scores. After completing this computation, the residual gain scores, or the adjusted difference scores were obtained. By computing the predicted scores, the effect of the pretest scores had been removed from the posttest scores. The adjusted difference scores were then used in the ANOVA and NEW REGRESSION subprograms of SPSS.

In order to simplify the equations, shortened labels were applied to the variables. The following labels were used in describing the results of this study:

MSAT = May, 1982, SAT-V (pretest)

NSAT = November, 1982, SAT-V (posttest)

Y'SAT = predicted posttest scores for SAT-V

DSAT = adjusted difference scores (NSAT - Y'SAT)

SEX = male or female

GPA = grade point average

JEGR = final grade in junior English class

FSUB = favorite subject

MED = mother's educational level

FED = father's educational level

INC = family income

SCH = school

The subprograms of BREAKDOWN, ANOVA, REGRESSION, and NEW REGRESSION were used for the analyses of this study. The confidence level was set at .05 for each of the tests of the hypotheses of this study (95th percentile value for the  $F$  distribution).

At first, the MSAT scores were broken down by treatment and control groups in order to examine the means for SEX, GPA, JEGR, AND FSUB. Next a breakdown of the treatment groups was computed to examine the difference between the MSAT and the NSAT. A simple regression model was employed to predict posttest scores. This new variable was then added to the variable list and was used to compute the adjusted difference scores (DSAT). To estimate the coaching effects, a one-way ANOVA was performed using the DSAT as the dependent variable. To estimate the coaching effects across the schools, a two-way ANOVA was used. In this two-way ANOVA problem, SCH was used as the first classification, and the treatment and control groups were used as the second classification. A second one-way ANOVA was used to examine the differences in volunteer and non-volunteer groups in the third school. Using the  $k - 1$  formula, a set of dummy variables was created as follows:

D1 = SEX (male)

D2 = GPA (4.0)

D3 = GPA (3.0-3.9)

D4 = GPA (2.0-2.9)

D5 = JEGR (A)

D6 = JEGR (B)

D7 = JEGR (C)

D8 = MED (no college) + FED (some college)

D9 = MED (some college) + FED (no college)

D10 = MED (some college) + FED (some college)

D11 = MED (some college) + FED (graduated from college)

D12 = MED (graduated from college) + FED (some college)

D13 = MED (graduated from college) + FED (graduated

from college)

D14 = MED (no college) + FED (graduated from college)

D15 = MED (graduated from college) + FED (no college)

D16 = treatment group

D17 = control group

These dummy variables were then used in the NEW REGRESSION subprogram in a stepwise pattern to estimate the correlation between the variables and to estimate the proportion of the variance explained by the variables.

### Descriptions of the Subpopulations

The similarities or differences of the student characteristics were examined by employing the SPSS subprogram

BREAKDOWN. A summary of student performance on the MSAT appears in Tables 3, 4, and 5.

The means of the May test were broken down for treatment and control groups by the student characteristics of SEX, GPA, JEGR, and FSUB. The INC variable was deleted from the study for two reasons. First, the students in School A did not answer this question on the survey due to the objection of one of the teachers in that school. Therefore, the sample obtained was insufficient for analysis. Secondly, the opinion of this researcher changed after observing the students' responses; the teenagers in this study were not good estimators of their parents' income levels in light of the average income level for this suburb.

As was anticipated, the students who had above-average GPA's (3.0-4.0) also had high test scores; likewise, students who had above-average grades (A or B) in junior English had high test scores. Another reasonable assumption supported by these results was that students who selected English as their favorite subject were the students who scored high on the SAT-V.

The means of these groups may have also indicated that the males in the treatment group had higher test scores than the females in that group. In contrast, the scores for the females in both control groups were higher

Table 3

MSAT Broken Down by Student Characteristics  
for Treatment Group

| Variable         | N  | Mean   | SD     |
|------------------|----|--------|--------|
| SEX              |    |        |        |
| Male             | 19 | 452.11 | 63.73  |
| Female           | 31 | 428.71 | 112.30 |
| GPA              |    |        |        |
| 4.0              | 2  | 500.00 | 14.14  |
| 3.9-3.0          | 32 | 458.44 | 87.48  |
| 2.9-2.0          | 15 | 394.00 | 103.98 |
| 1.9-1.0          | 1  | 300.00 | 0.0    |
| JEGR             |    |        |        |
| A                | 10 | 513.00 | 62.37  |
| B                | 29 | 438.62 | 91.76  |
| C                | 10 | 373.00 | 87.95  |
| D                | 1  | 300.00 | 0.0    |
| FSUB             |    |        |        |
| English          | 8  | 521.25 | 73.57  |
| Social Studies   | 6  | 433.33 | 61.54  |
| Mathematics      | 11 | 430.91 | 64.88  |
| Science          | 10 | 452.00 | 69.73  |
| Foreign Language | 2  | 310.00 | 141.42 |
| Other            | 5  | 456.00 | 120.75 |

Table 4

MSAT Broken Down by Student Characteristics  
for Volunteer Control Group

| Variable         | N  | Mean   | SD     |
|------------------|----|--------|--------|
| SEX              |    |        |        |
| Male             | 38 | 438.68 | 102.72 |
| Female           | 52 | 443.46 | 86.38  |
| GPA              |    |        |        |
| 4.0              | 3  | 546.67 | 45.09  |
| 3.9-3.0          | 54 | 454.26 | 96.02  |
| 2.9-2.0          | 31 | 411.29 | 82.33  |
| 1.9-1.0          | 1  | 370.00 | 0.0    |
| JEGR             |    |        |        |
| A                | 22 | 475.00 | 107.16 |
| B                | 50 | 438.20 | 85.73  |
| C                | 17 | 411.76 | 88.33  |
| D                | 1  | 370.00 | 0.0    |
| FSUB             |    |        |        |
| English          | 13 | 480.77 | 48.21  |
| Social Studies   | 17 | 430.59 | 109.46 |
| Mathematics      | 25 | 438.40 | 88.73  |
| Science          | 13 | 443.85 | 89.12  |
| Foreign Language | 2  | 415.00 | 7.07   |
| Other            | 13 | 404.62 | 106.97 |

Table 5

## MSAT Broken Down by Student Characteristics

## Non-Volunteer Control Group

| Variable         | N  | Mean   | SD     |
|------------------|----|--------|--------|
| SEX              |    |        |        |
| Male             | 16 | 448.75 | 91.72  |
| Female           | 14 | 485.00 | 102.86 |
| GPA              |    |        |        |
| 4.0              | 1  | 580.00 | 0.0    |
| 3.9-3.0          | 19 | 496.32 | 85.45  |
| 2.9-2.0          | 9  | 393.22 | 87.58  |
| 1.9-1.0          | 1  | 430.00 | 0.0    |
| JEGR             |    |        |        |
| A                | 7  | 535.71 | 69.25  |
| B                | 17 | 469.41 | 91.82  |
| C                | 4  | 352.50 | 78.48  |
| D                | 2  | 415.00 | 21.21  |
| FSUB             |    |        |        |
| English          | 12 | 501.67 | 80.21  |
| Social Studies   | 1  | 480.00 | 0.0    |
| Mathematics      | 5  | 438.00 | 121.53 |
| Science          | 4  | 475.00 | 99.50  |
| Foreign Language | 4  | 462.00 | 132.51 |
| Other            | 2  | 395.00 | 106.07 |

than the males in those groups. The diversity in the mean scores for these groups may have indicated that either males or females can score high on the SAT-V. However no conclusion has been made at this time.

Further analysis of the means and standard deviations of the May SAT-V are presented in Table 6. The results of this breakdown indicated that the total means for the treatment group, the volunteer control group, and the non-volunteer control group were 437.60, 441.44, and 465.67 respectively. The closeness of these overall means supported the assumption made earlier regarding the homogeneity for the treatment and volunteer control groups prior to the start of the special preparation course. Having observed the results in Table 6, an assumption was made that the students in the non-volunteer control group were not interested in a special preparation course because their average scores for the May SAT-V were comparatively higher than the other students' scores. There is no support for this assumption other than the results indicated by the means of the May SAT-V.

The May SAT-V scores were also broken down into subgroups according to the percentile ranks of the national SAT high school sample. The results of this breakdown are displayed in Table 7. The subgroups which exhibited the largest mean gain from the first SAT in May to the second

Table 6  
MSAT Broken Down By Groups

|                             | N  | Mean   | SD    |
|-----------------------------|----|--------|-------|
| Treatment Group             | 50 | 437.60 | 96.67 |
| Volunteer Control Group     | 90 | 441.44 | 93.11 |
| Non-Volunteer Control Group | 30 | 465.67 | 97.12 |

Table 7  
Mean Gain of Treatment Group Broken  
Down By Percentile Ranks

| SAT-V Scores | Percentile Ranks | N (Treatment Group) | Average Points Gained (May - Nov.) |
|--------------|------------------|---------------------|------------------------------------|
| 800-550      | 99th-93rd        | 6                   | 20.0                               |
| 540-450      | 92nd-76th        | 20                  | 22.5                               |
| 440-360      | 75th-50th        | 15                  | 37.3                               |
| 350-200      | 49th-1st         | 9                   | 40.0                               |

Sat in November were composed of those students whose May scores fell below the 75th percentile.

### Testing the Hypotheses

Hypotheses one. The means of the treatment and volunteer control groups for the pretest (MSAT) and the means of the posttest (NSAT) are displayed in Table 8. The difference in these means is also presented in this table.

Table 8  
Comparison of Means for MSAT and NSAT

|                         | MSAT   | NSAT   | Difference |
|-------------------------|--------|--------|------------|
| Treatment Group         | 437.60 | 468.00 | 30.40      |
| Volunteer Control Group | 441.44 | 444.00 | 2.56       |

The results indicate a difference of 30.40 points between pretest and posttest scores for the treatment group and a difference of 2.56 points for the control group. The SAT-V scores of the treatment group indicate an average mean gain of 27.84 points over the control group.

With the SPSS subprogram REGRESSION the NSAT was employed as the dependent variable with the MSAT as the predictor variable to arrive at the Y'SAT, the predicted posttest scores. The Y'SAT was then subtracted from the NSAT to arrive at the adjusted difference scores (DSAT). The coaching effects were estimated using DSAT in a one-way ANOVA. This ANOVA revealed a main effect for coaching ( $F=10.128$ ,  $p \leq .001$ ). Table 9 summarizes these findings.

Table 9  
ANOVA Results for DSAT By Treatment

| Source of Variation | Sum of Squares | df  | Mean Square | F      | Signif. of F |
|---------------------|----------------|-----|-------------|--------|--------------|
| Main Effects        | 31954.582      | 2   | 15977.289   | 10.128 | 0.000        |
| Treat               | 31954.582      | 2   | 15977.289   | 10.128 | 0.000        |
| Explained           | 31954.582      | 2   | 15977.541   | 10.128 | 0.000        |
| Residual            | 263449.375     | 167 | 1577.541    |        |              |
| Total               | 295404.000     | 169 | 1747.953    |        |              |

The one-way ANOVA was used to estimate the effect of coaching between the 50 students in the treatment group and the 90 students in the control group. The null hypothesis of no difference in SAT-V scores by treatment was rejected. The results supported the first hypothesis, which stated that seniors who had experienced a special preparation course would show a greater improvement in gain scores on the SAT-V than seniors who had not experienced this course.

A second analysis provided further evidence to support the first hypothesis. A two-way ANOVA was used to estimate the effects of coaching in the two schools where the special preparation course was given. The schools were used as the first classification in this ANOVA problem and the treatment and control groups in these two schools were used as the second classification. Table 10 reveals the results. The results of this ANOVA indicated a main effect for coaching ( $F=17.358$ ,  $p \leq .001$ ). Once again the null hypothesis of no difference between coached and uncoached students was rejected.

Hypothesis two. The reader is reminded that the non-volunteer control group was composed of students who met all but one of the criteria set by the researcher for inclusion in the study. This one exception was that these students had indicated (on the September survey) that they

Table 10  
ANOVA Results for DSAT By Treatment  
By Schools A and B

| Source of Variation | Sum of Squares | df  | Mean Square | F      | Signif. of F |
|---------------------|----------------|-----|-------------|--------|--------------|
| Main Effects        | 26090.453      | 1   | 26090.453   | 17.358 | 0.000        |
| Treat               | 26090.453      | 1   | 26090.453   | 17.358 | 0.000        |
| Explained           | 26090.500      | 1   | 26090.500   | 17.358 | 0.000        |
| Residual            | 162328.688     | 108 | 1503.043    |        |              |
| Total               | 188419.199     | 109 | 1728.616    |        |              |

were not interested in a special preparation course designed to improve scores on the verbal section of the SAT. On the other hand, the volunteer control group met all the criteria. However, neither of these control groups received the special preparation course. The results of the ANOVA are presented in Table 11.

Table 11  
ANOVA results of DSAT for Volunteer  
and Non-Volunteer Control Groups

| Source of Variation | Sum of Squares | df | Mean Square | F     | Signif. of F |
|---------------------|----------------|----|-------------|-------|--------------|
| Main Effects        | 3273.373       | 1  | 3273.373    | 1.918 | 0.171        |
| Treat               | 3273.373       | 1  | 3273.373    | 1.918 | 0.171        |
| Explained           | 3273.375       | 1  | 3273.373    | 1.918 | 0.171        |
| Residual            | 98964.375      | 58 | 1706.282    |       |              |
| Total               | 102237.750     | 59 | 1732.843    |       |              |

The results of this ANOVA revealed no main effects between the two control groups ( $F=1.918$ ,  $p=.171$ ). Therefore, the null hypothesis was retained. The null hypothesis stated there was no significant difference in gain scores on the SAT-V between students who volunteered for the

coaching program and for those students who did not volunteer for the course. Consequently, the second hypothesis was rejected.

Hypothesis three. The third hypothesis was tested by having used two, one-way ANOVA calculations, one for School A and one for School B. The researcher used the DSAT as the dependent variable and the treatment as the independent variable. Tables 12 and 13 present the findings. The results of the first ANOVA reveal a main effect for coaching at School A ( $F=5.991$ ,  $p=.018$ ). The second ANOVA also reveals a main effect for coaching at School B ( $F=13.861$ ,  $p\leq.001$ ). The coaching effects varied slightly across schools; however, coaching was significant at both. These results did not support the third hypothesis of a significant difference across schools on the second testing of the SAT-V. The coaching was effective at both schools, therefore, no significant differences existed and hypothesis three was rejected.

Hypothesis four. To determine the relationship between the special preparation course and the student characteristic variables of SEX, GPA, and JEGR, the SPSS subprogram NEW REGRESSION was employed. Table 14 presents these relationships. For the purposes of analysis, these categorical variables were first dummy coded and then

Table 12

## ANOVA Results for School A

| Source of Variation | Sum of Squares | df | Mean Square | F     | Signif. of F |
|---------------------|----------------|----|-------------|-------|--------------|
| Main Effects        | 11038.922      | 1  | 110388.922  | 5.991 | 0.018        |
| Treat               | 11038.922      | 1  | 110388.922  | 5.991 | 0.018        |
| Explained           | 11038.938      | 1  | 110388.938  | 5.991 | 0.018        |
| Residual            | 95817.688      | 52 | 1642.648    |       |              |
| Total               | 106856.625     | 53 | 2016.163    |       |              |

Table 13

## ANOVA Results for School B

| Source of Variation | Sum of Squares | df | Mean Square | F      | Signif. of F |
|---------------------|----------------|----|-------------|--------|--------------|
| Main Effects        | 14483.844      | 1  | 14483.844   | 13.861 | 0.000        |
| Treat               | 14483.844      | 1  | 14483.844   | 13.861 | 0.000        |
| Explained           | 14483.844      | 1  | 14483.844   | 13.861 | 0.000        |
| Residuals           | 56427.844      | 54 | 1044.960    |        |              |
| Total               | 70911.688      | 55 | 1289.303    |        |              |

Table 14  
 Correlation of Dummy Coded Student Characteristic  
 Variables, Treatment and DSAT

|      | DSAT   | D1     | D2     | D3     | D4     | D5     | D6     | D7     | D16    | D17    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| DSAT | 1.000  | -0.027 | 0.138  | 0.067  | -0.110 | 0.110  | -0.081 | 0.019  | 0.322  | -0.170 |
| D1   | -0.027 | 1.000  | 0.092  | -0.149 | 0.111  | -0.134 | 0.043  | 0.083  | -0.064 | -0.015 |
| D2   | 0.138  | 0.092  | 1.000  | -0.243 | -0.132 | 0.352  | -0.218 | -0.090 | 0.016  | -0.011 |
| D3   | 0.067  | -0.149 | -0.243 | 1.000  | -0.879 | 0.199  | 0.115  | -0.287 | 0.030  | -0.039 |
| D4   | -0.110 | 0.111  | -0.132 | -0.879 | 1.000  | -0.318 | -0.001 | 0.357  | -0.032 | 0.047  |
| D5   | 0.110  | -0.134 | 0.351  | 0.199  | -0.318 | 1.000  | -0.621 | -0.258 | -0.045 | 0.038  |
| D6   | -0.081 | 0.043  | -0.218 | 0.115  | -0.001 | -0.621 | 1.000  | -0.538 | 0.020  | -0.20  |
| D7   | 0.019  | 0.083  | -0.090 | -0.287 | 0.357  | -0.258 | -0.538 | 1.000  | 0.030  | 0.018  |
| D16  | 0.322  | -0.064 | 0.016  | 0.030  | -0.032 | -0.045 | 0.020  | 0.030  | 1.000  | -0.685 |
| D17  | -0.170 | -0.015 | -0.011 | -0.039 | 0.047  | 0.038  | -0.020 | 0.018  | -0.685 | 1.000  |

entered in a stepwise regression model to determine the correlation between each variable and the adjusted difference scores.

The highest positive correlation (0.322) with DSAT was D16. The next highest correlation (0.138) with DSAT was D2. In other words, if the student had received the special preparation course and had a grade point average of 4.0, the chances of that student's SAT-V scores having improved as a result of that coaching was high when compared to other variables. These dummy coded variables were then entered into a stepwise regression model. The criteria level for the variable to enter into the regression equation was set at .05 and the criteria used to exclude the variable from the equation was .10. The results of the NEW REGRESSION indicated that, in the regression equation, the dummy variable, which was entered on step number one, was D16 (treatment). Table 15 shows the results of this stepwise procedure.

Table 15

## Stepwise Regression Model D16

## Entered on Step One

|                   |          |                  |          |
|-------------------|----------|------------------|----------|
| Multiple R        | 0.32168  | R Square Change  | 0.10348  |
| R Sqaure          | 0.10348  | F Change         | 19.39115 |
| Adjusted R Square | 0.09814  | Signif. F Change | 0.0000   |
| Standard Error    | 39.70422 |                  |          |

The multiple regression coefficient  $R=0.32168$  yielded an  $R^2=0.10348$ . This coefficient indicated the proportion of variance in DSAT explained by D16 was positive and that just over 10% of the variance of the adjusted difference score (DSAT) was explained by linear regression on the treatment variable (D16).

Since only one variable was entered into the equation at the .05 level, the procedure was repeated to see if any variables would enter the equation using a criteria level of .06 to enter. This new criteria level of .06 resulted in the variable D2 (GPA=4.0) to be entered on step number two. Table 16 displays these results.

Table 16  
Stepwise Regression Model D2

Entered on Step Two

|                   |          |                  |         |
|-------------------|----------|------------------|---------|
| Multiple R        | 0.34800  | R Square Change  | 0.01762 |
| R Square          | 0.12110  | F Change         | 3.34887 |
| Adjusted R Square | 0.11058  | Signif. F Change | 0.0690  |
| Standard Error    | 39.42954 |                  |         |

The multiple correlation coefficient  $R=0.34800$  yielded an  $R^2=0.12110$ . At step number two, the  $R^2$  change was equal to 0.1762. This change indicated that, after the variable

D16 was partialled out, the proportion of variation in DSAT explained by D2 (GPA=4.0) was approximately 2%. However the reader must keep in mind that this explained variance was entered when the criteria level was .06, which was not the original value.

The results of NEW REGRESSION indicated that hypothesis four should be rejected. None of the student characteristic variables of SEX, GPA, or JEGR interacted with the observed treatment. Consequently, the null hypothesis of no interaction was retained.

Hypothesis five. Hypothesis five was not tested since there was not enough accurate information for family income. Therefore, socio-economic status could not be computed using the formula intended (INC+MED+FED). However, an examination was made concerning the effects of parent education levels on coaching. Table 17 reveals the correlation of the dummy coded variables used for MED + FED with DSAT. The highest positive correlation (0.119) for parents' education level with DSAT was variable D15. This dummy coded variable was used when the student reported that his mother's education level was "graduated from college" and his father's education level was "no college." However, none of the dummy coded variables used for parents' education level was significant enough to be entered into the

Table 17  
 Correlation of Dummy Coded Parents'  
 Education Variables and DSAT

|      | DSAT   | D8     | D9     | D10    | D11    | D12    | D13    | D14    | D15    |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| DSAT | 1.000  | -0.016 | 0.001  | 0.031  | 0.101  | -0.139 | -0.102 | -0.025 | 0.119  |
| D8   | -0.016 | 1.000  | -0.030 | -0.046 | -0.115 | -0.017 | -0.171 | -0.097 | -0.030 |
| D9   | 0.001  | -0.030 | 1.000  | -0.028 | -0.069 | -0.010 | -0.103 | -0.058 | -0.018 |
| D10  | 0.031  | 0.046  | -0.028 | 1.000  | -0.107 | -0.016 | -0.159 | -0.090 | -0.028 |
| D11  | 0.101  | -0.115 | -0.069 | -0.107 | 1.000  | -0.040 | -0.398 | -0.225 | -0.069 |
| D12  | -0.139 | -0.017 | -0.010 | -0.016 | -0.040 | 1.000  | -0.059 | -0.033 | -0.010 |
| D13  | -0.102 | -0.171 | -0.103 | -0.159 | -0.398 | -0.059 | 1.000  | -0.033 | -0.103 |
| D14  | -0.025 | -0.097 | -0.058 | -0.090 | -0.225 | -0.033 | -0.033 | 1.000  | -0.058 |
| D15  | 0.119  | -0.030 | -0.018 | -0.028 | -0.069 | -0.010 | -0.103 | -0.058 | 1.000  |

regression equation when the criteria to enter the equation was set at .05. Therefore, the assumption that parent education level interacted with coaching effects was rejected.

In summary, the first hypothesis which stated that coaching is effective, was the only hypothesis which was retained. Three other hypotheses were rejected and the fifth hypothesis was not examined. First, there was no significant difference in gain scores of the SAT-V for volunteer and non-volunteer groups. Secondly, there was no significant difference in coaching effects across schools. In addition, none of the student variables interacted with the adjusted difference scores. Finally, although a hypothesis was not created, the results indicated that the parents' education levels did not interact with coaching effects. Therefore, according to the results of this study, coaching is an effective way to increase students' scores on the SAT-V.

## Chapter 5

### SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Declining scores for the SAT has been a problem facing educators for a number of years. As a result, coaching courses have offered hopes of increased test results even though ETS has stated that coaching cannot significantly increase SAT scores. To examine whether or not coaching programs have been successful, several researchers have conducted investigations. However, the methodology used by some of these researchers has confounded the results of some of these studies (Dyer, 1953; French, 1955; Pallone, 1960). Consequently, there have been no conclusive answers to the question of whether or not coaching can significantly increase SAT scores.

#### Summary

The present study was designed to examine the effects of a special preparation program on the verbal section of the SAT. The intention of the program was to enable the students to approach the SAT-V in a more systematic fashion which would thereby result in higher test scores on the SAT-V. This intention was accomplished by familiarizing the students with test-taking strategies and by enhancing their sequential deduction and reasoning abilities through

coaching. An eclectic approach was employed, and the materials were supplied to the students by the instructor. A survey (see Appendix A) was given to 1,388 seniors from three public high schools in a suburb of the Greater Washington Metropolitan Area. From two of these schools, a random sample of 50 students was selected for inclusion in the treatment group. An additional 60 students, who also volunteered for the coaching program, served as subjects for the control group and subsequently did not receive any preparation. Through the use of the survey, two control groups were randomly sampled from the third school. One of these groups consisted of 30 students who were willing to attend a special coaching course, and the other group consisted of 30 students who were not interested in any special preparation for the SAT-V. Neither of the two control groups in the third school received the coaching.

All 170 randomly sampled students had taken their first SAT in May, 1982, of their junior year. The verbal scores from this May test served as the pretest measures for this study. Then, from September through October, 1982, 50 students in the treatment group received the coaching course. Following these coaching sessions in November, 1982, all students took the SAT for a second time. The verbal scores from this November test served

as the posttest measures. The students were surveyed again (see Appendix A) after the November test to find out if any of the students had received any other coaching besides the course described in this paper.

The results of this study revealed that coaching was significant in raising scores for students who received preparation between the first and second administration of the SAT. The mean gain for the coached group was 30 points over their pretest scores. This gain represented a 27-point mean increase over the gain of the uncoached students. Additionally, the students in the treatment group who benefitted the most from the special preparation were those students whose May SAT-V scores were below 450 (75th percentile). These coached students exhibited a mean gain of 37.3-40 points on the verbal section of the test.

Furthermore, ETS and the College Board have contended that students who volunteer for coaching or special preparation courses are the same students who are motivated by a desire to score higher on the SAT. The Board has also stated that this motivation may be the key factor in the success or lack of success in any coaching program. To examine this supposition made by the Board, a comparison was made using the verbal scores of two groups of uncoached students in the same school; one group had been

motivated to volunteer for the coaching course and the other had not. The results of a one-way ANOVA indicated that there were no statistically significant differences between the means of these two uncoached groups on the second testing of the SAT. This finding was in contradiction to the principle stated by ETS and the College Board that motivated students have higher test scores.

In addition to determining whether or not coaching was effective, an investigation was made regarding the impact of coaching on SAT-V scores while controlling for factors such as sex, grade point average, final grade in junior English, and parental education levels. These controlling variables were similar to the controlling variables used by Shroud (1980) in the reanalysis of the FTC study. A stepwise multiple regression analysis was conducted to indicate whether or not these controlling variables contributed to the coaching effects. The results indicated that at the .05 confidence level, none of these variables entered into the regression equation.

To further analyze the coaching effects, an investigation was made as to whether or not the preparation courses at the two schools varied significantly in their results. Using an ANOVA, the results indicated that the coaching courses were effective at both schools and that special preparation helped students to raise their SAT-V scores

an average of 30 points on the SAT-V.

### Conclusions

There is still room for further investigation of coaching effects for the SAT (which will be discussed later), but the following conclusions have been drawn:

1. Coaching is effective for students who receive a special preparation course designed to improve their scores on the SAT-V.

2. There is no statistically significant difference between SAT-V gain scores for non-coached students who volunteer for a coaching program and for those students who do not volunteer for such a program when neither group experiences the coaching.

3. When the same coaching course is presented at different schools, the coaching effects are significant in both places. Students in both schools exhibited a mean gain of 30 points on the SAT-V after they received the special preparation course.

4. The students' personal characteristics of sex, grade point average, and final grade in junior English do not interact with the coaching effects.

5. The educational level of the parents does not interact with the coaching effects. In other words, coaching was effective for students whether or not their parents had attended college.

### Implications

An implication of this study is related to the accessibility of coaching courses. This study indicates that coaching is effective; therefore, the equity of access to these special coaching programs is a concern for educators. As stated earlier in this paper, equal educational opportunities should exist for all citizens of the United States. Perhaps school administrators should consider a coaching program to be a part of the "regular" school experience. This experience could be accomplished by offering an SAT-V program as part of the English curriculum in the high schools. Ideally, if the school personnel are available, a semester or quarter course could be presented as part of the school's elective program. Regardless of how the coaching program is presented in the school, the nation's high schools should offer some type of SAT preparation for those students who wish to attend such a program. In this way, all students, regardless of socio-economic background, would have an opportunity to receive special preparation if they so desired.

On the basis of the analyses, a conclusion was made that coaching was effective in increasing SAT-V scores for students who took the SAT a second time in their senior year. Another implication which must be addressed, then, is whether or not the increase in SAT scores due to

coaching has a practical effect in deciding which candidates are admitted to undergraduate colleges and universities.

To understand this problem, the reader should note that a 30-point increase on the SAT-V corresponds to several additional verbal items answered correctly by the student. In correspondence to the standard deviation of the SAT, this 30-point coaching effect is roughly about one-third of a standard deviation of the SAT score distribution, which is normally about 100 points. By changing the 30-point increase into standard deviation units, an increment in the student's percentile rank can also be estimated. The increase in the student's percentile rank which is attributed to a 30-point gain on his SAT-V scores might have a practical significance in the college admissions decision (Messick, 1981). Therefore, the student who receives a coaching course may have an advantage in admissions to college over the student who does not receive a coaching course. An average differential of 30 points can be instrumental in deciding whether a student is admitted to a college or not.

### Recommendations

In drawing the conclusions from this study, it was stated that there is room for further investigation. One of the recommendations which is of primary importance is

that any study involving coaching for the SAT should employ a well constructed research design. This suggestion may not be easily accomplished; however, in light of the previous research in this field, a strong design is imperative for the study to be methodologically sound. Additionally, future studies might investigate the effects of more than one type of treatment. The instruction in this type of inquiry should be carefully monitored by the researcher, and a control group should be employed.

Future studies could also investigate the differences in coaching effects for programs lasting 6 weeks, 12 weeks, and 18 weeks. This type of inquiry might indicate whether short-term coaching is as effective as longer-term coaching or whether the length of the program is insignificant in light of the coaching effects.

Another research project which would naturally evolve from this one would be a replication of this study in a rural area or in a city school system. In these studies, the researcher could discover if coaching would be effective for students from these areas. Also, the exploration of coaching effects for minorities could be examined at this time.

After considering this investigation, the reader should realize that there is no simple answer to the question, "Does special preparation, or coaching work?"

Different people are susceptible to different types of interventions. Although the mean gain in this study was significant, some students did not respond to the special program that was presented. As a result, these students experienced a great disappointment in their test results. The controversy over coaching has not been solved by this study. Hopefully, however, this dissertation has added to the literature and will give rise to some future investigations.

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APPENDIX A .

Questionnaires

1. Survey given before special preparation course
2. Survey given after special preparation course

COLLEGE OF EDUCATION



## VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

September, 1982

DIVISION OF ADMINISTRATIVE AND EDUCATIONAL SERVICES

Dear Senior;

This survey will take no more than ten or fifteen minutes of your time in class to complete. The results will be used for a study about the SAT. If you are not planning on college, only complete Part I, otherwise answer all pertinent questions. Your name will not be used. Please return the survey to your teacher.

## PART I - PERSONAL INFORMATION

1. Name (print): \_\_\_\_\_
2. Age: \_\_\_\_\_
3. Sex:        Male \_\_\_        Female \_\_\_
4. Grade Point Average:  
4.0 \_\_\_    3.0-3.9 \_\_\_    2.0-2.9 \_\_\_    1.0-1.9 \_\_\_
5. Class Rank:        \_\_\_ out of \_\_\_  
Top 25% \_\_\_    2nd 25% \_\_\_    3rd 25% \_\_\_    4th 25% \_\_\_
6. Final Grade in Junior English:  
A \_\_\_    B \_\_\_    C \_\_\_    D \_\_\_
7. Favorite Subject: \_\_\_\_\_

## PART II - FAMILY BACKGROUND

8. Mother's Highest Educational Level:  
Some High School \_\_\_        Graduated High Level \_\_\_  
Some College \_\_\_        Graduated College \_\_\_
9. Father's Highest Educational Level:  
Some High School \_\_\_        Graduated High School \_\_\_  
Some College \_\_\_        Graduated College \_\_\_

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## PART II (continued)

10. Family Income Level:  
 Below \$14,999\_\_\_ \$15,000-\$24,999\_\_\_  
 \$25,000-\$34,999\_\_\_ \$35,000-\$49,999\_\_\_ Over \$50,000\_\_\_

## PART III - QUESTIONS ABOUT SAT

Directions: Answer questions which are only relevant to you.

11. Have you applied, or are you going to apply to college?  
 Applied\_\_\_ Going to Apply\_\_\_
12. Did you take the SAT in the spring? Yes\_\_\_ No\_\_\_
13. If you took the SAT in the spring, which month?  
 April\_\_\_ May\_\_\_ June\_\_\_
14. If you took the SAT in the spring, what were your scores?  
 Verbal\_\_\_\_\_ Math\_\_\_\_\_
15. Are you planning on taking the SAT this winter?  
 Yes\_\_\_ No\_\_\_
16. If you are planning on taking the SAT, which month?  
 November\_\_\_ December\_\_\_ January\_\_\_ Other\_\_\_\_\_
17. Have you attended any special classes for the preparation of the SAT since this spring? Yes\_\_\_ No\_\_\_
18. Are you planning on taking any special preparation classes for the SAT before you take the test this winter?  
 Yes\_\_\_ No\_\_\_
19. Would you be interested in meeting once a week after school (at your school) for a special SAT class?  
 Yes\_\_\_ No\_\_\_
20. Will you study on your own for the SAT if you do not attend any special classes for the exam? Yes\_\_\_ No\_\_\_

## PART IV - CONSENT

I, \_\_\_\_\_, do  
 (your signature)

understand that my name will not be used for this study. I hereby give permission for the use of any other information from this questionnaire to be included in the survey. I also will allow my senior SAT scores to be used if I take the test this year.



COLLEGE OF EDUCATION

## VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061

DIVISION OF ADMINISTRATIVE AND EDUCATIONAL SERVICES

November, 1982

Dear Senior,

This is the second and final survey related to the study of the SAT. Remember, your name will not be used. Please complete the questions below only if you are planning to go to college after high school.

Name (print) \_\_\_\_\_

School \_\_\_\_\_

1. Have you applied to a college? YES\_\_\_ NO\_\_\_
2. Did you take the SAT in November? YES\_\_\_ NO\_\_\_
3. Were you enrolled in any SAT preparation classes since May, 1982? YES\_\_\_ NO\_\_\_
4. If the answer to question #3 was yes, tell where you were enrolled. \_\_\_\_\_
5. If the answer to question #3 was yes, did you feel that the course helped you? YES\_\_\_ NO\_\_\_

Thank you for your participation.

## APPENDIX B

### Homework

1. Antonyms
2. Analogies
3. Sentence Completion
4. Reading Comprehension
5. Vocabulary List

1. Homework for Antonyms

SOME HELPFUL HINTS FOR ANTONYMS

The Antonym Section of the SAT tests your vocabulary - your ability to understand the meanings of words and to distinguish between fine shades of meaning. This section requires a strong high school vocabulary. A strong vocabulary cannot be developed instantly; it grows over a long period of time spent reading widely and learning new words. Knowing the meanings of prefixes, suffixes, and roots will help you to derive word meanings on the test.

Each word in CAPITAL LETTERS is followed by five words or phrases. The correct choice is the word or phrase whose meaning is most nearly opposite to the meaning of the word in capitals. You may be required to distinguish fine shades of meaning. Look at all choices before marking your answer. Do not jump to a conclusion and choose the first opposite you see. Some choices may be very close, varying only by the slightest degree of meaning.

Some good suggestions follow.

1. Be aware of the part of speech of the capitalized word. Its opposite must be the same part of speech. Example:

MOUNTAIN

- |            |                |            |
|------------|----------------|------------|
| (A) lower  | (C) hill       | (E) smooth |
| (B) valley | (D) descending |            |

Since mountain is a noun, its opposite must also be a noun. This consideration rules out (A), (D), and (E); and since a valley is more opposite to a mountain than a hill, the correct choice is (B).

2. If the capitalized word has a positive connotation, its opposite must have a negative connotation. Example:

SATISFACTION

- |             |                |         |
|-------------|----------------|---------|
| (A) working | (C) discomfort | (E) joy |
| (B) comfort | (D) grades     |         |

Satisfaction is a positive word; it refers to something good, you should immediately eliminate (B) and (E) because they are also positive. (A) is the wrong part of speech, and (D) is neither positive nor negative out of context. The correct choice is (C).

3. Try using the given word in a short, clear sentence; try to think of how you've heard the word used before. You may discover a context for it that will help you make a choice. Example:

CATASTROPHIC

- |                |                |              |
|----------------|----------------|--------------|
| (A) luck       | (C) successful | (E) accident |
| (B) manageable | (D) disastrous |              |

Sentence: "Losing my wallet was catastrophic" (the cause of a sudden, great disaster). Since a catastrophic experience is something negative, the correct choice is (C).

4. Don't choose an antonym that is too broad or too limited to be an opposite. Example:

LACONIC

- |               |             |                |
|---------------|-------------|----------------|
| (A) long      | (C) lavish  | (E) many-sided |
| (B) talkative | (D) liberal |                |

Laconic means "using few words." Although (A), (C), (D), and (E) are all partial opposites because they contain the idea of "much" as opposed to "few," only (B) specifically refers to language.

5. Break the word down into prefixes, suffixes, and roots whenever possible. The following exercise will help you with this.

### VOCABULARY DEVELOPMENT

The following list is made up of some common word roots or elements. Although it is difficult to raise your vocabulary level over the next few weeks, it is possible to make you more aware of words with common parts. An example is given for each word part or element. See how many new words you can find using these elements. You are to spend at least one hour on this assignment, and as many as three hours if you wish.

| WORD ELEMENT           | MEANING                           | EXAMPLE        |
|------------------------|-----------------------------------|----------------|
| 1. duc, duct           | lead                              | induct         |
| 2. spec                | look                              | inspect        |
| 3. bene                | well, good                        | benefit        |
| 4. fac, fact, fec, fic | do, make                          | benefactor     |
| 5. dic, dict           | speak, say                        | diction        |
| 6. phon                | sounds                            | telephone      |
| 7. geo                 | earth                             | geology        |
| 8. centre              | center                            | centrifugal    |
| 9. ven                 | come                              | convene        |
| 10. rupt               | break                             | interrupt      |
| 11. pel                | drive, push                       | propel         |
| 12. tract              | draw, drag                        | tractor        |
| 13. port               | carry, bear                       | transport      |
| 14. gress              | step                              | progress       |
| 15. voc, vok           | call                              | revoke         |
| 16. graph              | write, draw                       | biography      |
| 17. auto               | self                              | autobiography  |
| 18. cred               | believe                           | credible       |
| 19. aud                | hear                              | auditorium     |
| 20. meter, metr        | measure                           | thermometer    |
| 21. astron             | star                              | astronomer     |
| 22. naut               | sailor                            | astronaut      |
| 23. phobia             | fear                              | claustrophobia |
| 24. phil               | love                              | philanthropist |
| 25. eu                 | good                              | euphoric       |
| 26. micro              | small                             | microscope     |
| 27. mono               | one                               | monogamy       |
| 28. poly               | many                              | polygon        |
| 29. logy               | science, study                    | biology        |
| 30. bio                | life                              | biosphere      |
| 31. tomy               | cutting                           | lobotomy       |
| 32. pod                | foot                              | podiatrist     |
| 33. endo               | in, within                        | endomorph      |
| 34. exo                | outside                           | exoskeletal    |
| 35. hyper              | over, above                       | hyperacidic    |
| 36. hypo               | under, beneath                    | hypoglycemic   |
| 37. archy              | rule                              | anarchy        |
| 38. peri               | around, about,<br>near, enclosing | periscope      |
| 39. path               | feeling, suffering<br>disease     | psychopath     |

\*\*\*See if you can come up with at least five words for each.

## MORE VOCABULARY DEVELOPMENT

The following list of prefixes should help you to arrive at definitions of unfamiliar words on the Verbal Section of the SAT. These prefixes apply to thousands of words. You should be able to list at least five words for each prefix.

| PREFIX     | MEANING           | EXAMPLE      |
|------------|-------------------|--------------|
| 1. pre-    | before            | precede      |
| 2. de-     | away, from        | deter        |
| 3. inter-  | between           | interstate   |
| 4. ob-     | against           | objection    |
| 5. in-     | into              | instruct     |
| 6. mono-   | alone, one        | monolith     |
| 7. epi-    | upon              | epilogue     |
| 8. mis-    | wrong             | mistake      |
| 9. sub-    | under             | submarine    |
| 10. trans- | across, beyond    | transcend    |
| 11. over-  | above             | overbearing  |
| 12. ad-    | to, toward        | advance      |
| 13. non-   | not               | nonentity    |
| 14. com-   | together, with    | composite    |
| 15. re-    | back, again       | regress      |
| 16. ex-    | out of            | expel        |
| 17. in-    | not               | insufficient |
| 18. pro-   | forward           | propel       |
| 19. anti-  | against           | antidote     |
| 20. omni-  | all, everywhere   | omniscient   |
| 21. equi-  | equal, equally    | equivalent   |
| 22. homo-  | same, equal, like | homogenized  |
| 23. semi-  | half, partly      | semicircle   |
| 24. un-    | not               | unnecessary  |
| 25. bi-    | two               | bicycle      |
| 26. poly-  | many              | polymorphous |
| 27. retro- | backward          | retrograde   |
| 28. mal-   | bad               | malfunction  |
| 29. hyper- | over, too much    | hyperactive  |
| 30. hypo-  | under, too little | hypodermic   |

Some of these prefixes may have been repeated from the first list of word elements. Practice with these repeated prefixes can increase your ability to unlock the meaning to unfamiliar words.

Do the same with these suffixes.

| SUFFIX          | MEANING                  | EXAMPLE        |
|-----------------|--------------------------|----------------|
| 1. -able, -ible | able to                  | usable         |
| 2. -er, -or     | one who does             | competitor     |
| 3. -ism         | the practice of          | rationalism    |
| 4. -ist         | one who is occupied with | feminist       |
| 5. -less        | without, lacking         | meaningless    |
| 6. -ship        | the art or skill of      | statesmanship  |
| 7. -fy          | to make                  | dignify        |
| 8. -ness        | the quality of           | aggressiveness |
| 9. -tude        | the state of             | recitude       |

### SOME MORE VOCABULARY DEVELOPMENT

In the following list of suffixes, only the example is given. See if you can list at least five more words using that suffix. Then, give the meanings of each word and the meaning of the suffix.

| SUFFIX    | EXAMPLE       |
|-----------|---------------|
| 1. -ious  | religious     |
| 2. -ish   | stylish       |
| 3. -ive   | relative      |
| 4. -ory   | sensory       |
| 5. -ous   | continous     |
| 6. -th    | sixth         |
| 7. -ize   | specialize    |
| 8. -ate   | communicate   |
| 9. -itis  | gingivitis    |
| 10. -tion | concentration |
| 11. -ism  | communism     |
| 12. -cide | suicide       |
| 13. -ite  | Camdenite     |
| 14. -ian  | physician     |
| 15. -ment | government    |
| 16. -y    | icy           |
| 17. -ward | forward       |
| 18. -eer  | engineer      |
| 19. -ant  | assistant     |
| 20. -ier  | furrier       |

For those of you who haven't had enough of word elements, here are some others. Try to find some words using this list. Write the meanings of the word elements as you figure them out.

agog, agri, agrari, ante, anthrop, aqua, brev, cad, cas, cap, cata, circum, clam, cognit, demo, derm, dia, dynam, erg, eu, gam, gen, greg, heli, jur, leg, lib, luc, mar, mitt, pac, pet, rupt, scrib, tact, terr, urb, via, voc, volv

### GAME OF WORDS

Select ten suffixes and ten root words. See how many real words you can develop. You will need to use the dictionary to be sure you haven't coined any new words.

### NEED MORE HELP?

The extensive list of word elements you have been given is not complete. There are other root words, prefixes, and suffixes. How many more do you know? Bring them into class the next time you meet.

## ANTONYMS PRACTICE I

Directions: The following questions consist of a word printed in capital letters, followed by five words lettered [A] through [E]. Choose the word that is most nearly the opposite in meaning from the word in capitals.

1. **INCRECULOUS**  
 (A) argumentative  
 (B) imaginative  
 (C) indifferent  
 (D) irreligious  
 (E) believing
2. **CATACLYSM**  
 (A) blunder  
 (B) superstition  
 (C) treachery  
 (D) triumph  
 (E) status quo
3. **AVIDITY**  
 (A) friendliness  
 (B) generosity  
 (C) resentment  
 (D) speed  
 (E) thirst
4. **ALFRESCO**  
 (A) indoors  
 (B) art exhibit  
 (C) sidewalk cafe  
 (D) charcoal sketch  
 (E) outdoors
5. **INAMORATA**  
 (A) nameless person  
 (B) enemy  
 (C) assumed name  
 (D) lovelorn person  
 (E) amorous
6. **IMMUTABLE**  
 (A) erudite  
 (B) abject  
 (C) changeable  
 (D) fantastic  
 (E) aural
7. **PIQUANT**  
 (A) factitious  
 (B) vain  
 (C) insipid  
 (D) vulture  
 (E) chromatic
8. **PROFUSION**  
 (A) travesty  
 (B) validity  
 (C) scarcity  
 (D) ordinance  
 (E) laudanum
9. **CATEGORICAL**  
 (A) canceled  
 (B) doglike  
 (C) ambiguous  
 (D) unregenerate  
 (E) voluptuous
10. **CONCOMITANT**  
 (A) humeneal  
 (B) sunthetic  
 (C) pellucid  
 (D) discrete  
 (E) lineal
11. **DELETERIOUS**  
 (A) fractious  
 (B) salubrious  
 (C) pathetic  
 (D) eulogistic  
 (E) antipathetic
12. **CHIMERICAL**  
 (A) realistic  
 (B) nimble  
 (C) underrated  
 (D) remarkable  
 (E) powerful
13. **ADROIT**  
 (A) deterred  
 (B) skillful  
 (C) tricky  
 (D) right  
 (E) awkward
14. **UNEQUIVOCAL**  
 (A) maudlin  
 (B) equal  
 (C) insatiable  
 (D) ambiguous  
 (E) lethargic
15. **ALTRUISTIC**  
 (A) ostracized  
 (B) polygamous  
 (C) self-centered  
 (D) penurious  
 (E) schizophrenic
16. **CONTUMACIOUS**  
 (A) puerile  
 (B) compliant  
 (C) primitive  
 (D) pungent  
 (E) profligate
17. **FARINACEOUS**  
 (A) meal  
 (B) remote  
 (C) non-starchy  
 (D) waxy  
 (E) beneficial
18. **APPOSITE**  
 (A) incongruous  
 (B) diaphanous  
 (C) vitriolic  
 (D) truculent  
 (E) unique
19. **SPLENETIC**  
 (A) inane  
 (B) complaisant  
 (C) phlegmatic  
 (D) querulous  
 (E) sundered
20. **PECULATOR**  
 (A) gambler  
 (B) herdsman  
 (C) benefactor  
 (D) finder  
 (E) arraigner

## ANSWERS TO PRACTICE I

1. E-believing  
Incredulous means unwilling to admit or accept what is offered as true.
2. E-status quo means existing state of affairs  
Cataclysm means momentous and violent event marked by overwhelming upheaval and demolition.
3. B-generosity  
Avidity means consuming greed.
4. A-indoors  
Alfresco means taking place in open air.
5. D-lovelorn person is a person who does not have a love or lover.  
Inamorata is a woman with whom one is in love.
6. C-changeable  
Immutable is not capable or susceptible to change.
7. C-insipid means lacking taste or savor.  
Piquant means agreeably stimulating to the palate.
8. C-scarcity  
Profusion is the quality or state of being profuse, that is, exhibiting great abundance.
9. C-ambiguous means doubtful or uncertain.  
Categorical means absolute.
10. D-discrete means consisting of distinct or unconnected elements.  
Concomitant is something that accompanies or is collaterally connected with something else.
11. B-salubrious means favorable to or promoting well being or health.  
Deleterious is having an often obscure or unexpected effect.
12. A-realistic  
Chimerical means existing only as the product of unrestrained imagination.
13. E-awkward  
Adroit is dextrous, skillful and competent with the hands.
14. D-ambiguous means doubtful or uncertain.  
Unequivocal is leaving no doubt.
15. C-self-centered is concerned solely with one's own desires.  
Altruistic is unselfish regard or devotion to the welfare of others.
16. B-compliant means submissive.  
Contumacious is stubbornly disobedient.
17. C-non-starchy  
Farinaceous means containing or rich in starch.
18. A-incongruous is not harmonious, that is, incapable.  
Apposite means highly pertinent or appropriate
19. B-complaisant means marked by an inclination to please or oblige.  
Splenetic is marked by bad temper.
20. C-benefactor is one that confers a benefit.  
Peculator is one who embezzles, that is, appropriates fraud to his own use.

## ANTONYMS PRACTICE II

Directions: The following questions consist of a word printed in capital letters, followed by five words lettered (A) through (E). Choose the word that is most nearly the opposite in meaning from the word in capitals.

- |   |   |   |
|---|---|---|
| 1. <b>EBULLIENT</b><br>(A) capricious<br>(B) bizarre<br>(C) vapid<br>(D) destructive<br>(E) cartographic        | 8. <b>DUCTILE</b><br>(A) feted<br>(B) alluvial<br>(C) stubborn<br>(D) abnormal<br>(E) belabor                     | 15. <b>REFRACTORY</b><br>(A) refreshing<br>(B) burdensome<br>(C) privileged<br>(D) manageable<br>(E) uptight              |
| 2. <b>GAUDY</b><br>(A) epithet<br>(B) simplicity<br>(C) spur<br>(D) taunt<br>(E) fraud                          | 9. <b>OPPORTUNE</b><br>(A) dialectical<br>(B) mutable<br>(C) unplanned<br>(D) weird<br>(E) inexpedient            | 16. <b>DOGMATIC</b><br>(A) stentorian<br>(B) synchronous<br>(C) compliant<br>(D) clairvoyant<br>(E) introversive          |
| 3. <b>SOMATIC</b><br>(A) sleepy<br>(B) spiritual<br>(C) seminal<br>(D) psychogenic<br>(E) traumatic             | 10. <b>AGNOSTIC</b><br>(A) aged<br>(B) fanatic<br>(C) truncated<br>(D) productive<br>(E) inebriate                | 17. <b>OSTENTATION</b><br>(A) abasement<br>(B) retrogression<br>(C) extirpation<br>(D) reprobation<br>(E) procrastination |
| 4. <b>DISINTERESTED</b><br>(A) opposed<br>(B) superficial<br>(C) partial<br>(D) contemptuous<br>(E) winsome     | 11. <b>PREMEDITATED</b><br>(A) superannuated<br>(B) tractable<br>(C) syncopated<br>(D) impromptu<br>(E) sebaceous | 18. <b>MUTATION</b><br>(A) factotum<br>(B) expiation<br>(C) continuance<br>(D) megalomania<br>(E) numismatist             |
| 5. <b>PLACATE</b><br>(A) amuse<br>(B) antagonize<br>(C) embroil<br>(D) pity<br>(E) reject                       | 12. <b>PROCLIVITY</b><br>(A) insipidity<br>(B) repugnance<br>(C) effrontery<br>(D) doxology<br>(E) contingency    | 19. <b>TRANQUILITY</b><br>(A) complacency<br>(B) tumult<br>(C) plagiarism<br>(D) prophecy<br>(E) philately                |
| 6. <b>AUSPICIOUS</b><br>(A) condemnatory<br>(B) conspicuous<br>(C) unfavorable<br>(D) questionable<br>(E) spicy | 13. <b>SYCOPHANCY</b><br>(A) colloquialism<br>(B) innuendo<br>(C) nihilism<br>(D) frankness<br>(E) apotheosis     | 20. <b>EXPEDITIOUS</b><br>(A) lackadaisical<br>(B) unique<br>(C) ubiquitous<br>(D) epicurean<br>(E) portable              |
| 7. <b>HIATUS</b><br>(A) branch<br>(B) disease<br>(C) gaiety<br>(D) insect<br>(E) closing                        | 14. <b>APOCALYPTIC</b><br>(A) concealing<br>(B) pure<br>(C) steep<br>(D) paralyzed<br>(E) authentic               |   |

2. Homework for Analogies

### ANALOGY QUESTIONS

The analogy question tests your ability to see a relationship between words and apply this relationship to other words. Although the analogy section of the SAT is, to some degree an indicator of your vocabulary, it is essentially a test of your ability to think clearly - your ability to sidestep confusion of ideas. The symbol: in the analogy question is read, is to. The symbol :: in the analogy question is read, as. Each question consists, first, of two words which have some specific relationship to each other. Then, from five pairs of words which follow, you are to select the pair which is related in the same way as the words of the first pair are related to each other.

**EXAMPLE:** SPELLING : PUNCTUATION ::  
 (A) pajamas : fatigue (B) powder : shaving  
 (C) bandage : cut (D) biology : physics

SPELLING and PUNCTUATION are elements of the mechanics of English; BIOLOGY and PHYSICS are two of the subjects that make up the field of science. The other choices do not possess this PART : PART relationship. Therefore, (D) is the correct choice.

In analogy questions, the relationship between the first two words may be one of several kinds of relationships. The following are relationship possibilities.

1. Purpose Relationship  
 GLOVE : BALL :: (A) hook : fish (B) winter : weather  
 (C) game : pennant (D) stadium : seats
2. Cause and Effect Relationship  
 RACE : FATIGUE :: (A) track : athlete (B) ant : bug  
 (C) fast : hunger (D) walking : running
3. Part : Whole Relationship  
 SNAKE : REPTILE :: (A) patch : thread (B) removal : snow  
 (C) struggle : wrestle (D) hand : clock
4. Part : Part Relationship  
 GILL : FIN :: (A) tube : antenna (B) instrument : violin  
 (C) sea : fish (D) salad : supper
5. Action to Object Relationship  
 KICK : FOOTBALL :: (A) kill : bomb (B) break : pieces  
 (C) question : team (D) smoke : pipe
6. Object to Action Relationship  
 STEAK : BROIL :: (A) bread : bake (B) food : sell  
 (C) wine : pour (D) sugar : spill
7. Synonym Relationship  
 ENORMOUS : HUGE :: (A) rogue : rock (B) muddy : unclear  
 (C) purse : kitchen (D) black : white



6. Class - species DOG : POODLE
7. Homonyms THERE : THEIR
8. Rhyming FALL : TALL
9. Person and thing he looks for PROSPECTOR : GOLD
10. Person and thing he learns to avoid CHILD : FIRE

On the following pages of this packet are many analogy questions. In thirty minutes you should complete 50 questions; in one hour you should do 100 questions. Try not to spend more time than is necessary. Use the answer sheets provided at the back of the packet.

You will notice that in some of the questions the selection from which you are to choose your correct answer might be the first word, the second, the third, or the fourth. It may also be a combination of any two. This is done to give you more practice with the various kinds of analogies that there are in other tests. However, it should be noted that the SAT only uses the type which was explained above and on the previous pages.

## MORE ANALOGIES

1. MOUNTAIN : PEAK :: (A) peak : Himalayas (B) hill : ridge  
(C) building : roof (D) valley : pass (E) sky : cloud
2. GEOMETRY : TRIANGLE :: (A) circle : shape (B) botany : daisy  
(C) teacher : education (D) algebra : trigonometry  
(E) history : ancient
3. OBVIOUS : EVIDENT :: (A) obliterate : obligate (B) hoax : joke  
(C) hobble : awkward (D) lentil : seed (E) allow : grant
4. DRY : PARCHED :: (A) dishonest : crooked (B) wet : soaked  
(C) oasis : desert (D) horrendous : ugly (E) livid : angry
5. DIGIT : HAND :: (A) pancreas : skeleton (B) plateau : mountains  
(C) key : typewriter (D) railroad : junction  
(E) luminous : perspicuous
6. POOR MAN : SLUM :: (A) ship : water (B) air force : airplane  
(C) placebo : medicine (D) pirouette : whirl  
(E) planetarium : celestial
7. CAR : IGNITION :: (A) airplane : wing (B) dirigible : propeller  
(C) kibosh : weapon (D) larynx : epiglottis (E) light : switch
8. BESTIAL : BRUTISH :: (A) monster : gorilla (B) frivolous : trivial  
(C) heavy : heavier (D) smile : smirk (E) mediate : reconcile
9. EDIFYING : ENLIGHTENING :: (A) eating : tasty (B) entertaining :  
electricity (C) instructing : teaching (D) publishing : writing  
(E) exercise : action
10. MONOTHEISTIC : THEISTIC :: (A) monologue : prologue  
(B) unicycle : cycle (C) banal : vain (D) unison : unified  
(E) monocle : glasses
11. OPOQUE : CLEAR :: (A) authentic : false (B) clemency : meanness  
(C) quietude : tranquility (D) ignition : quell (E) genuine : true
12. TIGER : CARNIVORE :: (A) stove : kitchen (B) train : vehicle  
(C) vast : quantity (D) parakeet : parrot (E) offensive : unpleasant
13. JAUNTY : PERKY :: (A) closet : coterie (B) caustic : witty  
(C) lackluster : vital (D) notion : nation (E) par : equal
14. AMBIGUITY : CLARITY :: (A) many : few (B) singular : plural  
(C) synthetic : real (D) ambivalent : dexterity  
(E) indefinite : definite
15. ANARCHY : OLIGARCHY :: (A) mob : meeting (B) violent : non-violent  
(C) guided : misguided (D) uncontrolled : controlled  
(E) hierarchy : monarchy

ANSWERS AND EXPLANATIONS

More Analogies

1. (C) *Mountain* is to *peak* in the same way as *building* is to *roof*. The relationship here is one in which the highest part of a thing is compared to the thing itself. The best choice is (C), *building: roof*, as a roof is the highest part of a building in the same way a peak is the highest part of a mountain. In choice (B), "hill: ridge," a ridge is not necessarily the highest part of a hill.

2. (B) *Geometry* is to *triangle* in the same way as *botany* is to *daisy*. The relationship expressed here is a broad category compared to a narrow category within it. The best choice is (B), *botany: daisy*, as botany is a broad category encompassing the narrow category of daisy in the same way geometry encompasses triangle. In choice (A), "circle" is not as general a category as "shape," making it an incorrect choice. The same is true for choice (C), "teacher: education." Again, the narrow category precedes the general category, unlike *geometry: triangle*, in which the general category precedes the narrow.

3. (E) *Obvious* is to *evident* in the same way *allow* is to *grant*. The relationship here is one of synonymous words. The best choice in this case is (E), *allow: grant*. These words are synonyms of each other as are *obvious* and *evident*. In choice (B), "hoax" is not a synonym of "joke." The word "joke" implies humor, while the word "hoax" implies deception, which is associated with either humorous or serious fraud.

4. (B) *Dry* is to *parched* in the same way *wet* is to *soaked*. This involves a relationship of lesser degree to greater degree. In choice (A), the words "dishonest" and "crooked" are synonyms with equal implications of degree. The best choice is (B), *wet: soaked*.

5. (C) *Digit* is to *hand* in the same way as *key* is to *typewriter*. A *digit* is an essential part of a *hand* as a *key* is an essential part of a *typewriter*. In choice (A), both "skeleton" and "pancreas" are parts of the body system but are not parts of each other. In choice (B), "plateau" and "mountains" likewise are not parts of each other. Choice (D) also would not be appropriate, as "railroad" is a larger unit than "junction," reversing the sequence we find in *digit: hand*, where the first word, *digit*, is the smaller unit. Thus, the best choice is (C) *key: typewriter*.

6. (A) *Poor man* is to *slum* in the same way as *ship* is to *water*. In this relationship we present an element and its medium. The best choice is (A), *ship: water*. A poor man would probably be found in a slum, as in a similar fashion a ship would be found in water. In choice (C), the word "placebo" describes an element or effect used in many fields; (C) also lacks the specific relationship described in *poor man: slum*.

7. (E) *Car* is to *ignition* in the same way as *light* is to *switch*. The analogy here is one in which an object is made to function by the use of a second object. The best answer is (E) *light: switch*, as a *car* is turned on by an *ignition* in the same way a switch turns on a light.

8. (B) *Bestial* is to *brutish* in the same way as *frivolous* is to *trivial*. The relationship here is one of synonymous words. The best choice is (B), *frivolous: trivial*. In choice (D), "smirk" has a different connotation than "smile." In choice (E), the words are verbs having similar but distinctly different meanings.

9. (C) *Edifying* is to *enlightening* in the same way as *instructing* is to *teaching*. The relationship here is one of synonymous words, with the best choice being (C), *instructing: teaching*.

10. (B) *Atomistic* is to *theistic* in the same way as *unicycle* is to *cycle*. *Atomistic* means belief in one God as opposed to *theistic*, which is a more general term referring to belief in God or gods. The relationship here is from a specific singular belief to a more general belief. *Unicycle* is a specific type of one-wheeled cycle as opposed to the more general group of *cycles*. (E) is close, but "glasses" have only two complete lenses and therefore is not as general.

11. (A) *Opaque* is to *clear* in the same way as *authentic* is to *false*. The relationship here is one of two adjectives which are antonyms. The best choice is (A) *authentic: false*. In choice (B), "clemency" is a noun. Neither of the words in choice (D) is an adjective.

12. (B) *Tiger* is to *carnivore* in the same way as *train* is to *vehicle*. The relationship expressed here is a narrow category compared to a broad category. The best choice in this case is (B), *train: vehicle*, since *train* falls into the category of *vehicle* in the same way a *tiger* is a *carnivore*. Choice (A) is inappropriate, since *stove* does not fall into the category of *kitchen*, although it may be a part of a kitchen. Choice (D) is also inappropriate, as *parakeet* and *parrot* are two different kinds of birds that happen to be related.

13. (E) *Jaunty* is to *perky* in the same way as *par* is to *equal*. The relationship here is one of synonymous words. *Jaunty* and *perky* are synonyms, as are *par* and *equal*. None of the other choices presents a set of synonyms. In choice (B) the word "caustic" has a bitter connotation which it does not share with the more neutral word, "witty." Thus, choice (B) does not present a set of synonyms. The best choice is (E) *par: equal*.

14. (E) *Ambiguity* is to *clarity* in the same way as *indefinite* is to *definite*. The relationship here is one of opposites. *Ambiguity* means "unclear or indefinite." *Clarity* means "specific or definite." *Indefinite* is the opposite of *definite*.

15. (D) *Anarchy* is to *oligarchy* in the same way as *uncontrolled* is to *controlled*. The relationship here is one of opposites. *Anarchy* is a lack of government, while *oligarchy* is government by a select few. *Uncontrolled* and *controlled* are opposites. (A) is close, but "mob" and "meetings" are not necessarily opposites.

# Analogies

(Sample 1)

*Directions:* From the four lettered words in parentheses, select that word which best completes the analogy which exists among the three capitalized words.

1. CROWN : ROYAL :: (A. prayer  
B. crucifix C. priesthood D. bible) :  
RELIGIOUS
2. SMALL : (A. tiny B. petite C. little  
D. diminutive) :: LARGE : BIG
3. WORM : BIRD :: MOUSE : (A. man  
B. snake C. rodent D. lion)
4. (A. artist B. description C. narration  
D. personality) : CHARACTERIZATION  
:: PICTURE : PORTRAIT
5. (A. orate B. sing C. mumble D. speak)  
: TALK :: SCRAWL : WRITE
6. LYNDON B. JOHNSON : (A. Henry C.  
Lodge B. John F. Kennedy C. Dwight D.  
Eisenhower D. Harry S. Truman) ::  
HUBERT HUMPHREY : WILLIAM  
MILLER
7. 15 : 6 :: 23 : (A. 8 B. 7 C. 6 D. 5)
8. STEAM : ELECTRICITY :: WATER :  
(A. ice B. wind C. pipe D. cord)
9. SODIUM : SALT :: OXYGEN :  
(A. acetylene B. carbon tetrachloride  
C. water D. ammonia)
10. (A. theft B. notoriety C. police D. jail)  
: CRIME :: CEMETERY : DEATH
11. GRASS : (A. chicken B. onion C. lettuce  
D. flower) :: SNOW : MILK
12. (A. second B. moment C. time D. day)  
: HOUR :: YARD : FOOT
13. ARGUMENT : DEBATE :: FIGHT :  
(A. skirmish B. contest C. challenge  
D. crisis)
14. PICCOLO : (A. trumpet B. trombone  
C. horn D. tuba) :: VIOLIN : BASS
15. HILL : MOUNTAIN :: (A. distress  
B. discomfort C. headache D. fear) :  
PAIN
16. WEALTH : TANGIBLE :: (A. price  
B. gold C. success D. gifts) :  
INTANGIBLE
17. HEMOGLOBIN : BLOOD :: COACHES  
: (A. train B. whip C. fuel D. fluid)
18. BREAD : CAKE :: SHIRT : (A. shoes  
B. tie C. pants D. coat)
19. AFFLUENT : (A. charity B. luck  
C. misfortune D. indifference) ::  
IMPOVERISHED : LAZINESS
20. INNING : BASEBALL :: (A. time  
B. date C. era D. year) : HISTORY
21. SHONE : DISHONEST :: LEST :  
(A. many B. tool C. candlestick  
D. lamp)
22. THROW : JAVELIN :: (A. toss B. put  
C. hurl D. push) : SHOT
23. MIAMI : (A. Chicago B. Jersey City  
C. Springfield D. Lancaster) ::  
PHILADELPHIA : ALBANY
24. MINERAL : MINER :: (A. agriculture  
B. farm C. crop D. fertilizer) : FARMER

## Analogies

25. (A. leopard B. mink C. sable  
D. chinchilla) : LION :: TIGER :  
ZEBRA
26. (A. Mars B. Vulcan C. Juno D. Apollo)  
: WODIN :: LATONA : THOR
27. DREDGE : (A. channel B. barge  
C. harbor D. silt) :: SCOOP : ICE  
CREAM
28. LIMP : CANE :: (A. cell B. muscle  
C. heat D. cold) : TISSUE
29. LIONHEARTED : RICHARD ::  
KINGMAKER : (A. Warwick B. chessmen  
C. Alfred D. England)
30. (A. parchment B. concrete C. cardboard  
D. timber) : ADOBE :: PAPER :  
PAPYRUS
31. LEGS : MORPHEUS :: (A. mouth  
B. nose C. ears D. feet) : DESTINY
32. HYMN : THEIR :: CELL : (A. score  
B. peal C. tree D. mile)
33. SONG : (A. sing B. melody C. swan  
D. feather) :: CALL : TELEPHONE
34. (A. coal B. diamond C. pine  
D. baseball) : PITCH :: SNOW : SHEET
35. COOKERY : ROOKERY :: MEAL :  
(A. bird B. seal C. peal D. chess)
36. PEACH : (A. apple B. beet C. grape  
D. tomato) :: CHERRY : RADISH
37. EXORBITANT : EXPENSIVE ::  
PARSIMONIOUS : (A. generous B. idiotic  
C. dedicated D. thrifty)
- 38.
- 
  
A    B    C    D
39. LEAF : (A. freedom B. indifference  
C. thought D. wall) :: BRIDGE :  
UMBRELLA
40. (A. earth B. Venus C. sputnik D. berry)  
: PLANET :: CANAL : RIVER
41. PIRAEUS : OSTIA :: (A. Athens B.  
Florence C. Milan D. Crete) : ROME
42. (A. psychology B. philology C. philosophy  
D. philately) : PHRENOLOGY ::  
ASTRONOMY : ASTROLOGY
43. FORETOKEN : (A. portend B. augur  
C. bode D. presage) :: DIVINE :  
PREDICT
44. STUDENT : DEW :: SIEVE : (A. receive  
B. relieve C. reprieve D. give)
45. LINEAGE : GENEALOGY :: (A. science  
B. events C. economics D. chronology) :  
HISTORY
46. ROMAN : (A. Caesar B. Rembrandt  
C. gladiator D. Van Dyke) :: NOSE :  
BEARD
47. BEND : ELBOW :: (A. strip B. dissect  
C. skin D. divide) : CAT
48. (A. walking B. foot C. step D. instep) :  
TOES :: NIB : RESERVOIR
49. 19 : 23 :: (A. 7 B. 11 C. 13 D. 17) :  
13
50. HIPS : CHURCH DOOR :: ABYSS :  
(A. truth B. bond C. speck D. ocean)
51. (A. Laos B. Indonesia C. Afghanistan  
D. Japan) : INDIA :: NEVADA :  
COLORADO
52. CONCISE : (A. refined B. expanded  
C. precise D. blunt) :: REMOVE :  
OBLITERATE
53. SAGACIOUS : OBTUSE :: GRAVE :  
(A. tomb B. somber C. jocular  
D. severe)
54. AHOY : SAILOR :: (A. fore B. hail  
C. timber D. putter) : GOLFER
55. JACKET : (A. lapel B. button C. vest  
D. collar) :: PANTS : CUFF

56. COMA : HOTEL :: MORPHINE :  
(A. frog B. blanket C. horse D. ship)
57. (A. Athena B. Ceres C. Artemis  
D. Aphrodite) : ZEUS :: EVE : ADAM
58. SERAPHIC : (A. Napoleonic  
B. Mephistophelian C. Alexandrine  
D. euphoric) :: ALACRITY : LANGUOR
59. TIGER : SERGEANT :: (A. elm B. oak  
C. army D. general) : MAJOR
60. (A. precarious B. deleterious C. deterred  
D. immortal) : DEADLY ::  
CELEBRATED : LIONIZED
61. MANET : REMBRANDT :: (A. Picasso  
B. Dali C. Pollack D. Cezanne) : VAN  
GOGH
62. (A. glove B. stocking C. weakness  
D. mitt) : GAUNTLET :: HAT :  
HELMET
63. STIRRUP : COCHLEA :: BRIM :  
(A. hat B. derby C. crown D. head)
64. (A. rococo B. severe C. Etruscan  
D. stylish) : ORNAMENTED :: SOGGY  
: MOIST
65. SCINTILLA : (A. odor B. sparkle  
C. heap D. microbe) :: SIBERIA :  
PACIFIC
66. NEW YORK : RHODES :: LIBERTY :  
(A. Apollo B. scholar C. tyranny  
D. freedom)
67. RUBY : TOMATO :: (A. rose  
B. assassin C. peach D. shamrock) :  
EMERALD
68. WATER : (A. mercury B. steam  
C. copper D. chemical) :: ICE : IRON
69. (A. royal B. kingly C. regal D. princely)  
: LAGER :: TIME : EMIT
70. CLAY : RADIATOR :: POTATO :  
(A. peak B. watch C. daisy D. sun)
71. ARKANSAS : FLORIDA :: NEW  
MEXICO : (A. Tennessee B. Ohio  
C. California D. Illinois)
72. SIN : ATONE :: (A. deed B. error  
C. insult D. argument) : APOLOGIZE
73. (A. solo B. duet C. trio D. quartet) :  
QUINTET :: PRIZEFIGHT :  
BASKETBALL
74. PIPE : POT :: (A. scrub B. ream  
C. scourge D. drain) : SCOUR
75. (A. erosion B. expansion C. contraction  
D. fluidity) : WATER :: WRINKLES :  
AGE
76. (A. Jupiter B. Hippocrates C. Petrarch  
D. Shakespeare) : ALFRED ::  
CADUCEUS : SCEPTER
77. RADAR : DEPT. :: (A. telephone  
B. radio C. laser D. telegraph) : ACCT.
78. EPISTEMOLOGY : (A. letters  
B. weapons C. knowledge D. roots) ::  
PALEONTOLOGY : FOSSILS
79. (A. stick B. foundry C. corps D. fife) :  
DRUM :: FLINT : STEEL
80. TURN : (A. pass B. decline C. avoid  
D. skip) :: EYE : BLINK
81. PLATO : (A. Socrates B. Sophocles  
C. Aristophanes D. Aristotle) :: FREUD :  
JUNG
82. (A. law B. book C. band D. wagon) :  
WAINWRIGHT :: DICTIONARY :  
LEXICOGRAPHER
83. LOOSE : ROUT :: (A. tomb B. stock  
C. mouth D. ridge) : MOUSE
84. CONCERT : (A. andante B. a cappella  
C. opera D. music) :: PERFORMANCE :  
PANTOMIME
85. (A. uniform B. commander C. platoon  
D. sentry) : DOG :: GARRISON :  
FLOCK
86. PORTUGAL : IBERIA :: TOOTH :  
(A. dentist B. cavity C. nail D. comb)
87. (A. shoe B. saddle C. withers D. bridle)  
: HORSE :: COLLAR : DOG

*Analogies*

88. BINDING : (A. book B. library C. page D. leather) :: SOLE : LACE
89. (A. hand B. brow C. eye D. leg) : KNIT :: DICTATION : TAKE
90. INTAGLIO : (A. cameo B. caviar C. Machiavellian D. harem) :: CONCAVE : CONVEX
91. ORCHESTRA : (A. mezzanine B. stage C. proscenium D. second balcony) :: ABDOMEN : THORAX
92. AMPLITUDE : SURFEIT :: (A. Jacobean B. strong C. onerous D. pleasant) : HERCULEAN
93. LOYALTY : FRIEND :: (A. allegiance B. love C. respect D. nation) : FLAG
94. (A. fjord B. ford C. Ford D. afford) : STREAM :: BRIDGE : RIVER
95. VERDI : (A. Italian B. Fidelio C. violinist D. Rigoletto) :: CHOPIN : PARSIFAL
96. SUBSTITUTE : TEAM :: UNDERSTUDY : (A. crew B. congregation C. actor D. cast)
97. PORT : (A. vintage B. harbor C. starboard D. left) :: HEADLIGHTS : TRUNK
98. MIAMI BEACH : LAS VEGAS :: CANNES : (A. Provincetown B. Asbury Park C. Sun Valley D. Atlantic City)
99. (A. fish B. breath C. Jill D. quart) : GILL :: OCTAVE : MONOTHEISM
100. ROOSTER : (A. crow B. coop C. fox D. owl) :: EFFERVESCENT : EFFETE

END

(SAMPLE 1)

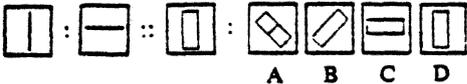
## Analogies

(Sample 2)

**Directions:** From the four lettered words in parentheses, select that word which best completes the analogy which exists among the three capitalized words.

1. NEEDLE : (A. thread B. pen C. pole D. hole) :: PENCIL : ARROW
2. CLUE : DETECTIVE :: (A. stethoscope B. disease C. symptom D. medicine) : DOCTOR
3. (A. egg B. planet C. lemon D. record) : ORANGE :: DIME : WHEEL
4. NEWSPRINT : (A. paper B. linotype C. newsstand D. tree) :: STEEL : ORE
5. GOLF : RACING :: GREEN : (A. grass B. lawn C. turf D. yellow)
6. SONAR : (A. airplane B. electronics C. submarine D. detection) :: RADAR : STORM
7. (A. thunder B. lightning C. melodious D. cloudy) : LOUD :: CONCERT : ONCE
8. BLUNDERBUSS : LANCE :: MUSKET : (A. missile B. pistol C. bomb D. catapult)
9. 121 : 12 :: (A. 101 B. 141 C. 100 D. 125) : 11
10. CLAWING : (A. scratching B. devouring C. crippling D. pawing) :: VIOLENT : BRASH
11. (A. Tannhauser B. opera C. rose D. Pinafore) : WAGNER :: CARMEN : MOZART
12. STARTLED : (A. interested B. astounded C. expected D. unknown) :: WORK : TOIL
13. BRAGGADOCIO : RETICENCE :: MISER : (A. profligacy B. obesity C. obloquy D. falsity)
14. (A. mined B. minor C. miner D. canvas) : DENIM :: GULP : PLUG
15. SANDHURST : ENGLAND :: (A. Harvard B. Pittsburgh C. West Point D. Norwalk) : UNITED STATES
16. BURGUNDY : VINTNER :: (A. eggs B. drugs C. candles D. ropes) : CHANDLER
17. (A. tactics B. strategy C. maneuvers D. regiment) : ARMY :: PUPIL : EYE
18. PARIS : (A. France B. London C. Achilles D. garter) :: ACHILLES : HECTOR
19. GENEROUS : LAVISH :: TIMOROUS : (A. timid B. craven C. courageous D. foolhardy)
20. MECCA : MOSLEM :: BENARES : (A. Islam B. India C. Hindu D. Granges)
21. BRANCH : DESK :: (A. pole B. paint C. street D. flag) : FLOOR
22. (A. barber B. bristle C. comb D. stroke) : BRUSH :: CRUISER : FLEET
23. HUDSON : BUICK :: PACKARD : (A. Stutz B. Locomobile C. Maxwell D. Oldsmobile)
24. MACBETH : TEMPEST :: (A. assassin B. Pontiac C. gravity D. storm) : FICKLENESS

*Analogies*

25. (A. Galen B. oath C. classic D. Pericles)  
: HIPPOCRATES :: SCHWEITZER :  
SALK
26. TAME : (A. testament B. will C. gospel  
D. wild) :: ROLL : CONTROLLER
27. RECEIVE : DIARRHEA ::  
PENICILLIN : (A. figure B. classification  
C. battalion D. geometry)
28. (A. lunch B. meal C. breakfast  
D. brunch) : SUPPER :: SMOG :  
HAZE
29. THREE : FIVE :: (A. Jefferson  
B. memorial C. Monticello D. Lincoln) :  
MONROE
30.  

31. SCALE : RING :: PAT : (A. boil  
B. barn C. piano D. grass)
32. (A. happiness B. chest C. discouragement  
D. female) : HOPE :: DARKNESS :  
SUNRISE
33. BLUE : ORANGE :: (A. indigo  
B. yellow C. purple D. red) : GREEN
34. CHEETAH : SPEED :: (A. blade  
B. cleavage S. alertness D. incision) :  
KEENNESS
35. (A. hock B. jockey C. stable D. hand) :  
HORSE :: TONGUE : BELL
36. TENANT : ANT :: SYLLOGISM :  
(A. logic B. log C. deduction  
D. induction)
37. (A. Nantucket B. Puerto Rico C. Hawaii  
D. Long Island) : UNITED STATES ::  
TASMANIA : AUSTRALIA
38. ANCHISES : (A. Troilus B. Achilles  
C. Ajax D. Aeneas) :: PRIAM :  
HECTOR
39. SELDOM : FREQUENTLY ::  
ETERNALLY : (A. never B. occasionally  
irregularly D. now and then)
40. DEVIL : LIVED :: GOLF : (A. club  
B. polo C. whip D. flog)
41. MAP : (A. explorer B. geography  
C. legend D. atlas) :: TEXT :  
FOOTNOTE
42. (A. clock B. watch C. time D. hour) :  
TELL :: GUM : CHEW
43. CALENDAR : CALENDER :: LEAF :  
(A. lief B. leif C. leaf D. leafe)
44. COOPER : BARREL :: (A. lithographer  
B. cartographer C. photographer  
D. biographer) : MAP
45. PUPA : (A. tadpole B. larva C. cocoon  
D. bumblebee) :: FETUS : CHILD
46. IRON : CORRUGATION :: (A. brow  
B. wart C. toad D. age) : WRINKLE
47. SILENCE : (A. muffle B. cry C. hear  
D. speak) :: LIE : FIB
48. (A. Crete B. Malta C. Sicily D. Corsica)  
: SARDINIA :: BOLIVIA :  
ARGENTINA
49. EVIL : EXORCISE :: BREAD :  
(A. carve B. break C. slit D. shred)
50. OR : (A. sable B. gules C. argent  
D. vert) :: YOLK : ALBUMEN
51. (A. humid B. speedy C. piquant  
D. moist) : VAPID :: OBDURATE :  
COMPASSIONATE
52. CUCUMBER : WATERMELON ::  
CANTALOUPE : (A. squash B. radish  
C. cherry D. plum)
53. (A. head B. nose C. ear D. limb) :  
MAN :: STRING : VIOLIN
54. ILLNESS : (A. debility B. hospital  
C. doctor D. panacea) :: VIBRATION :  
SOUND
55. GETTYSBURG : VICKSBURG ::  
LEXINGTON : (A. Trenton B. Pittsburgh  
C. Eisenhower D. Waterloo)

56. (A. gain B. reward C. loot D. profit) :  
ROBBERY :: REVENGE : VENDETTA
57. UNCONSCIOUS : FREUD ::  
(A. manipulation B. illness C. sex  
D. stimulation) : OSTEOPATHY
58. CLAUSTROPHOBIA : CLOSETS ::  
AGORAPHOBIA : (A. ships B. sheep  
C. plants D. plains)
59. (A. silence B. cheese C. cat D. trap) :  
MOUSE :: GRACE : GAZELLE
60. (A. sympathy B. encouragement  
C. blasphemy D. solidity) : FRACAS ::  
APHRODITE : MARS
61. CHEESE : ROSE :: GASOLINE :  
(A. fence B. sulphur C. sky D. glass)
62. WALK : (A. shoe B. ride C. club  
D. king) :: REEF : FIND
63. (A. cathedral B. altar C. steeple  
D. nave) : CHURCH :: MINARET :  
MOSQUE
64. CROESUS : (A. boat B. wealth  
C. pleats D. loyalty) :: ODYSSEUS :  
CRAFT
65. LUCERNE : MICHIGAN :: GENEVA :  
(A. watch B. conference C. Okeechobee  
D. Switzerland)
66. (A. scourge B. game C. concert D. run)  
: SCORE :: PLAY : SCRIPT
67. HERRING : (A. salt B. sea C. egg  
D. ham) :: CIGARETTE : VOLCANO
68. DDT : INSECT :: (A. castle B. fire  
C. knight D. maiden) : DRAGON
69. (A. pear B. plywood C. maple D. brass)  
: WOOD :: NECTARINE : PEACH
70. PARTRIDGE : WASP :: (A. quail  
B. sting C. birds D. covey) : NEST
71. LAPIDARY : (A. ruby B. wood C. lick  
D. food) :: SCULPTOR : ALABASTER
72. WOOF : FILE :: WARP : (A. grade  
B. rank C. parade D. twist)
73. SMILE : (A. rile B. style C. while  
D. tile) :: SCHEMES : DREAMS
74. FORSOOK : DRANK :: FROZEN :  
(A. swum B. wrote C. sang D. chose)
75. SANDAL : BOOT :: (A. hammer  
B. hatchet C. shoemaker D. blade) : AX
76. HORSE : (A. man B. goat C. archer  
D. bull) :: CENTAUR : SATYR
77. (A. anode B. bird C. purchase  
D. battery) : CELL :: FEATHER :  
SHAFT
78. GNAT : (A. kimono B. spaghetti  
C. embarrassment D. perseverance) ::  
ACCOMMODATION : ECSTASY
79. NOVEMBER : APRIL :: (A. May  
B. June C. July D. August) :  
SEPTEMBER
80. ENTRY : FINEST :: INITIATIVE :  
(A. halibut B. jewelry C. binder  
D. esteem)
81. (A. wasteful B. wandering C. stationary  
D. frugal) : PRODIGAL ::  
DISINTERESTED : PARTIAL
82. EIFFEL : PISA :: (A. submarine  
B. schooner C. jet plane D. paddle) :  
ROWBOAT
83. (A. pine B. cedar C. ash D. willow) :  
OAK :: MOURNFUL : STURDY
84. ADVISE : EXHORT :: (A. force  
B. tempt C. prohibit D. prevent) :  
ENTICE
85. STEEL : WELD :: LIPS : (A. frown  
B. purse C. fold D. smirk)
86. TESTIMONY : (A. confession B. judge  
C. witness D. trial) :: BIOGRAPHY :  
AUTOBIOGRAPHY
87. (A. Hinduism B. Mohammedanism  
C. Protestantism D. Catholicism) :  
BUDDHISM :: ZOROASTRIANISM :  
CONFUCIANISM

*Analogies*

88. LAMB : DEER :: (A. rabbit B. peacock  
C. snake D. pig) : LION
89. BUILDING : (A. contractor B. city  
C. foundation D. blueprint) :: CAT :  
FUR
90. (A. distance B. program C. station  
D. tube) : TELEVISION :: LEADER :  
ANARCHY
91. TATOO : VESPERS :: (A. painting  
B. needle C. revelry D. revcille) :  
MATINS
92. PROSTRATE : (A. dazzling B. stealing  
C. yielding D. dreaming) :: SUPINE :  
SLEEPING
93. WHALE : TROUT :: HARPOON :  
(A. fly B. worm C. javelin D. bait)
94. SKING : (A. snowshoe B. skate  
C. winter D. hockey) :: SNOW : ICE
95. (A. bone B. biology C. anatomy  
D. laboratory) : SKELETON :: WOOD :  
TREE
96. TINE : FORK :: (A. car B. gearshift  
C. flange D. wheelwright) : WHEEL
97. (A. tie B. appearance C. tuxedo  
D. decoration) : ATTIRE :: WIT :  
COMMUNICATION
98. SPARE : (A. strike B. allowance C. spire  
D. tire) :: RUN : HOMERUN
99. (A. grind B. thresh C. harvest D. grow)  
: WHEAT :: DISTILL : WATER
100. SYBARITE : (A. luxury B. abstemiousness  
C. intelligence D. sincerity) :: SPARTAN  
: GARRULITY

END

(SAMPLE 2)

# Analogies

(Sample 3)

**Directions:** From the four lettered words in parentheses, select that word which best completes the analogy which exists among the three capitalized words.

1. CHURCH : KIRK :: ENGLAND :  
(A. Scotland B. cathedral C. cork  
D. bishop)
  2. SHAVE : (A. lather B. blade C. razor  
D. mirror) :: KNIFE : CUT
  3. OXEN : STRENGTH :: (A. furnace  
B. animal C. assembly D. ant) :  
INDUSTRY
  4. (A. rectify B. make C. find D. realize) :  
MISTAKE :: REGAIN : LOSS
  5. SHIP : (A. crow's nest B. deck C. prow  
D. captain) :: COLUMN : CAPITAL
  - 6.
- A    B    C    D
7. CLEOPATRA : (A. Caesar B. poison  
C. Anthony D. beauty) :: GOLIATH :  
STONE
  8. (A. circle B. heart C. dissemination  
D. artery) : CIRCULATE :: DITCH :  
IRRIGATE
  9. BRIGHT : GAUDY :: (A. urged  
B. driven C. prevented D. acquiesced) :  
OBLIGED
  10. STREAM : (A. grouch B. moor C. river  
D. strand) :: SALMON : GROUSE
  11. EGO : ID :: SELF : (A. desire  
B. Rorschach C. conscience D. morality)
  12. HIGH GEAR : (A. automobile B. driver  
C. speed D. brake) :: PROGRESS :  
RECESSION
  13. (A. gem B. spore C. illegitimacy  
D. superficiality) : SPURIOUS :: MONEY  
: COUNTERFEIT
  14. LANE : PLANETARIUM :: (A. way  
B. spirit C. élan D. cluster) :  
MELANCHOLY
  15. 135 : 36 :: 253 : (A. 55 B. 54 C. 53  
D. 52)
  16. QUEUE : (A. mop B. tail C. line  
D. broom) :: CUE : BROUGHAM
  17. COLONEL : REGIMENT :: (A. major  
B. captain C. private D. general) :  
BATTALION
  18. COMPOSITION : OUTLINE :: HOUSE :  
(A. silhouette B. builder C. roof  
D. blueprint)
  19. (A. refreshing B. white C. icy D. flaky)  
: SNOW :: TALL : GIRAFFE
  20. CASTE : CLASS :: APPOINTED :  
(A. status B. achieved C. between  
D. upper-middle)
  21. INDEX : CONTENTS :: MATURITY :  
(A. adolescence B. infancy C. puberty  
D. adulthood)

*Analogies*

22. OBSEQUIOUS : POLITE :: (A. direct B. cruel C. objective D. candid) : HARSH
23. SQUARE : (A. parallelogram B. Trafalgar C. poem D. waltz) :: QUADRUPLET : COUPLET
24. ROBE : (A. priest B. state C. hangman D. court) :: SHIELD : COMMUNITY
25. (A. m B. p C. t D. l) : H :: W : S
26. CHOLERIC : PHLEGMATIC :: (A. timid B. blind C. mute D. temerarious) : CIRCUMSPECT
27. IRON : (A. hard B. strong C. steel D. pig) :: OIL : CRUDE
28. (A. astronomy B. play C. symphony D. heavens) : STAR :: CONCERTO : SOLOIST
29. DOOR : (A. key B. knock C. jamb D. room) :: TELEPHONE : RING
30. NOISE : JACKHAMMER :: (A. cup B. knife C. saddle D. manuscript) : SRIVENER
31. FAULTY : USELESS :: SLOW : (A. moronic B. intelligent C. wary D. fresh)
32. HEDGER : SHRUBBERY :: (A. snuffer B. cougher C. whittler D. stickler) : STICK
33. (A. slot B. note C. band D. harmony) : VALVE :: HARMONICA : TRUMPET
34. FLAUNT : (A. destructively B. stupidly C. willingly D. boastfully) :: BETRAY : DECEPTIVELY
35. HOUYHNHNM : YAHOO :: REASON : (A. learning B. intelligence C. ignorance D. genius)
36. DEFIED : ASTRIDE :: EARTH : (A. geography B. zoology C. birth D. life)
37. ISTANBUL : CONSTANTINOPLE :: (A. Stalingrad B. Leningrad C. Moscow D. Odessa) : ST. PETERSBURG
38. (A. 1899 B. 1900 C. 1901 D. 1902) : 1910 :: 1950 : 1959
39. DUNGEON : (A. torture B. prison C. castle D. guard) :: CELLAR : HOME
40. ABRASIVE : SANDPAPER :: (A. costly B. beautiful C. smooth D. Oriental) : SILK
41. AUTOMOBILE : COUPE :: BOAT : (A. trawler B. freighter C. yacht D. tug)
42. SHEEP : COUNT :: (A. wager B. account C. choice D. bet) : PLACE
43. MAN : (A. bird B. centipede C. elephant D. Adam) :: WHEELBARROW : BICYCLE
44. (A. scoff B. insult C. ridicule D. attack) : DERISION :: FLEE : TERROR
45. CANTON : COUNTY :: (A. Ohio B. Japan C. Switzerland D. Russia) : IRELAND
46. (A. kilogram B. chain C. peck D. transit) : SURVEYOR :: CARAT : JEWELER
47. BORROWER : BEGGAR :: (A. lender B. security C. loan D. repayment) : GIFT
48. PEN : (A. cover B. point C. pencil D. ink) :: BIT : BRACE
49. SHERRY : BEER :: PORT : (A. champagne B. sauterne C. claret D. muscatel)
50. HONOR : GOVERNOR :: (A. Excellency B. Majesty C. Highness D. Grace) : DUKE
51. ANDIRON : PEDESTAL :: (A. log B. bucket C. anvil D. skillet) : STATUE

52. GENERAL : STARS :: COLONEL :  
(A. oak B. silver C. gold D. eagle)
53. (A. insist B. reply C. demur D. demand)  
: REFUSE :: LAZY : INERT
54. COD : SEINE :: MAY : (A. Suez  
B. Hatteras C. Atlantic D. Missouri)
55. INCOGNITO : (A. detail B. combatant  
C. caricature D. conjugal) ::  
DISCHARGE : ADULT
56. POOL : SHOOT :: (A. Cain B. Eve  
C. Joshua D. Hannah) : PRAISE
57. FELONY : MISDEMEANOR :: SIN :  
(A. piccalilli B. picayune C. peccadillo  
D. picador)
58. NOSE : (A. calf B. chest C. thigh  
D. knuckle) :: CHIN : ELBOW
59. (A. boloney B. tomato juice C. roast  
chicken D. shrimp salad) : APPLE  
PIE :: ANTLERS : HOOVES
60. IBLE : ABLE :: TON : (A. acy B. cry  
C. wich D. itis)
61. MAST : SLOOP :: (A. filament  
B. socket C. light D. lamp) : BULB
62. SERIOUS : (A. laconic B. garrulous  
C. deaf D. puzzled) :: HUNGRY :  
IMPECUNIOUS
63. (A. lighthouse B. cumbersome  
C. plumbing D. spine) : DENMARK ::  
VICTORY : WARDEN
64. SYRACUSE : (A. Rochester B. Geneva  
C. Binghamton D. Goshen) ::  
CARTHAGE : ROME
65. PALL : CLOY :: (A. obligato  
B. innuendo C. declaration D. crescendo)  
: INSINUATION
66. ORGANISM : (A. plant B. animal  
C. bacteria D. cell) :: LIGHT : WAVE
67. KOLN : WEIN :: COLOGNE :  
(A. Vienna B. Prague C. Warsaw  
D. Hamburg)
68. SEDIMENT : DIME :: (A. discussion  
B. debate C. argument D. rally) : GUM
69. SAXOPHONE : (A. harp B. sandwich  
C. distance D. bag) :: HANSOM :  
MACADAM
70. BUTTERFLY : (A. insect B. silkworm  
C. wings D. summer) :: CHRYSALIS  
: COCOON
71. ICELAND : NORWAY :: (A. winter  
B. thorns C. president D. sovereign) :  
CROWN
72. (A. discourse B. plot C. Olympics  
D. Greek) : PLATO :: TEAM :  
MANET
73. CYLINDER : MOTOR ::  
FOUNDATION : (A. plan B. house  
C. brick D. basis)
74. BANANA : (A. sapphire B. saltceller  
C. stone D. tree) :: BUTTER : SKY
75. GNASH : TEETH :: (A. fold B. clasp  
C. gnarl D. wring) : HANDS
76. (A. opossum B. fox C. beaver D. lady)  
: KANGAROO :: CHICKEN :  
COCKROACH
77. QUESTION MARK : COLON ::  
SEMICOLON : (A. dash B. parentheses  
C. hyphen D. comma)
78. (A. roast B. grill C. bake D. boil) :  
CLAM :: FRY : FISH
79. CLARINET : PIANO :: WIND :  
(A. string B. wood C. percussion  
D. pianist)
80. ELEVATOR : SKYSCRAPER ::  
(A. escalator B. companionway  
C. bulkhead D. bridge) : SHIP
81. PROPENSITY : (A. riches B. weight  
C. bias D. thought) :: BAT : CLUB
82. SALZBURG : STRATFORD ::  
(A. Connecticut B. Avon C. Mozart  
D. Germany) : SHAKESPEARE

*Analogies*

83. FLAMMABLE : INFLAMMABLE ::  
PERTINENT : (A. impertinent  
B. inopportune C. incoherent D. relative)
84. (A. revolution B. dance C. torque  
D. axis) : ROTATE :: FRICTION :  
RESIST
85. PRISM : (A. spectrum B. reflection  
C. light D. binoculars) :: FAMINE :  
WANT
86. LOOP : HUB :: BEEF : (A. corn  
B. beans C. tobacco D. cotton)
87. JANUARY : (A. Cleveland B. Cincinnati  
C. Washington D. Seattle) :: SUNDAY :  
JUPITER
88. LIFT : ELEVATOR :: (A. oil B. grease  
C. gas D. petrol) : GASOLINE
89. (A. wall B. posse C. antic D. hose) :  
BLAST :: NOTARY : OPTIMISM
90. TORT : LITIGATION :: CONTRACT :  
(A. signature B. obligation C. clause  
D. equity)
91. BULL : (A. wolf B. turtle C. fish  
D. snail) :: CRAB : LION
92. EVIL : LIVE :: WOLF : (A. sheep  
B. good C. flow D. worry)
93. FILIGREE : METAL :: (A. lace  
B. linen C. cotton D. silk) : THREAD
94. GARROTING : DEATH :: FRICTION :  
(A. rubbing B. lubricant C. heat  
D. slaughter)
95. (A. philosophy B. territory C. mountain  
D. restaurant) : INSINCERITY ::  
SLAVERY : LOVE
96. SICKLE : RUSSIA :: (A. scythe  
B. crescent C. Caspian D. Dardanelles) :  
TURKEY
97. CICERO : DEMOSTHENES ::  
ROOSEVELT : (A. MacArthur  
B. Hemingway C. Shaw D. Churchill)
98. MINUTE : (A. steak B. hour  
C. second D. immensity) :: PAGE :  
BOOK
99. COKE : COAL :: (A. firewood  
B. planks C. saw D. lumberjack) :  
TIMBER
100. SHOE (A. fly B. cobbler C. pair  
D. bell) : SAW :: GEAR

END

(SAMPLE 3)



ANSWER SHEET

NAME

- |    |   |   |   |   |    |   |   |   |   |    |   |   |   |   |    |   |   |   |   |
|----|---|---|---|---|----|---|---|---|---|----|---|---|---|---|----|---|---|---|---|
| 1  | A | B | C | D | 26 | A | B | C | D | 51 | A | B | C | D | 76 | A | B | C | D |
| 2  | A | B | C | D | 27 | A | B | C | D | 52 | A | B | C | D | 77 | A | B | C | D |
| 3  | A | B | C | D | 28 | A | B | C | D | 53 | A | B | C | D | 78 | A | B | C | D |
| 4  | A | B | C | D | 29 | A | B | C | D | 54 | A | B | C | D | 79 | A | B | C | D |
| 5  | A | B | C | D | 30 | A | B | C | D | 55 | A | B | C | D | 80 | A | B | C | D |
| 6  | A | B | C | D | 31 | A | B | C | D | 56 | A | B | C | D | 81 | A | B | C | D |
| 7  | A | B | C | D | 32 | A | B | C | D | 57 | A | B | C | D | 82 | A | B | C | D |
| 8  | A | B | C | D | 33 | A | B | C | D | 58 | A | B | C | D | 83 | A | B | C | D |
| 9  | A | B | C | D | 34 | A | B | C | D | 59 | A | B | C | D | 84 | A | B | C | D |
| 10 | A | B | C | D | 35 | A | B | C | D | 60 | A | B | C | D | 85 | A | B | C | D |

Make only ONE mark for each answer. Additional and stray marks may be counted as mistakes. In making corrections, erase errors COMPLETELY.

- |    |   |   |   |   |    |   |   |   |   |    |   |   |   |   |     |   |   |   |   |
|----|---|---|---|---|----|---|---|---|---|----|---|---|---|---|-----|---|---|---|---|
| 11 | A | B | C | D | 36 | A | B | C | D | 61 | A | B | C | D | 86  | A | B | C | D |
| 12 | A | B | C | D | 37 | A | B | C | D | 62 | A | B | C | D | 87  | A | B | C | D |
| 13 | A | B | C | D | 38 | A | B | C | D | 63 | A | B | C | D | 88  | A | B | C | D |
| 14 | A | B | C | D | 39 | A | B | C | D | 64 | A | B | C | D | 89  | A | B | C | D |
| 15 | A | B | C | D | 40 | A | B | C | D | 65 | A | B | C | D | 90  | A | B | C | D |
| 16 | A | B | C | D | 41 | A | B | C | D | 66 | A | B | C | D | 91  | A | B | C | D |
| 17 | A | B | C | D | 42 | A | B | C | D | 67 | A | B | C | D | 92  | A | B | C | D |
| 18 | A | B | C | D | 43 | A | B | C | D | 68 | A | B | C | D | 93  | A | B | C | D |
| 19 | A | B | C | D | 44 | A | B | C | D | 69 | A | B | C | D | 94  | A | B | C | D |
| 20 | A | B | C | D | 45 | A | B | C | D | 70 | A | B | C | D | 95  | A | B | C | D |
| 21 | A | B | C | D | 46 | A | B | C | D | 71 | A | B | C | D | 96  | A | B | C | D |
| 22 | A | B | C | D | 47 | A | B | C | D | 72 | A | B | C | D | 97  | A | B | C | D |
| 23 | A | B | C | D | 48 | A | B | C | D | 73 | A | B | C | D | 98  | A | B | C | D |
| 24 | A | B | C | D | 49 | A | B | C | D | 74 | A | B | C | D | 99  | A | B | C | D |
| 25 | A | B | C | D | 50 | A | B | C | D | 75 | A | B | C | D | 100 | A | B | C | D |

TEAR OUT ALONG THIS LINE AND MARK YOUR ANSWERS AS INSTRUCTED

3. Homework for Sentence Completion

## SENTENCE COMPLETION

1. After reading the sentence and before looking at the answer choices, think of words you would insert and look for synonyms to them. Example:

Money \_\_\_\_\_ to a political campaign should be used for political purposes and nothing else.

How would you fill in the blank? Maybe with the word given or donated? Now look at the choices and find a synonym for given or donated:

- |               |                 |               |
|---------------|-----------------|---------------|
| (A) used      | (C) contributed | (E) channeled |
| (B) forwarded | (D) spent       |               |

The best answer is (C), contributed; it is the nearest synonym to given or donated and makes good sense in the sentence.

2. Look for signal words. Some signal words are "however," "although," "on the other hand," and "but." Example:

Most candidates spend \_\_\_\_\_ they can raise on their campaigns, but others wind up on election day with a \_\_\_\_\_.

- |                          |                          |
|--------------------------|--------------------------|
| (A) so...bankroll        | (D) every cent...deficit |
| (B) time...vacation      | (E) nothing...war chest  |
| (C) everything...surplus |                          |

But signals that the first half of the sentence contrasts with the second half. The fact that most candidates spend everything--- (and end up with nothing) contrasts with those who end up with a surplus. (C) is the correct answer.

3. Watch for contrasts between positive and negative words. Look for words like "not," "never," and "no." Example:

A virtuous person will not shout \_\_\_\_\_ in public; he will respect the \_\_\_\_\_ of other people.

The first blank is obviously a negative word, something a good person would not do; the second blank is a positive word, something a good person would do. Here are the choices:

- |                            |                          |
|----------------------------|--------------------------|
| (A) obscenities...feelings | (D) blessings...cynicism |
| (B) loudly...comfort       | (E) insults...threats    |
| (C) anywhere...presence    |                          |

(B) is neutral-positive; (C) is neutral-neutral; (D) is positive-negative; (E) is negative-negative. Only (A) offers a negative-positive pair of words; (A) is the best choice.

4. Sometimes it is more efficient to work from the second blank first. Example:

The merger will eliminate \_\_\_\_\_ and provide more \_\_\_\_\_ cross-training of staff.

- (A) profit...and more                      (D) bosses...wasteful  
 (B) paperwork...or less                    (E) competitors...aggressive  
 (C) duplication...effective

The second blank is something that is "provided." Chances are that something provided is a positive word, and effective seems like a good choice. Reading choice (C) into the sentence, we find that it makes good sense and is stylistically or structurally correct.

5. What "sounds wrong" should be eliminated. Example:

High school students should not be \_\_\_\_\_ as being immature or naive.

- (A) helped                                      (C) directed                                      (E) taught  
 (B) shoved                                      (D) categorized

The only word that sounds right with "as" is "categorized"; (D) is the best choice.

**TRY THESE**

1. Rural dwellers who hold \_\_\_\_\_ values may, at times, be altogether uncritical of the various federal programs aimed at the regulation and \_\_\_\_\_ of agriculture.

- (A) rigorous...subsidization  
 (B) conventional...subsidization  
 (C) ludicrous...obfuscation  
 (D) rhythmic...communization  
 (E) similarity...decimation

2. The starfish is a radially \_\_\_\_\_ animal with arms or rays arising from a central portion called the disc.

- (A) rubberized                                      (D) rectangular  
 (B) obtuse    (E) symmetrical  
 (C) stenographic

3. The population of a species at any given time is determined by the ratio of the biotic \_\_\_\_\_ to environmental resistance.

- (A) jeopardy    (D) lexicon  
 (B) potential    (E) annoyance  
 (C) excitement

4. Rite of Passage is a good novel by any standards; \_\_\_\_\_, it should rank high on any list of science fiction.

- (A) consistently    (D) consequently  
 (B) invariably    (E) fortunately  
 (C) lingeringly

5. When one is thrust into an unknown world, he is careful to note the conditions in which he finds himself, \_\_\_\_\_ them with his \_\_\_\_\_.

- (A) bemusing...daydreams                                      (D) concurring...thoughts  
 (B) refuting...expertise                                      (E) comparing...expectations  
 (C) congealing...observations

## ANSWERS EXPLAINED

1. The correct answer is (B). Those who are "uncritical" of "regulation" would tend to hold conventional values. Along with this, subsidization (Support) makes good sense.
2. The correct answer is (E), symmetrical. Since the arms or rays arise from a central portion, they would most likely be radially symmetrical. The only other possibility is choice (D), "rectangular," but this conflicts with "radially" and "arising from a central portion."
3. The best choice is (B), potential. The clue words in this sentence are "ratio" and "resistance." The word "resistance" has a negative connotation. "Ratio" suggests that the answer will need to contrast with "resistance." The only positive words provided as choices are (B) potential, and (C) excitement. Excitement does not provide the sentence with proper contextual meaning.
4. The best choice is (D), consequently. The semicolon is needed to connect the two clauses. The second part of the sentence positively extends the quality of the novel stated in the first part. The connecting word consequently provides the direction needed to extend the meaning of the first part of the sentence.
5. The best choice is (E), comparing...expectations. The signal clues are "unknown world" and "careful to note." "Careful to note" suggests careful thought or comparing, while "unknown world" suggests a meaning in this sentence that is best fulfilled by the word expectations. In choice (B), the word "refuting" is negative and does not convey the intended meaning of "careful to note."

## ONE MORE!

6. In his large, \_\_\_\_\_ home, he was able to \_\_\_\_\_ himself from the rigors of urban life.
- |                            |                           |
|----------------------------|---------------------------|
| (A) palatial...sequester   | (D) inconsiderable...hide |
| (B) rambunctious...isolate | (E) dashing...stigmatize  |
| (C) colonial...dignify     |                           |

The phrase "from the rigors" requires that the second word in our choice convey a meaning of escape or hiding. The words "large" and "home" require a positive word that describes a home. Choice (A), palatial...sequester, is the only choice which meets these requirements.

## ANOTHER?

7. Mr Hoffer's primary criticism of Jack is that he is \_\_\_\_\_ and lacks the personal drive to make something of the many opportunities afforded him. (A) pugnacious (B) odious (C) transgression (D) indecisive (E) peculiarity

The best choice is (D) indecisive. It is the only word which fits contextually and structurally into the sentence.

TRY YOUR HAND AT THE FOLLOWING QUESTIONS. ANSWERS AT THE END.

## EC-201. SENTENCE COMPLETIONS

DIRECTIONS. Write the letter of the word or pair of words which, when inserted in the blank spaces, best fits in with the meaning of the sentence as a whole.

*Example:* Poets are observing and thinking while others are robbing and fighting, and they accomplish their ends by \_\_\_ rather than \_\_\_ power.

(A)scholarly--literary (B)obvious--subtle (C)intellectual--physical (D)active--passive (E)bodily--mental      Ans: .C.

1. The name "planet" comes from a Greek word meaning "\_\_\_", because, to the ancients, these heavenly bodies appeared to move about among the stars instead of having fixed places.  
(A)little moon (B)to wander (C)leader (D)to shine (E)to lose 1...
2. Behind the \_\_\_ of sloppy sports clothes or overdone glamour may be found a bewildered, uncertain girl, trying valiantly to grow up.  
(A)facade (B)frame (C)ornaments (D)attitude (E)elements 2...
3. Frankenstein's creation was not originally monstrous; he was at first a \_\_\_ being, longing for human \_\_\_\_\_.  
(A)particular--perfection (B)beautiful--blood (C)sullen--mischief (D)gentle--affection (E)remarkable--nourishment 3...
4. The Trolls are dwarfs of Northern mythology; they are represented as stumpy, inclined to thievery, and fond of carrying off children and \_\_\_ their own.  
(A)maltreating (B)imitating (C)hiding (D)abetting (E)substituting 4...
5. If a school building can give a child a feeling of warmth and security, if atmosphere is as important to learning as \_\_\_ say it is, then parents owe a tremendous debt to both \_\_\_ and educators.  
(A)experts--children (B)builders--themselves (C)psychologists--architects (D)mathematicians--inventors (E)taxpayers--politicians 5...
6. Both actresses are very good indeed, and there are areas in which each is \_\_\_, but Miss Coulter's material seems to me somewhat \_\_\_\_\_.  
(A)lacking--restrained (B)artificial--hilarious (C)enthusiastic--enigmatic (D)superlative--superior (E)nervous--lackluster 6...
7. Certain types of cancer can be rendered all but \_\_\_ by early \_\_\_ and treatment.  
(A)inactive--cure (B)immovable--acceleration (C)harmless--detection (D)fatal--medication (E)alarming--methods 7...
8. The main purpose of letters is the practical one of making thoughts \_\_\_\_\_.  
(A)pertinent (B)inspiring (C)universal (D)visible (E)unnecessary 8...
9. To the man who has the religion of peace, the supreme value is love; to the man who has the religion of war the supreme value is \_\_\_\_\_.  
(A)money (B)companionship (C)strife (D)unity (E)isolation 9...
10. In French, twenty-five letters of the alphabet are used, the w being added only for \_\_\_ words.  
(A)scientific (B)mispronounced (C)difficult (D)unfamiliar (E)foreign 10...

## EC-202 . SENTENCE COMPLETIONS

DIRECTIONS: Write the letter of the word or pair of words which, when inserted in the blank spaces, best fits in with the meaning of the sentence as a whole.

**Example:** Poets are observing and thinking while others are robbing and fighting, and they accomplish their ends by \_\_\_ rather than \_\_\_ power.

(A) scholarly--literate (B) obvious--subtle (C) intellectual--physical (D) active--passive (E) bodily--mental

Ans: C.

1. Some experts feel that the current business boom is in danger of getting out of hand because the \_\_\_ being imposed by government policy are not \_\_\_ enough.  
(A) restraints--strong (B) penalties--severe (C) fines--high (D) conditions--prosperous (E) methods--political 1...
2. It was not only fear that led Strickland to break off his association with \_\_\_; he was also motivated by a yearning for the appearance of \_\_\_.  
(A) his mother--kindness (B) the underworld--respectability (C) the government--independence (D) baseball--safety (E) society--wealth 2...
3. Registration of a trade-mark is not \_\_\_, for a trade-mark rightfully belongs to the first person who has used it.  
(A) legal (B) obligatory (C) advisable (D) ethical (E) good 3...
4. Arabic numerals are used in expressions of quantity or measurement, in \_\_\_, and in matter that is primarily statistical.  
(A) quotations (B) evaluations (C) parenthesis (D) enumerations (E) narratives 4...
5. When a man builds his own home today, the house itself may be shiny and \_\_\_, but not a thing is known about the \_\_\_ who made it.  
(A) functional--people (B) useless--slaves (C) overpriced--creatures (D) old-fashioned--workers (E) elaborate--carpenters 5...
6. Schoolboys of the stern past knew the birch for its \_\_\_ as well as its bark; to them that tree meant the \_\_\_ his schoolmaster did not spare.  
(A) leaves--frowns (B) shade--punishment (C) usefulness--paper (D) bite--rod (E) acorns--ink 6...
7. We thought that our climb had been ended by this \_\_\_ wall, but Donahue, more \_\_\_ than the rest of us, called out, "It doesn't look so steep from closer up!"  
(A) low--courageous (B) precipitous--optimistic (C) granite--light-footed (D) inscrutable--persevering (E) inexplicable--cautious 7...
8. Any native American who has not attended a well-conducted \_\_\_ ceremony has missed an \_\_\_ experience.  
(A) naturalization--inspiring (B) marriage--upsetting (C) indoctrination--uproarious (D) graduation--inevitable (E) initiation--overrated 8...
9. Any words of mine concerning the author seem \_\_\_ in the presence of the fine examples of his work that are bound between these two covers.  
(A) unflattering (B) superfluous (C) monotonous (D) disastrous (E) circumstantial 9...
10. \_\_\_ alone is not and should not be the proper objective of effective diplomacy.  
(A) Success (B) Equality (C) Travel (D) Peace (E) Charity 10...

## EC-203. SENTENCE COMPLETIONS

DIRECTIONS. Write the letter of the word or pair of words which, when inserted in the blank spaces, best fits in with the meaning of the sentence as a whole.

Example: Poets are observing and thinking while others are robbing and fighting, and they accomplish their ends by \_\_\_ rather than \_\_\_ power.

(A)scholarly--literary (B)obvious--subtle (C)intellectual--physical (D)active--passive (E)bodily--mental

Ans: C.

1. Aristotle looked upon slaves as animate tools, and thought that slavery would continue until all \_\_\_ work could be done mechanically.  
(A)unnecessary (B)important (C)menial (D)skilled (E)technical 1...
2. "Even though I've never married", said Mr. Dooley, "I know about marriage the way \_\_\_ knows about \_\_\_."  
(A)a mother--children (B)a jailer--discipline (C)a cat--catnip (D)a miser--money (E)an astronomer--the stars 2...
3. I have found some of the best reasons I ever had for remaining at the bottom simply by \_\_\_\_\_.  
(A)looking at my shoes (B)admiring the beauties of nature (C)using will-power (D)looking at the men on top (E)admiring my superiors 3...
4. It was better, he thought, to fail in attempting exquisite things, than to succeed in the department of the utterly \_\_\_\_\_.  
(A)contemptible (B)impossible (C)hopeless (D)impractical (E)idealistic 4...
5. I wish that someone would give a course in how to \_\_\_\_; it can't be taught in the colleges, obviously, for professors don't know any better than the rest of us.  
(A)swim (B)spell (C)study (D)live (E)fly 5...
6. He taught that to \_\_\_ injustice was a greater evil than to \_\_\_ it.  
(A)advocate--encourage (B)correct--practice (C)inflict--suffer (D)countenance--ignore (E)undergo--admire 6...
7. In most parts of the world today, \_\_\_ dynasties have disappeared, but \_\_\_ dynasties survive.  
(A)foreign--native (B)acquired--inherited (C)modified--absolute (D)religious--heretical (E)political--economic 7...
8. He is extremely methodical, and attacks every problem \_\_\_\_\_.  
(A)unwillingly (B)headlong (C)deliberately (D)eagerly (E)laboriously 8...
9. In terms of development, it is entirely natural for a young child to be at times \_\_\_ and at other times \_\_\_\_\_.  
(A)ignorant--scholarly (B)amenable--assertive (C)radical--conservative (D)virtuous--wicked (E)robust--moribund 9...
10. Hegel's philosophy as a whole is difficult to understand, and it has been said that all the books dealing with the \_\_\_ of Hegel have managed to keep it.  
(A)system (B)analysis (C)scholarship (D)secret (E)metaphysics 10...

## ANSWERS

| EC-201 | EC-202 | EC-203 |
|--------|--------|--------|
| 1. B   | 1. A   | 1. C   |
| 2. A   | 2. B   | 2. E   |
| 3. D   | 3. B   | 3. D   |
| 4. E   | 4. D   | 4. A   |
| 5. C   | 5. A   | 5. D   |
| 6. D   | 6. D   | 6. C   |
| 7. C   | 7. B   | 7. E   |
| 8. D   | 8. A   | 8. C   |
| 9. C   | 9. B   | 9. B   |
| 10. E  | 10. D  | 10. D  |

## HOW ABOUT A CHALLENGE?

- His \_\_\_\_\_ was \_\_\_\_\_ during the serious conversation.
  - propinquity...sylvan
  - rapacity...vaunted
  - scarab...palpable
  - travail...jaded
  - badinage...inappropriate
- Her tendency to \_\_\_\_\_ her success.
  - expiate...repleted
  - ferret...superseded
  - imbibe...reviled
  - vacillate...purloined
  - procrastinate...impeded
- \_\_\_\_\_ and \_\_\_\_\_ are usually studied by those who enjoy language.
  - liturgy...pantheism
  - philology...etymology
  - prosody...ubiquity
  - tautology...dimony
  - railery...verity
- When I am \_\_\_\_\_ I am also \_\_\_\_\_.
  - scintillating...verbose
  - quiescent...succinct
  - lugubrious...lachrymose
  - reviled...providential
  - providential...rubicund
- Stealing from the aged is an \_\_\_\_\_ act.
  - approbrious
  - unctuous
  - igneous
  - ecumenical
  - euphemistic

1. (E) ; 2. (E) ; 3. (B) ; 4. (C) ; 5. (A)  
ANSWERS:

4. Homework for Reading Comprehension

## READING COMPREHENSION

This section of the test tests your ability to understand, interpret, and analyze reading passages on a variety of topics. You should answer all the questions for one passage that you can, before you move on to another passage. If you don't know an answer, you should take an educated guess, or skip it totally. Here are some suggestions for this section of the test:

1. Skim the questions first, marking words which give you a clue about what to look for when you read the passage.
2. Skim the passage, reading only the first sentence of each paragraph.
3. Read the passage, marking main points, important conclusions, names, definitions, places, and numbers. Mark only a few marks per paragraph. Passage:

\*By the time a child starts school, he has mastered the major part of the rules of his grammar. He has managed to accomplish this remarkable feat in such a short time by experimenting with and generalizing the rules all by himself. Each child, in effect, rediscovers language in the first few years of his life.

\*When it comes to vocabulary growth, it is a different story. Unlike grammar, the chief means through which vocabulary is learned is memorization.\* And some people have a hard time learning and remembering new words.

\* - Indicates portions of the passage which refer directly to a question you've skimmed. Also marked are main points and key terms.

1. A child has mastered many rules of grammar by about the age of  
(A) 3 (B) 5 (C) 8 (D) 10 (E) 18

The first sentence of the passage contains several words from this question, so it is likely to contain the correct answer. "By the time a child starts school" tells us that the answer is "5." Before choosing (B), you should look at all the answers and cross out those which seem incorrect.

2. Although vocabulary growth involves memorization and grammar-learning doesn't, we may conclude that both vocabulary and grammar make use of:

(A) memorization (C) words (E) teachers  
(B) study skills (D) children

The question asks you to simply use your common sense. (A) is incorrect; it contradicts both the passage and the question itself. (D) and (E) make no sense. (B) is a possibility, but (C) is better, because grammar-learning in young children does not necessarily involve study skills, but does involve words.

3. The last sentence in the passage implies that  
(A) some people have no trouble learning and remembering new words  
(B) some people have a hard time remembering new words  
(C) grammar does not involve remembering words  
(D) old words aren't often remembered  
(E) learning and remembering are kinds of growth

"Implies" tells us that the answer is something suggested, but not explicitly stated in the passage. (B) is explicitly stated in the passage, so it may be eliminated. But (B) implies the opposite; if some people have a hard time, then it must be true that some people don't. (A) is therefore correct. (C), (D), and (E) are altogether apart from the meaning of the last sentence.

The reading comprehension question is designed to evaluate your ability to read with understanding and discrimination. It seeks to measure specifically certain significant skills connected with reading power: ability to understand accurately what is read, to make logical inferences, to perceive the nuances of thought, to read with a speed that will successfully meet the time requirements for reading in the average college curriculum. By far the largest portion of the SAT is devoted to reading comprehension, actually the core skill that is prerequisite to success in college.

The reading comprehension test is not an achievement test, that is, one that measures the candidate's knowledge of a specific school curriculum. It is a scholastic aptitude test which measures reasoning ability as a requisite for reading power. The reasoning skill is evaluated by the student's ability to make judgements on the basis of what he has read in a selection. The student is asked to select the correct answer out of five given choices. This exercise calls for the power of drawing inferences from a selection of moderately difficult prose, the ability to perceive irrelevances, to think precisely as well as logically. The student is not expected to have prior knowledge of the subject matter in the selections.

Read the following passages and answer the questions. The answers are explained at the end of this packet.

#### PASSAGE ONE

There is, of course, another side to this thematic origin of scientific thought. Dedicating oneself to some presuppositions or themata means one is likely to exclude others, as Einstein indeed did when he refused to accept the themata that were so basic in the work of the Copenhagen school on Quantum mechanics. Just because they are not contingent on empirical ground, one can expect contrary themata to be vigorously held by opposing sides (as in the case, for example, of the theme-antitheme couple of atomism and the continuum). In the thematic conflict between scientists during the rise of Quantum mechanics in the 1920's, some looked to Erwin Schrödinger's introduction of wave mechanics as "a fulfillment of a long baffled and insuppressible desire" (as one physicist expressed it in 1927). Others

abhorred this continuum-based approach and found satisfaction only in fundamental explanations rooted in the themata of discreteness. Both groups faced, on the whole, the same experimental data. But the passionate pursuits of their antithetical quests show the strength which the thematic attachment often has.

When one lists the general themes that have guided the process of scientific discovery of individual scientists and of the profession as a whole, one is struck by the antiquity and relative paucity of themata—by the remarkable fact that while the range and scale of recent theory, experience, and experimental means have multiplied vastly over the centuries, the number and kind of chief thematic elements have changed little. Since Parmenides and Heraclitus, the members of the thematic dyad of Constancy and Change have vied for loyalty, and so have, ever since Pythagoras and Thales, the efficacy of mathematical forms versus the efficacy of materialistic or mechanistic models. The (usually unacknowledged) presuppositions pervading the work of scientists have long included such thematic preconceptions as these: simplicity, order, and symmetry; the primacy of experience versus that of symbolic formalism; reductionism versus holism; discontinuity versus the continuum; hierarchical structure versus unity; the animate versus the inanimate; the use of mechanisms versus teleological or anthropomorphic modes of approach.

1. According to this selection, back in the 1920s a dispute among scientists involved 1. (A) (B) (C) (D) (E)
  - (A) the quantum versus the wave theory
  - (B) the Copenhagen school as opposed to the Einsteinian
  - (C) Schrödinger's "wave mechanics" as opposed to the quantum theory
  - (D) themata as opposed to empiricism
  - (E) the themata of the continuum as opposed to the themata of separateness
  
2. One purpose of the first paragraph of this selection seems to be 2. (A) (B) (C) (D) (E)
  - (A) to point out how difficult and controversial scientific theory can be
  - (B) to show that scientific knowledge is frequently based upon human prejudice
  - (C) to show how several scientists, handling very much the same basic data, can come to diverse and even antithetical conclusions
  - (D) to show the true nature of the brilliance of Einstein's mind
  - (E) to show the shortcomings of the scientific approach to problems
  
3. Which one of the following statements is attested to by the second paragraph? 3. (A) (B) (C) (D) (E)
  - (A) dyads are an important element in scientific research
  - (B) the number and varieties of theory and experimentation have far exceeded what appear to be chief thematic elements in science
  - (C) the ancient Greeks contributed relatively little to modern scientific theory
  - (D) the veins of ancient themata are both rich and fertile
  - (E) there is nothing new under the sun

4. Among the following combinations, which one is *not* among the presuppositions pervading the work of scientists? 4. (A) (B) (C) (D) (E)
- (A) constancy and change
  - (B) reductionism versus holism
  - (C) use of mechanisms versus teleological methods of approach
  - (D) use of mechanisms versus anthropomorphic methods of approach
  - (E) teleological as opposed to theological modes of approach

### Passage Two

Under the microscope, a drop of swamp water resembles a "wonderland" of strange forms and beautiful colors—tiny spheres of green, yellow, or golden brown. Here a strand of bright green beads; there minute stars mingled in a net of delicate green strands. Suddenly a tiny green sphere swims by as it vibrates its slender flagellae.

These fantastic forms belong to tiny plants called algae. Some are 1/25,000 of an inch in diameter. Their bodies consist of a single cell. Others have several cells grouped in chains, spheres, cubes, or flat plates, yet each cell in the colony is independent. Not all algae are microscopic. Some seaweeds are 30 meters long.

Algae live in varied environments all over the world. They are found in fresh and salt water, in hot springs, on ice, on soil, almost anywhere from pole to pole.

All algae have certain things in common. They never have true roots, stems or leaves. They all have chlorophyll and can manufacture food. Different groups of algae are classified according to the presence of pigments that may hide the chlorophyll.

Are algae important? Ecologists estimate that algae in the ocean may be the source of up to 80% of our oxygen supply!

5. The most serious, worldwide effect of bad pollution of ocean waters is that it may 5. (A) (B) (C) (D) (E)
- (A) cause odors
  - (B) reduce oxygen supply
  - (C) kill clams
  - (D) prevent swimming
  - (E) cause docks to rot
6. Which could be true of algae? 6. (A) (B) (C) (D) (E)
- (A) they are microscopic
  - (B) they can manufacture food
  - (C) they are 30 meters long
  - (D) they can grow in hot springs
  - (E) all of these
7. From this passage we may infer that algae 7. (A) (B) (C) (D) (E)
- (A) live only in water
  - (B) require warm climates
  - (C) have evolved to produce many adaptations
  - (D) do not need sunlight
  - (E) always live in single cells

8. What trait do some algae have which shows relationship to animal cells?

- (A) they have no true roots
- (B) they have cell walls
- (C) they manufacture food
- (D) they grow on soil
- (E) they move around by means of flagellae

8. (A) (B) (C) (D) (E)

### Passage Three

Just why some individuals choose one way of adjusting to their difficulties and others choose other ways is not known. Yet what an individual does when he is thwarted remains a reasonably good key to the understanding of his personality. If his responses to thwartings are emotional explosions and irrational excuses, he is tending to live in an unreal world. He may need help to regain the world of reality, the cause-and-effect world recognized by generations of thinkers and scientists. Perhaps he needs encouragement to redouble his efforts. Perhaps, on the other hand, he is striving for the impossible and needs to substitute a worthwhile activity within the range of his abilities. It is the part of wisdom to learn the nature of the world and of oneself in relation to it, and to meet each situation as intelligently and as adequately as one can.

9. Which of the following statements seems best to summarize the author's conclusions?

- (A) it is really not difficult to understand why some people adjust to life in one way and other people adjust in another way
- (B) it is important to know the nature of the world and to understand one's own relationship to it
- (C) without faith and self-knowledge, adjustment to the world and its problems is almost impossible
- (D) it is irrational to explode simply because one feels at odds with the world
- (E) you can tell much about a person's nature by the way he reacts to difficult situations

9. (A) (B) (C) (D) (E)

10. "Emotional explosions and irrational excuses" seem to indicate

- (A) that a person is angry
- (B) that a person is basically uncontrolled
- (C) that a person tends to live in an unreal world
- (D) that a person needs psychiatric assistance
- (E) that we all have our problems

10. (A) (B) (C) (D) (E)

11. The way a person reacts under stress may provide a good key to an understanding of

- (A) his religious background
- (B) his social milieu
- (C) his innermost needs
- (D) his personality
- (E) his basic desires

11. (A) (B) (C) (D) (E)

12. Sometimes a person's difficulties may be caused by

12. A B C D E

- (A) irrational reactions
- (B) striving for unrealistic goals
- (C) strong emotions
- (D) scientific knowledge
- (E) unknown sources

#### Passage Four

Hope would promise a foothold out of the nightmare. Beckett's characters, in the main, live nowhere; those in Sartre's play are dead; and Rosencrantz and Guildenstern have no existence except in terms of another dramatic work. In the Absurdist plays the people are characters in someone else's play rather than in real life (such as Pirandello's *Six Characters*). Or else everyone is turning into a rhinoceros. Or time is slowed down for them so that (as in *The Room*) every particle of thought or emotion is relentlessly brought to the surface by microscopic dialogue. Or every day is the same as the day before or after. Or they are in hell. Or in piles of sand or dustbins. Or they are metaphors, images, of a single individual's reality. They are unreal also in having no blood ties or kinship. Marriage is possible, but there are no siblings or children; and in most of the plays, though not all, the main figures are male.

This surreality I take to find its analogue in the T-Group in that the latter, even as it is really practiced, is impossible in a special sense. Two reactions are often forthcoming when one attempts to describe the T-Group form to a layman. One, that people ought to leave. The other, often with some vehemence, that it is nonsense, pointless, of no meaning. Yet this reaction usually comes across as a challenge, of the form, "Go on, prove that it is not nonsense!"

But this is impossible, because it is nonsense. It is a Nonsense group. That is, in the extreme form in which I have described it, it can have no purpose in itself beyond that of letting itself exist, and seeing what it is like. It could occur as a natural, fluid result of any other events or relations in secular society. Therefore to use it in dramatic terms must imply some reference to a surreal, allegorical, or metaphysical world. I know of no play where a therapeutic group has been portrayed literally; but if it were it would at once turn into a social problem play. This is because on stage the T-Group could not be a "pure case." It would be a T-Group watched by an audience. Internally, the taskless group can have no witnesses.

13. The relationship that the author establishes between the T-Group and Absurdist plays lies in the fact that

13. A B C D E

- (A) both are contemporary comments on life, society, and the individual's attempt to adjust
- (B) each has about it a sense of surrealism
- (C) members of T-Groups have written and produced plays of considerable interest and importance
- (D) Sartre and Beckett seemed taken with the notion of the T-Group
- (E) each is another form of the other

14. It would appear from the author's comments that Rosencrantz and Guildenstern

14. A B C D E

- (A) are characters in a Beckett play
- (B) are playwrights in the surrealist idiom
- (C) are characters in a play
- (D) are philosophical concepts embodied in two characters
- (E) are dead

15. The statement that the T-Group "is a Nonsense group" is meant to be 15. **A B C D E**  
 (A) a derogatory statement  
 (B) an amusing aside  
 (C) a statement of fact, according to the author's view  
 (D) the judgment of contemporary literary philosophers  
 (E) the feeling of members of the T-Group
16. A fair statement about the characters in Absurdist plays would be 16. **A B C D E**  
 (A) that they represent heroic aspects of the human condition  
 (B) that they present profound religious convictions of another time  
 (C) that they are to be identified with problems of our day  
 (D) that they are not to be interpreted as real, living people  
 (E) that they have warm interpersonal relationships
17. One would assume that the author refers to the Absurdist plays 17. **A B C D E**  
 (A) to substantiate his discussion of the contemporary theater  
 (B) to clarify his discussion of the T-Group  
 (C) to explain the influence of Sartre and Pirandello on modern thought  
 (D) to illustrate what he means by a "social-problem" play  
 (E) to change the pace of his discussion of an abstruse idea

#### Passage Five

Ecology is that branch of science which concerns itself with the relationships between living things (plants and animals) and their natural environments. Human ecology specializes in man's relationship to his natural environment.

Ecology has become of great importance in recent years because of man's devastating impact on his habitat. High schools and colleges across the nation offer special courses in this subject area to make young people aware of the impact of air, water, and land pollution on the quality of man's environment. To the growing pollution of our natural environment we must add soil erosion, destruction of forests, and deposits of large accumulations of solid wastes as causes for concern about the future quality of our natural environment.

Rachel Carson, in her far-reaching book, *Silent Spring*, published in the late fifties, alerted many Americans to the dangers of land and water pollution to the natural wildlife. Man's excessive use of DDT and other pesticides has destroyed much of the bird life and fish in our land. She predicted the wholesale extinction of natural animal life. Many experts have confirmed Rachel Carson's fears that the basic problem of ecology is to determine how far man can go in modifying his environment. In some instances man has changed his environment to such an extent that it has now become a question as to how long life can be preserved on our planet. Whether the problem is real or imaginary, experts agree that man has become the victim of his creativity and genius. Scientists have shown through extensive research that natural habitats are changing because of the spectacular advances in the application of science and industry.

The Great Lakes in the midwestern United States are a living example of ecological disaster. The original balance of nature in the Great Lakes has been drastically upset. Many of the salmon in the area, for instance, have been contaminated by the excessive use of DDT. Attempts to restore the

balance of nature will be exceedingly difficult and only partly successful. Scientists warn the Great Lakes may eventually dry up. Even with an all-out effort to improve the Great Lakes, it would take years to restore their original vitality.

18. Ecology is that branch of science which concerns itself with 18. (A)(B)(C)(D)(E)  
 (A) climate and soil conditions  
 (B) the effect of atmospheric conditions on the weather  
 (C) the relationships among the living and nonliving things in an environment  
 (D) man and his use of natural resources  
 (E) man and his relationship to the animal world
19. Which statement best describes man's basic problem with respect to his environment? 19. (A)(B)(C)(D)(E)  
 (A) man has absolutely no control over the natural environment  
 (B) man has gone too far in changing his environment  
 (C) man has had no effect on his environment  
 (D) man has been uninterested in changing his environment  
 (E) the natural environment shapes man's life
20. A good title for this passage would be 20. (A)(B)(C)(D)(E)  
 (A) Ecology: The New Science  
 (B) The Natural Environment Shapes the Life of Man  
 (C) Man's Genius Upsets the Balance of Nature  
 (D) Man and His Use of Natural Resources  
 (E) Man Learns to Live with His Natural Environment

#### Passage Six

The incidence of new heroin users is going up rapidly in smaller communities. There are now identifiable heroin addiction problems in Racine, Wisconsin; Des Moines, Iowa; and Boulder, Colorado. The problem has even entered some rural areas. It appears that the most rapid growth of heroin usage may be occurring in cities thought to be the strongholds of Middle America that seem immune to such problems as addiction.

This diffusion of heroin from the big cities to the small ones is graphic evidence of the extent to which we have become one nation, one culture. At one time it was conceivable that many parts of the country—the South, the Middle West, small communities—could quarantine themselves from the real and imagined evils of big-city life. Indeed, it was once possible within the big cities to quarantine certain activities by confining them to specialized parts of the city, such as red-light districts, skid row, Chinatown, the "other side of the tracks." Personal mobility, urban growth, the national media, and mass merchandising have changed all that.

No one knows how big the problem may become in the smaller communities, but it is estimated that as many as 200,000 new addicts could be recruited in these areas during the next few years. If that is true, then treatment facilities as well as some law-enforcement efforts will have to be allocated to areas long thought to have no need for such programs.

Concomitant with the shift in the locus of heroin epidemics, there has been a change in the composition of the addict population. The most rapidly growing part of that population is white, both male and female. Indeed, in the United States it would appear that there are more white than black addicts, though the rate for blacks is higher than for whites. Furthermore, whereas the size of the black component is stable, the size of the white component is increasing. This is exactly what one would expect, as heroin epidemics begin in communities without large black ghettos.

21. In addition to the spread of heroin addiction throughout the country, there has also been a notable change in
- (A) the quality of heroin purchased on the streets
  - (B) the intensity of the problem of addiction
  - (C) the age of the groups involved
  - (D) the nature of the addict population
  - (E) the price of obtaining heroin
21. (A) (B) (C) (D) (E)
22. The statements about the use of heroin might support the argument
- (A) that drug abuse has always been a problem in the United States
  - (B) that drug abuse has become a problem only as it has involved the white, middle-class population of the country
  - (C) that the government has given up in its attempts to solve the problems of drug abuse
  - (D) that television exposure has resulted in the increase of drug use
  - (E) that a culture clash exists in this country
22. (A) (B) (C) (D) (E)
23. In comparison with the size of the white group of drug users
- (A) the size of the black group has increased as much
  - (B) the size of the black group has doubled
  - (C) the size of the black group remains relatively unchanged
  - (D) the size of the black group cannot be measured
  - (E) the size of the black group has diminished
23. (A) (B) (C) (D) (E)
24. One of the results of the increasing mobility in the population of the United States has been
- (A) an ability of young people to leave their traditional homes
  - (B) the breakdown of techniques for quarantining undesirable activities within big cities.
  - (C) the establishment of metropolitan "red-light" areas
  - (D) the growth of suburbia
  - (E) the creation of the nuclear family
24. (A) (B) (C) (D) (E)

### Passage Seven

I once made the statement in a room full of college students that the most important thing a young person could acquire in college might be a sense of his own limitations. I realized when I said it that it

was not a very fashionable thing to say. Popular books on do-it-yourself therapy stress the glorious potential of every human being and urge us to accept ourselves, finally, as being only a little lower than angels. I heartily approve any celebration of human potential, but I believe that we must acknowledge our potential for limitless evil as well. We must understand what we can do in the way of evil before we can pretend to be good. This is the beginning of morality, the psychological or spiritual or, in a religious tradition, the mythical basis that makes morality possible. One of the most moral (in this sense) books of the past century is Joseph Conrad's *Heart of Darkness*, because Conrad faces the problem of evil in man. He tells us that a man must recognize in himself the ability to put the head of his enemy on a stick and dance around a fire with it, and only when he recognizes that can he even begin to deal with any moral questions at all. Students who have been nourished on pop psychology and told "I'm OK; you're OK" have some trouble dealing with Conrad, and some of them regard him as perverse.

I am amazed at the number of educated people who believe that we are somehow better, more moral, than our ancestors were. I have seen otherwise intelligent people grow red in the face at the suggestion that human beings are not better now—less cruel, more considerate, less animalistic, more humane—than they were when Nero ruled Rome or when the pharaohs ruled Egypt or when the Druids at Stonehenge readied their sacrifices.

In one way, we may be more likely to become dulled to our potential for evil (and so discover it suddenly and with disastrous consequences) today than we were a few centuries ago. This is because we actively suppress the kind of self-knowledge that makes intelligent moral decisions possible. Sin and guilt are such old-fashioned terms that most of us are embarrassed by the very words.

25. With which of the following statements would the author be most likely to agree? 25. (A) (B) (C) (D) (E)
- (A) as time goes on, man and civilization progress at equal rates
  - (B) man is only slightly lesser than the angels
  - (C) man is born instinctively good and resistant to evil
  - (D) Joseph Conrad refused to face the problem of evil in man
  - (E) we must recognize man's propensity for evil as well as his leanings toward good
26. One would assume from this selection that the author probably taught 26. (A) (B) (C) (D) (E)
- (A) anthropology
  - (B) advanced literature
  - (C) English literature
  - (D) philosophy
  - (E) science
27. The author's attitude toward popular "do-it-yourself" books could be described as 27. (A) (B) (C) (D) (E)
- (A) critical
  - (B) approving
  - (C) apathetic
  - (D) strongly hostile
  - (E) sympathetic

28. The mention of Nero, the pharaohs, and the Druids indicates a knowledge of 28. (A) (B) (C) (D) (E)
- (A) Rome, ancient Egypt, and ancient England
  - (B) Rome, ancient Greece, and ancient Egypt
  - (C) Rome, the Far East, and ancient England
  - (D) Biblical Palestine, Rome, and ancient Egypt
  - (E) Rome, ancient Egypt, and the British Empire
29. The beginning of morality is based on 29. (A) (B) (C) (D) (E)
- (A) a strong religious and ethical sense
  - (B) a knowledge of the possibilities of evil as well as of good
  - (C) strong family and national ties
  - (D) a profound sense of tradition
  - (E) an innate sense of good and evil
30. One would assume that the author favors the knowledge and use of the terms 30. (A) (B) (C) (D) (E)
- (A) good and evil
  - (B) moral and immoral
  - (C) sin and guilt
  - (D) right and wrong
  - (E) spiritual and religious
31. The following inference may be drawn from this selection: 31. (A) (B) (C) (D) (E)
- (A) the author's views are generally accepted in the academic community
  - (B) students like to hear conflicting and contradictory statements from their professors
  - (C) it is difficult to make a living through teaching
  - (D) there are fashionable and unfashionable views within the university classroom
  - (E) professors generally criticize and condemn the attitudes of their students

### Passage Eight

If there used to be nothing more ludicrous than the English people in one of its periodic fits of morality, as Macaulay put it, these have been replaced in this century by the spectacle of the American people—at least a vocal section of it—in one of its periodic fits of self-mortification. If not ludicrous, at any rate, they are vacant; they seem to have no intention; when they are over, they leave no issue. As Philip Guedalla, then one of the liveliest British commentators on the contemporary scene, wrote in 1933: “The fierce alacrity with which American citizens denounce their institutions without the slightest effort to improve them is a perennial surprise.” More than intermittently it is also a bore.

I am not speaking of the steady criticism that any nation—and in particular its intellectuals—ought to maintain of its own society, but of a virulence of tone—a kind of bile—which seems to spring from self-doubt into self-hate. In the late 1960's, a British journalist, Ferdinand Mount, who was visiting the United States, said: “You can't stop people hating themselves if that is their preferred choice. . . . [But]

even the strain of the Vietnam war does not explain why, for the first time, this cyclically recurrent self-doubt should have weakened the universality of belief in the American ideal." Well, he was wrong in one respect, of course: it was not the first time that the *universality* of this belief had been eroded. But it is true that, during the late 1960's and to some extent since then, whatever the provocations, the repulsion of many Americans for their own country and its total experience has been not merely virulent, not only monotonous, but itself a kind of sickness, which in turn needs diagnosis.

The capacity of Americans for self-criticism has often been noted by outsiders. "Nowhere else is national self-criticism practiced with a severity so relentless and a mockery so bitter," wrote L. P. Jacks in 1933. "Thoughtful people are to be met with all over the country whose minds seem to be constantly exercised in the diagnosis of the national disease." Cyril Connolly said twenty years later: "At a time when the American way, backed by American resources, has made the country into the greatest power the world has known, there has never been more doubting and questioning of the purpose of the American process; the higher up one goes the more searching becomes the self-criticism, the deeper the thirst for a valid mystique of humanity." Twenty years later still, in *Love-Hate Relations*, Stephen Spender has talked of "that passionate hatred of their own country which sometimes affects the most cultivated (and perhaps deeply patriotic) Americans." And the quotations could be multiplied.

32. In what respect does the author link the English and the American people? 32. A B C D E
- (A) he cites their similar language and cultures
  - (B) he indicates that each has a high sense of morality
  - (C) both people, he indicates, are rather ridiculous in their attitudes
  - (D) he discusses their similar outbursts of self-denigration and self-mortification
  - (E) both people are dedicated to the highest international principles
33. In order to prove his point in this selection, the author cites 33. A B C D E
- (A) many native American historians and critics
  - (B) an assortment of foreign diplomats and business people
  - (C) several French, German, and English analysts
  - (D) several British journalists and writers
  - (E) many contemporary newspaper editorials and accounts
34. Which of the following statements is borne out by the selection? 34. A B C D E
- (A) such self-criticism on the part of citizens is common to every nation
  - (B) the Americans actually look upon themselves and their actions with a kind of wry humor
  - (C) foreign observers tend to accept as valid the Americans' sense of self-hatred
  - (D) such self-hatred as Americans feel is really a healthy state for a nation
  - (E) such self-hatred as the Americans feel may well become a disease in and of itself
35. In the opinion of Ferdinand Mount 35. A B C D E
- (A) the Americans were completely right in manifesting their hatred for their institutions

- (B) there was no reason to lose faith in the basic American ideal
- (C) there was ample evidence that the basic ideals of America had proved inadequate
- (D) a movement to replace American institutions and beliefs would have great impact at this moment
- (E) foreign observers were really amused by this American display

36. One reaction to all the American displays of self-hatred can be 36. (A)(B)(C)(D)(E)
- (A) an equal hatred on the observer's part
  - (B) a sense of boredom on the part of the observer
  - (C) a desire to reassure the Americans of their basic goodness
  - (D) a wish to express a feeling of triumph over the American hypocrisy
  - (E) an international feeling of repugnance toward Americans

### Passage Nine

Between ten and midnight the United States is politically leaderless—there is no center of information anywhere in the nation except in the New York headquarters of the great broadcasting companies and the two great wire services. No candidate and no party can afford their investment on election night to match the news-gathering resources of the mass media; and so, as every citizen sits in his home watching his TV set or listening to his radio, he is the equal of any other in knowledge. There is nothing that can be done in these hours, for no one can any longer direct the great strike for America's power; the polls have closed. Good or bad, whatever the decision, America will accept the decision—and cut down any man who goes against it, even though for millions the decision runs contrary to their own votes. The general vote is an expression of the national will, the only substitute for violence and blood. Its verdict is to be defended as one defends civilization itself. There is nothing like this American expression of will in England or France, India or Russia or China. Only one other major nation in modern history has ever tried to elect its leader directly by mass, free, popular vote. This was the Weimar Republic of Germany, which modeled its unitary vote for national leader on the American practice. Out of its experiment with the system it got Hitler. Americans have had Lincoln, Wilson, two Roosevelts. Nothing can be done when the voting returns are flooding in; the White House and its power will move to one or another of the two candidates, and all will know about it in the morning. But for these hours history stops.

37. The "power" referred to in the beginning of the essay is 37. (A)(B)(C)(D)(E)
- (A) physical power
  - (B) political power
  - (C) military power
  - (D) electrical power
  - (E) power, in general
38. The author seems to admire 38. (A)(B)(C)(D)(E)
- (A) the waiting candidates
  - (B) Roman and Athenian philosophers
  - (C) the American system for transferring power
  - (D) the troops, guns, and conspirators
  - (E) none of the above

39. If troops and guns were commonly used on election day, that may indicate that
- (A) a military man would win  
 (B) power is transferred peacefully  
 (C) free elections are guaranteed  
 (D) there is no election  
 (E) force was used to determine the election
40. Between ten P.M. and midnight the United States has no leader because
- (A) the President has resigned  
 (B) the strike for power has ended  
 (C) the polls have closed and the results are not in  
 (D) there has been a revolution  
 (E) the networks have shut down
41. "The great strike for America's power" in the third sentence refers to
- (A) the strike of the mass media  
 (B) the great coal strike  
 (C) striking while the iron is hot  
 (D) the election campaign  
 (E) the strike after the election

#### Passage Ten

The first aim of this satire, it would appear, is to explode the myth of hardhat virility. Did you think that those strong, inarticulate louts were comfortable with their animal natures? You couldn't be more wrong. Archie's sexual life is limited by inhibition and narrowness, as witness his discomfort when his wife proposes they return to their honeymoon hotel for a twenty-fifth wedding anniversary. Archie is, furthermore, a blusterer and an ignoramus, who can get out no idiom but that it is mangled, no proverb but that it is turned upside down, no word of more than two syllables but that it is mispronounced. (Many of these manglings and mispronunciations are reminiscent indeed of the black-face violence perpetrated on the King's English by Amos n' Andy, back in that unenlightened past which is now to the enlightened an embarrassment to recall: "Wait a minute heah Andy! Whut is you doin? You mulsiflyin or revidin?") Archie is also a World War II veteran, a factor integral to his status as a reactionary. He has only to narrow his small blue eyes at his peace-marching son-in-law and deliver a prideful reference to "double-yew double-yew two" in order to induce laughter from a studio audience that *knows* how the failures of our past, of our elders, of everything we have become are inextricably linked with the proto-fascist type of the veteran.

42. The author's purpose in writing this selection might be summed up as
- (A) a desire to expose the shallowness of television writing  
 (B) an attempt to point out the similarities between current ~~entertainment~~ and that of the past  
 (C) a wish to excoriate the use of dialect in entertainment  
 (D) a desire to analyze what appears to be a popular program  
 (E) a desire to label the political slant of a television program

4. (E) This is not offered as a combination at all. (A), (B), (C), (D) Each of these is specifically mentioned.
5. (B) Loss of oxygen would obviously have the worst worldwide effects. The others are serious but may be remediable.
6. (E) All are correct. (A) They are 1/25,000 of an inch in diameter, visible only with a microscope. (B) All have chlorophyll, used in photosynthesis. (C) Some seaweeds are 30 meters long. (D) This is a remarkable adaptation. Most organisms would die in hot springs.
7. (C) Five different environments are explicitly listed "from pole to pole." This infers many adaptations for different environments. (A), (B), (D) and (E) are wrong. (A) Algae live on land or water. (B) They live from pole to pole, in great variations of temperature. (D) Chlorophyll needs sunlight for manufacture of food. (E) Algae may be in chains, spheres, flat plates, and be 30 meters long.
8. (E) Moving around is distinctly a trait ordinarily associated with animals. The other choices are not ordinarily considered as animal traits important for classification.
9. (B) This is the author's conclusion to the paragraph—"It is the part of wisdom to learn the nature of the world and of oneself in relation to it." (A) This is directly contradictory to the opening sentence—the topic sentence—of the paragraph. (C) There is no actual discussion of faith as an attribute of adjustment to the world. (D) There is mention of "irrational excuses," but no statement that it is "irrational" to explode. (E) This is a statement borne out by the paragraph, but it is not representative of the overall meaning of the selection.
10. (C) This is directly stated in the sentence "If his responses . . . he is tending to live in an unreal world." Each of statements (A), (B), (D), and (E) may be inferred from the paragraph, but answer (C) is directly stated. Therefore, it takes precedence over the other responses.
11. (D) This is directly stated in sentence 2. (A) This may be true, but it is not stated within the paragraph. (B) Again, there is nothing within the paragraph that indicates that this is a point in the author's mind. (C) While one may make this assumption in terms of ordinary knowledge, there is nothing to show that the author feels this way. (E) Ordinary knowledge may support this view, but it is not a matter of discussion within this paragraph.
12. (B) This answer is indicated by the statement that "he is striving for the impossible. . . ." The specific nature of answer (B) precludes (A), (C), (D), and (E) from being correct.
13. (B) After the author establishes the "surreality" of the Absurdist plays, he indicates, in the topic sentence of the second paragraph, that "This surreality I take to find its analogue in the T-Group. . . ." (A) This is true in the selection, but the item the author chooses to examine further is the surreality, not the broader similarities. (C) This is not indicated in the selection. (D) Again, there is no indication of this in the selection. (E) That there are differences of kind is indicated in the selection.
14. (C) The statement that Rosencrantz and Guildenstern have no existence "except in terms of another dramatic work" reveals that they must therefore be in some dramatic work. In addition, the opening statement deals with plays and characters in plays. (A) This is obviously not so, since the author discusses Beckett's characters in general terms. (B) Since they are characters, they cannot be actual playwrights. (D) While this may be so, it is apparent that they are alluded to as characters. (E) This does not appear to be so, from the author's comments.

15. (C) The author uses the term in the sense of non-sense, not in the sense of being ridiculous. (A) The author avoids making judgments here. He is discussing the entire matter seriously. (B) Again, this is central to his theme, therefore not to be treated as an aside. (D) This is the author's opinion. (E) It would appear contrary to what the members would state and feel.
16. (D) The second part of the opening paragraph emphasizes the fact that characters in Absurdist plays are, indeed, not to be viewed as "real-life" characters. (A) While this may be true, it is only within the context of the overall "unreal" aspect of such characters. (B) This is also true, but it is not, within the framework of the selection, the basic point of the author. (C) This is true only if we recall their "unreality" and lack of connection with the present world. (E) Since they are depicted as having no "blood-tie or kinship," such relationships would be hard to assume as correct.
17. (B) He draws his illustration of the T-Group from the allusions to the Absurdist plays. (A) He is not concerned with the contemporary theater as such. (C) Again, he alludes to Sartre and Pirandello only to sharpen his focus on the concept of the T-Group. (D) These plays would not be probable as illustrations of such "real-world" problems or commentaries. (E) This is not so, since the discussion of the Absurdist plays is in itself somewhat abstruse.
18. (C) is the correct answer. See the opening statement in the first paragraph.
19. (B) is the correct answer. See the second paragraph, which specifically states this point in the opening statement. The remainder of the passage is made up of supporting ideas to prove the validity of the problem.
20. (C) is the correct answer. This can be concluded from reading the passage. Check the first two paragraphs for main and supporting ideas. The third paragraph gives us specific evidence to prove the point.
21. (D) The topic sentence of the final paragraph indicates the emphasis on this phase of the problem. (A) There is no discussion of the quality of the drug itself. (B) It is the spread of the addiction, not its intensity, that is under discussion here. (C) There is no discussion or comparison of the ages of the groups involved in this addiction. (E) This aspect of the problem is not mentioned in the selection.
22. (B) The statement that at one time such problems as addiction could be and were confined to certain sections of cities, and that now "the most rapidly growing part of that population is white. . . ." would lead to the inference indicated in this question. (A) This selection does not discuss the problem of addiction from the historical point of view. (C) There is actually no discussion of the government's role in tackling this problem. (D) While the word *media* is used, there is no discussion of the relative responsibilities of either TV, radio, or the films. (E) There is no indication of such a discussion herein.
23. (C) This is specifically stated: ". . . whereas the size of the black component is stable. . . ." Because of the specific nature of the answer, choices (A), (B), (D), and (E) are invalid.
24. (B) The second paragraph indicates that "personal mobility . . ." has "changed all that. . . ." referring to the ability to quarantine such problems into specialized parts of the city. (A) While this may be true, there is no indication of it in the selection. It is an irrelevant point. (C) This is actually contrary to the author's point. (D) This problem is not central to the selection. (E) This matter is not alluded to at all in the selection.
25. (E) The author states directly that "Man must understand what he can do in the way of evil before he can even pretend to be good." (A) This is actually contrary to what the author feels, as indicated by his examples mentioned in the second paragraph. (B) This is a Shakespearean judgment

with which the author does not appear to agree as being necessarily true. (C) The author feels that man actually has as much propensity toward evil as toward good. (D) This is actually contrary to what the author specifically states.

26. (D) It would appear, although there are references from the areas of history and literature, that the author teaches a subject that embraces many areas and that attempts to arrive at an understanding of man's knowledge of himself and his motives. Philosophy is a broader subject than the others indicated. A good teacher of philosophy must have knowledge of areas (A), (B), (C), and (E) of learning in order to be more effective in his specific branch of learning.

27. (A) The mention of the author's being against the fashion of thinking espoused in "popular books on do-it-yourself therapy," and the use of the term "pop psychology," make it appear that the author does not approve of such works. (B) This would appear to be contrary to the author's view. (C) Apathetic means indifferent; this the author is not. (D) While the author is "critical"—disapproving—there is nothing to indicate so strong an emotion as hostility. (E) Again, the author is not sympathetic to such works.

28. (A) Nero fiddled while Rome burned; the pharaohs were the pyramid builders of ancient Egypt; the Druids were a priestly sect of ancient Britain. Because of the specific nature of the correct answer, (B), (C), (D), and (E) are incorrect.

29. (B) This is the conclusion one draws from the author's statement: "Man must understand . . . to be good. This is the beginning of morality. . . ." (A) This is a correct assumption in terms of general thought and discussion, but it does not suit the meaning of this specific discussion. (C) Again, in general terms this may prove to be a correct assumption, but it does not fit in with *this author's* discussion. (D) Here, too, is a valid point of argument that is irrelevant to this particular selection. (E) This might be argued in a discussion of morality, but this author does not broach this particular matter.

30. (C) The implication is that, in the author's view, the knowledge and use of the terms *sin* and *guilt* help man to identify matters of good and evil and, therefore, are desirable. Each of the terms paired in (A), (B), (D), and (E) is currently in use. The author would not, therefore, be inclined to advocate their use, since such use is already present in society.

31. (D) *Sentence 2* indicates that the professor was aware that the point of view he espoused was not fashionable on campus. This indicates that there are such things as fashionable or unfashionable points of view. (A) This is obviously not true in view of the fact that the author's opinions were looked upon as unpopular. (B) The implications of the selection, though not expressed specifically, are that the students are disturbed by such contradictory, thought-provoking alternatives. (C) This is completely irrelevant to the discussion. (E) There is nothing within the selection to justify this generalization.

32. (D) The opening paragraph establishes the theme that the Americans seem to have replaced the British in the quality of self-criticism and moral self-castigation. (A) This aspect of similarity is not brought up. (B) There is an implication that this might be so, but the stress is placed on the almost "ludicrous" extent of self-recrimination. (C) Since he does not discuss attitudes at large, this is not an accurate conclusion. (E) This, of course, is not broached at all.

33. (D) The people whom he cites are frequently identified as "British commentator" or "British journalist." Each of the others is, by implication, British. (A) There are no Americans identified as such. (B) The people cited are usually journalists and observers rather than diplomats or business people as such. (C) None of these is cited or identified. (E) It is the people, not the articles or journals, that are cited.

34. (E) The conclusion of the second paragraph bears this out: "... a kind of sickness, which in turn needs diagnosis." (A) The point is made that this type of criticism—to this degree—is uncommon. (B) The point is made that there is bitterness rather than humor involved. (C) The consensus of these statements is that such harshness is not necessary or justified. (D) The contrary point is made.
35. (B) The point is made by Mr. Mount that, despite the horror of the Vietnam war, there was no need to lose faith in the *basic ideals* of America. (A) The indication is that such hatred—to the degree it was manifested—was not right. (C) This is not borne out by the judgment of Mr. Mount. (D) No such idea seems to be in the mind of the writer quoted. (E) The reaction of foreign observers was rather more serious than mere amusement.
36. (B) The concluding statement of the initial paragraph indicates just this point. (A) There is nothing to substantiate this conclusion. (C) While this may be implied, the major emphasis—in that the concluding statement makes the point clearly—is that this self-criticism can become boring. (D) It is understanding and sympathy rather than a desire to feel triumphant that come through in this selection. (E) This is not borne out at all, nor does it seem suggested.
37. (B) is correct. The powers named are all part of the executive power of the President. The end of the first paragraph also mentions "election day." (E) is too general.
38. (C) is correct. The author states that America has had the best and longest lasting system for peaceful transfer of power. (A) and (B) are mentioned but there is no indication of admiration. (D) is incorrect. The author states that these things are *absent* on election day.
39. (E) is correct. The implication of using troops and guns during an election is that the voters are being forced to vote or behave in a particular way. (A) is not necessarily true. (B) is wrong because if power is transferred peacefully, troops and guns would not be used. (C) is false because the use of troops and guns usually indicates that the election is not free. (D) is not a logical conclusion.
40. (C) is correct. Between the time the polls close and the results are tallied, no one knows who the next President will be. (A), (D) and (E) are untrue. (B) is true, but it is not the reason the author says the U.S. is leaderless.
41. (D) is correct. The author indicates that on election day the long campaign for power ends. The other answers are not relevant.
42. (D) The topic sentence of the paragraph sets forth the purpose of discussing a problem which, it develops, is the TV show *All in the Family*. (A) Actually, it is the *character* that is being analyzed, not the writing nor any other phase of the program. (B) This parallel is pointed out, but only in terms of furthering the analysis of the program under discussion. (C) This is not apparent in the piece. (E) The political aspect of the program is not under discussion, although one might deduce certain characteristics from what is presented.
43. (B) Since the purpose of the satire is stated as being "to explode the myth of hardhat virility" and most of the focus is on the character of Archie, one may conclude that Archie is indeed proud of his "hardhat virility." (A) Actually, this aspect of the character is labelled as "bluster." In addition, the conclusion seems to label such types as "proto-fascist." (C) It is his veteran's status that is emphasized here, not the overall national pride. (D) There is no indication of this attitude on Archie's part. (E) Middle class is not usually equated with "hardhat."
44. (B) It is the use of "black-face violence perpetrated on the King's English" as a basis of humor that is referred to. (A) This is not alluded to in the discussion. (C) There appears to be no objection to black-face actors in such roles. (D) Since atypical situations are frequently used for this purpose, it is not valid to object to them here. (E) There is no objection to this standard device in humor.
45. (A) Since the portrayal, for purposes of this program, is that of the veteran as a "proto-fascist type," Archie is branded as reactionary in his thinking. (B) There is no link established between veteran status and being "a man." (C) Actually, in this selection, just the opposite is established. (D) The direction of this characteristic is to establish a general line of thought and approach, not the quality of the thinking itself. (E) This is only one phase of the establishing of the age of the character; it is the *nature* of thinking, however, which is emphasized.

5. Homework Vocabulary List

## VOCABULARY LIST

1. pacify, mollify, appease, placate  
propitiate.....to calm down, soothe
2. furtive, askance, stealthy.....sneaky glance
3. transient, ephemeral,  
evanescent.....short-lived
4. effete, enervated.....worn out
5. pusillanimous, craven.....cowardly
6. noisome, fetid.....foul smelling
7. rococo, baroque.....ornately decor-  
ated
8. impecunious, penury.....poverty
9. opulent, affluent.....wealthy
10. licentious, lewd, lascivious,  
salacious.....lustful
11. banal, hackneyed, trite, inane.....boringly day-  
to-day
12. acme, zenith, summit, apex,  
pinnacle.....top-most
13. nadir.....bottom-most
14. ubiquitous, omnipresent.....being every-  
where at once
15. foreboding, ominous (omen),  
portentous.....warning
16. loquacious, prolix, garrulous,  
verbose, voluble.....talkative
17. pithy, terse, laconic, sententious,  
epigrammatic, taciturn, brevity.....short on words  
(opposite of  
talkative)
18. castigate, chastise.....punish
19. ingenuous, neophyte, callow,  
tyro, naive.....unsophisticated,  
inexperienced
20. laity, vernacular, secular,  
mundane.....non-religious
21. clerical.....religious
22. philately.....stamp collecting  
numismatics.....coin collecting  
lexicographer.....writer of  
dictionaries
23. indigent.....poor  
indigenous.....native
24. prodigal.....wasteful  
frugal.....thrifty  
parsimonious.....stingy
25. sanguinary, sanguineous.....bloody



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