THE RELATIVE EFFECTIVENESS OF TWO METHODS OF TEACHING WRITTEN AND SPOKEN ENGLISH (COMMUNICATION)

By

Russell Lowell Jenkins

A THESIS

Submitted to the School of Graduate Studies of Michigan State College of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

Department of Education

1951

ACKNOWLEDGMENTS

This study would not have been possible without the assistance of a considerable number of persons at Michigan State College.

The writer is indebted to Professor Paul D. Bagwell, Head of the Department of Written and Spoken English, for his cooperation, aid, and assistance in organizing and conducting this study within his department. To the many members of his staff the writer owes gratitude for assistance in administration and rating test materials. The writer is particularly indebted to Mr. Conrad Posz, Mr. William Peterson, and Mr. Meredith Taylor for their advice, assistance, and participation in the instruction of these classes.

The writer is indebted to Dr. Paul Dressel, Chairman of the Board of Examiners, and members of his staff who provided materials, test data, and aid in determining the statistical methods to be used in this study.

To the members of the Guidance Committee, Dr. Clifford Erickson, Dr. Walter F. Johnson, Dr. Cecil Millard, Dr. Guy Hill, and Dr. Charles Pedrey, the writer expresses appreciation for guidance and assistance.

To his advisor, Dr. Walter F. Johnson, the writer wishes to express appreciation for suggestions, aid, and guidance which he has provided.

Dr. Clifford Erickson, Dean of Basic College provided much inspiration which initiated this study and which sparked many insights into new and challenging philosophies. Prof. Donald Phillips, Vice President, Hillsdale College, shared his discussional procedures and philosophies with the author. To Dr. Erickson and Prof. Phillips the author wishes to express gratitude for much of the inspiration which initiated this study.

VITA

Russell Lowell Jenkins

Candidate for the Degree of

Doctor of Education

Final examination, November 26, 1951, 9:30 A.M., 116 Morrill Hall.

Dissertation: The Relative Effectiveness of Two Methods of Teaching Communication (Written and Spoken English) at Michigan State College.

Outline of Studies

Major subject: Education
Minor subject: Speech Rehabilitation

Biographical Items

Born, November 29, 1910, Peru, Indiana

Undergraduate Studies, Manchester College, 1929-33, B. S. Science

Graduate Studies, University of Wisconsin, 1939-40, PhM Speech
Michigan State College, 1946-51

Experience: High School Teaching, 1934-38; Cont. 1940-42; Physicist, United States Civil Service, 1942-43; Military Service, United States Navy, 1943-45; Instructor Written and Spoken English, Michigan State College, 1946-1952.

Member of Speech Association of America, National Society for the Study of Communication, National Education Association, American Speech and Hearing Association, Michigan Speech Association, (NEA) Division of Audio-Visual Information.

TABLE OF CONTENT

CHAPTER		PAGE
I	THE PROBLEM AND ITS IMPLICATIONS.....	1
	Introduction.....	1
	The Problem.....	2
	Statement of the Problem.....	2
	Importance of the Problem.....	2
	Definition of Terms.....	7
	Traditional Method.....	7
	Teacher-Counselor-Advisor.....	8
	Teacher.....	9
	Counselor.....	9
	Advisor.....	10
	Discussional.....	10
	Limitations of the Study.....	11
	Organization.....	15
	Plan of Organization.....	15
II	REVIEW OF THE LITERATURE.....	16
	The Literature Pertaining to Research Evaluating Group Achievement.....	18
	Summary of This Part of the Literature....	20
	The Literature Pertaining to Research Evaluating Individual Student Gain in Achievement When Group Work Was Used.....	20
	Summary of This Part of the Literature Reviewed.....	25
	The Literature Pertaining to Research Evaluating "Student-centered" Methods.....	25
	Summary of This Part of the Literature Reviewed.....	32

TABLE OF CONTENT - Continued

CHAPTER		PAGE
III	METHODS AND PROCEDURES FOR THE STUDY.....	33
	Selection of Cases Used in the Study.....	34
	Summary of Procedures for Selection of Cases for the Study.....	36
	Selection of Instructors for the Study.....	37
	Summary of Selection of Instructors for the Study.....	40
	Procedures for Measuring Outcomes of the Two Methods of Teaching.....	41
	Measurements of Quantitative Results.....	41
	Measurement of Improvement in Written Communication.....	42
	Measurement of Improvement in Oral Communication.....	45
	Objective Measuremont of Improvement in the Four Facets of Communication (speaking, writing, reading, listening.....	47
	Summary of Measurements for Quantitative Results.....	48
	Measurements for Qualitative Results.....	49
	Administration and Use of the Sociometric Questionnaire.....	49
	Administration and Use of the Student Opinionaire and the Teacher Evaluation.....	50
	Summary of Measurements for Qualitative Results.....	51
	Procedures for Analyzing the Data.....	52
	Procedures Used in Analyzing the Quantitative Data.....	53
	Summary of Statistical Procedures.....	57

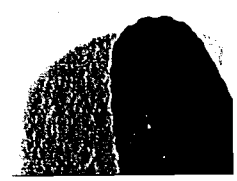


TABLE OF CONTENT - Continued

CHAPTER		PAGE
	Procedures Used in Analyzing the Qualitative Date	58
	Summary of Procedures for Analyzing the Data	61
	Procedures Involved in the Two Teaching Methods	62
	The Class Discussion Groups	63
	The Instructor, His Roles and Procedures	65
	Summary of Procedure	67
IV	ANALYSIS AND INTERPRETATION OF THE QUANTITATIVE DATA	69
	Comparison of the Groups on the Basis of Standardized Test Scores	70
	Analysis of Quantitative Data for Gain in Achievement of Communication Skills	73
	Quantitative Achievement Data for Speaking	74
	Quantitative Achievement Data for Writing	61
	Quantitative Achievement Data For the Four Skills (Objective Examination	86
	Summary	91
V	ANALYSIS OF QUALITATIVE DATA	93
	Analysis of Student Comments in Response to Questions on the Student Opinionaire	100
	Analysis of Student Responses to Teacher Evaluation Items	105
	Summary	112
VI	SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FURTHER RESEARCH	114
	The Problem	114

TABLE OF CONTENT - Continued

CHAPTER PAGE

The Procedure..... 115

Conclusions and Implications..... 121

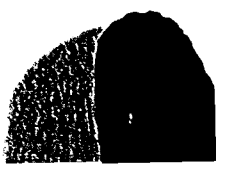
LITERATURE CITED..... 125

APPENDICES:

A - TABLES OF RAW DATA AND CALCULATIONS..... 130

B - TESTS, SCHEDULES, AND QUESTIONNAIRES..... 139

C - DISCUSSIONAL TECHNIQUES AND PROCEDURES..... 149



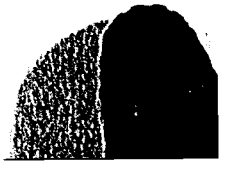
CHAPTER I

CHAPTER I

THE PROBLEM AND ITS IMPLICATIONS

Introduction

Theories and philosophies relating to teaching methods at all levels have been proposed by educators and others expressing an interest in education. Innumerable articles relating to educational outcomes, educational procedures, and educational objectives have come from the presses. Much criticism has been leveled at the more recently introduced methods of teaching, curricula, and educational objectives. At the same time there has been abundant criticism of traditional methods, curricula, and objectives. Studies have been conducted; experiments have been carried out; and many methods have been tried in conscientious attempts to throw some light on some facets of the total problem of education. Method of instruction has been pitted against method of instruction; teacher attitude against teacher attitude; course content against course content; course objectives against course objectives; political philosophies (atmospheres) against political philosophies. Each has added some part of a cubit to the whole structure of an improved educational system. None, however, can be shown to be the panacea *per se* for all ills, in all places, for all things, in all times. It is with this limitation that this study, too, has been conducted.



The Problem

Statement of the Problem

The purpose of this study is to evaluate the relative effectiveness of two methods of teaching written and spoken English (communication) at Michigan State College. The two methods tested are the traditional method and the "teacher-counselor-advisor" method. The traditional method (teacher lecture, student recitation, and teacher evaluation) is the method normally used by the staff of the Department of Written and Spoken English at Michigan State College. The "teacher-counselor-advisor" method being tested is characterized by an integrated-teacher-role, "problems-centered"[1] in orientation, and experience-providing above and beyond that for the purpose of gaining the knowledge and developing the skills required by the course structure.

Importance of the Problem

With concerted effort to maintain and improve our democratic society in light of its dynamic nature and the dynamics

---

[1] The term "problems-centered" as contrasted with the better known term "problem-centered implies that the class, groups of students within the class, and individuals in the groups and in the class have a myriad of problems facing them in the process of learning. These problems range all the way from emotional and tension problems blocking the learning process and favorable adjustment of all experiences, to those problems related to the individual differences found in ability to master knowledge and learn skills demanded by the standards set for earning credit in a course.

of effective communication in particular, conditioning to a set of rules, set categories of information, and autonomous exercising of skills would hardly be applicable. Disciplines can not be rigid and skills can not be fixed. Problems in such a society are of infinite variety. DeHuzzar (1:22) suggests that there is no one solution to these many problems; there is no universal solution to fit many problems, but an infinite number of ways adaptable to working out solutions to these infinitely varying problems. In the broadest sense, then, as Hartley and co-workers (2:16) point out, learning to fit one's self for such a society becomes a process of adaption. It is through such a process of learning that man acquires ways of behaving and performing in order that he may make a better adjustment to the demands of life.

Making better adjustments to society and to our culture, and acquiring skills, knowledge, and attitudes useful in that society seem desirable educational outcomes. But, as Thelen (3) has suggested, it seems doubtful that effort devoted entirely to a better selection of subject matter relative to our culture, and training <u>about</u> making adjustments and acquiring skills, knowledge, and attitudes useful in that society is likely to make much significant improvement in educational outcomes.

In 1947 twenty-five members of the faculty of the College of the University of Chicago began participation in the

investigations of Messers. Axelrod, Bloom, Ginsburg, O'mara, and Williams (4:6,v) to discover some results of instructional methods. The work of these men was based on the hypothesis of "learning by doing" which was recognized as an untested hypothesis but which they believed to be fundamental. Operating on this hypothesis they felt the dominant role of instruction should be that of discussion rather than the lecture. This shift came about as a result of the increasing emphasis upon actual experience in the competences which they believed all educated men and women should command. The lecture, they felt, did not provide for these experiences.

Prior to this philosophical and instructional shift at the College of the University of Chicago, Lewin (5:196-203) had defined, for purposes of his experimental work, a democratic atmosphere as one in which there was the highest degree of leadership and the greatest freedom for group members. Within this frame of reference he concluded that his experiments showed the democratic atmosphere need not interfere in the process of obtaining knowledge and skills. He suggested it might actually be a "powerful instrument toward that end". He concluded further that for educating future citizens no talk <u>about</u> democratic ideals could substitute for a democratic atmosphere within the school. Rahn (6) came to essentially the same conclusion. He pointed out that his findings showed democratic attitudes could be taught through democratic classroom procedures.

The work begun in 1937 by Ronald Lippitt in behavior and attitudes developing within atmospheres he structured as autocratic, democratic, and laissez-faire, was continued by Lippitt and White (7:557) under the direction of Dr. Kurt Lewin at the Iowa Child Welfare Research Station, University of Iowa. The report of these studies indicates that the democratic atmosphere most frequently results in friendly behaviors, the laissez-faire in hostile behavior, and the autocratic in aggressive behavior.

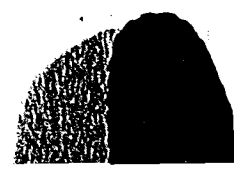
A more recent report of Lewin, Lippitt, and Escalona (8:307) on changes found resulting from autocratic and democratic structured atmospheres (using small samples of five members each, so the authors caution against hasty generalizations from the results) indicates that those students in the autocratic atmosphere were more than three times as submissive toward the leader than toward the average class member as were those in the democratic atmosphere.

Submissiveness indicates lack of initiative, lack of self-insight, lack of individual expression, and lack of attention to the worth and dignity of the individual and his problems. Cantor (9), Albrecht and Gross (10), and others have suggested the use of non-directive teaching as a method to enhance those very things which the autocratic atmosphere prohibited by this submissiveness. The non-directive teaching suggested by these men would substitute the "permissiveness" of Rogers' (11:384-428)

non-directive counseling method for the submissiveness apparent in the autocratic system of teaching. Rogers has recently proposed philosophical bases for his non-directive counseling procedures pertinent to the field of education and suggests that this "student-centered" teaching has considerable implication for classroom procedure.

In view of these numerous efforts to attack the problems facing the educator desiring to accomplish an optimum job in the classroom, there seems to be considerable concern about the student's experiencing the optimum training to enable him to achieve the most in skills, knowledge, and attitudes in order that he might make the most satisfactory adjustment to the society and the culture with which he lives.

If an instructional method were available whereby the student could achieve an equal amount of achievement in the skills, knowledge, and attitudes (as specified by the objectives of a course) as he would achieve under a traditional instructional method, and at the same time obtain additional guidance and counsel for adjustment and individual problems, and obtain experiences in democratic leadership, membership and related skills of group living, then it would seem the better part of wisdom to give consideration to that instructional method for use in the classroom. This study was conducted to provide some experimental evidence to aid the search for improved methods of instruction. Specifically, this study



was designed to seek an appraisal of two instructional methods of teaching communication skills (reading, writing, speaking, listening).

Definition of Terms

Traditional Method

Since there are many methods of teaching which are labeled the "traditional method", it seems pertinent to identify more specifically the method used in this study. Broadly it is the method(s) of teaching presently used by the instructors participating in the study. These methods are not found to be essentially different from each other or essentially different from the methods used by other staff members in the department or used by instructors in other departments at this and other institutions. The essential characteristics differentiating the traditional method from the method being tested are the following:

1- The procedures are essentially autocratic.

2- The major emphasis is on student mastering the knowledge and skills.

3- The instructor voluntarily gives some formal "instructional" lectures.

4- Some time is devoted to teach-question-student-answer recitations.

5- The instructor assumes responsibility and authority for presenting course content materials and making individual assignments.

6- The instructor assumes final authority and full responsibility for all student participation in

and evaluation of individual student performance--grading themes and rating speeches and preparing, administering and grading tests and examinations.

7- The instructor acts as the authority for information given for class acceptance.

8- The instructor structures class procedures.

9- Student participation is not stressed and often little time is devoted to it.

The term "less student participation" makes an obvious differentiation between the traditional method and the method being tested. For convenience, this term in the abbreviated form LSP will be used throughout the rest of this dissertation.

Teacher-Counselor-Advisor

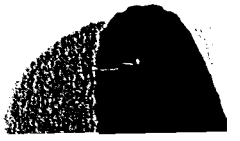
The "teacher-counselor-advisor" method being tested is an integrated-teacher-role method. The abbreviated form TCA will be used throughout the rest of this dissertation. The three roles indicated in the term, teacher, counselor, and advisor, will be more specifically defined in the next three sections of this chapter. Broadly, the method is antithetical to the traditional method previously described. The essential characteristics of the TCA method are as follows:

1- The procedure is essentially democratic.

2- The major emphasis is on the problems of the individual student.

3- The instructor does not voluntarily give any formal lectures. By majority vote of the class the instructor may occasionally be called upon to present formal lectures.

4- No time is devoted to teacher-question-student-answer recitations.



5- The class is divided into student groups which assume responsibility and authority for presenting course content material and making individual assignment.

6- The student groups assume final authority and full responsibility for all student participation in the evaluation of individual student performance during the course by evaluating and giving grades for student themes and speeches. (The instructors were required by the Administration of Michigan State College to assume responsibility for the final grades these students received).

7- The instructor acts as a resource person for information requested by individual students and groups of students.

8- The instructor structures few of the class procedures, and participates as a resource person and observer.[2]

9- Student participation is maximized.

Teacher. The role of the "teacher" is that of a resource person, an observer, stimulator, leader (including the leader of "discussional" procedures which will be defined later in this chapter), and the one who determines the final grade each student will receive in the course.

Counselor. The role of the "counselor" pertains to, as Erickson (12:49) defines counseling, "The entire process of helping a person having problems and needs to achieve more desirable goals".

---

[2] In conducting a study of this sort it is necessary to structure some procedures to allow for the pre and post testing programs and to make for some uniformity in the use of the method by different instructors. Most of the structuring was done by the student groups for the group discussions used in this study.

Adviser. The role of "adviser" pertains to being present at all group meetings, offering any requested help in structuring group activities, and stimulating participation in the group meetings preparatory for group discussions in the class.

Discussional. As a teacher, the instructor is the leader of discussional procedures as mentioned previously in this chapter. The term "discussional" has been coined deliberately in order that connotative meanings might not get in the way of clear communication between the writer and the reader. It is important to emphasize that the discussions used are not generally followed in the classroom and have no relation to the commonly used "discussions", "group discussions", and the like. Two conditions make it mandatory that some term such as "discussional" be chosen to refer to operational procedures which replaced the lectures, recitations, and conventional discussions. In the first place, the groups are free to structure their presentations, in most instances, in whatever way they choose. Secondly, the instructor is free to introduce any kind of "democratic" discussion which he feels is appropriate for the situation and the problem at hand. These discussions led by the instructor[3] have been suggested by

---

[3] These procedures consist of the following and variations therefrom: Discussion 66, Circular Response, Brain Storming, and Silent Prayer (The first three were developed by Professor Don Phillips, Vice President, Hillsdale College, for leading adult groups.) See Appendix C for detailed explanations of each.

Phillips and Bradford (13:84,38-50) for use in obtaining greater individual participation and involvement in discussions and in problem solving situations. To the writer they seem more democratic than the usual types of discussion in that all students are not just given a chance to participate in the discussion, but in that provision is made such that it is possible for all to participate in the discussion.

Limitations of the Study

This experiment was limited to the study of the relative effectiveness of the two methods of teaching communication in the first course (Basic 111) of Written and Spoken English at Michigan State College during the Fall Quarter, 1950. It is therefore defined by the objectives of this course; based on the texts and prescribed assignments of that course; and interpreted in light of the immediate gains which accrue and not on the basis of retention of knowledge and skills which were tested with the measuring instruments now used by this Department.

Since the emphasis in the study was on the individual and the problems he faced while in the course, no attempt was made to apply "principles" of group action. This is not a specific limitation to the present study, but it needs to be mentioned in order to clarify the types of groups used in the study. The contrast between the emphasis on the individual and his problems and the objectives of group dynamics

procedure as given by Gordon[4] seems clear. It was thought by the participants in and the supervisors of this study that groups determined by sociometry or groups operated by the principles of dynamics would result in select and artificial groups. It was thought that individuals out of the classroom and in other classrooms would not often find that the groups in which they functioned and moved had "dynamics" applied to them. Therefore, it would be more in keeping with the purpose of this study to group individuals in the order in which the names appeared on the class roll.

Most college freshmen have experienced a traditional method of teaching. It might be expected that these students would have some difficulty in adjusting to a method of procedure which places considerable responsibility for the learning upon their initiative, creativity, and participation. In order to provide time to complete the course assignments prescribed by the Department of Written and Spoken English for this course, there was time for only a short orientation period to acquaint the students with the experimental procedures. The resulting differences in gains shown by the two methods of instruction would need to be interpreted in light of this short orientation period imposed upon the study.

---

[4] Gordon (15:220) suggests that group dynamics is interested in conditions for effective group functioning, how to obtain effective group decisions, and what can be done to develop action or "task-oriented" groups.

For the sake of some uniformity in conducting the experimental procedure, it was thought desirable to prepare an hour-by-hour schedule for the experimental classes. Even though the instructors were granted the privilege of using discussional techniques as they saw fit, the general pattern for the experimental classes was rather rigidly controlled by the hour-by-hour schedule. This more or less rigid structuring might be considered a partial limitation with respect to some of the results of the investigation.

It is recognized that an instructor using a method of teaching with which he is familiar and with which he feels reasonably secure may not use a method distinctly different from that traditional one with the same assurance and enthusiasm. This instructor difference is not unique for this particular study. Any study involving more than one instructor would have a similar limitation. The instructional method tested in this study involved situations in which group and individual counseling techniques were implied. It also involved instructor use of "democratic" (discussional) techniques. The effectiveness of using these techniques would vary with the training, experience, and ability of the different instructors. These instructor differences were reduced somewhat by the experimental design which provided for two instructor orientation periods prior to the start of the study; the hour-by-hour schedule followed by all the experimental classes; visiting the experimental classes by participating

instructors, providing for supervision by the author; and on-the-job-in-service-training sessions for all participating instructors on the days the classes met.

Finally, it is recognized that the suggested group activities may not be the most effective. Too, the skill in observation and in use of discussional techniques may not be the best that might be developed for this kind of teaching. Further refinements in any of the techniques and procedures used in the method being tested are recognized. Therefore, it is important to emphasize that the method being tested can be interpreted only in light of the procedures and techniques specified in the experimental design, the present skills of the participating instructors, and the assignments, objectives and texts prescribed for the course.

In addition to these limitations recognized for this study, there are certain delimitations for the study which need to be made clear. Interpretations of the results must be made with these reservations and the conclusions on the study must be made within these delimitations. The present study, then, pertains to: (1) the Basic 111 course of Written and Spoken English and its departmental prescriptions as this course was organized during the time the study was being made, Fall Quarter, 1950: (2) the results achieved by four instructors of the Department of Written and Spoken English each using his own traditional teaching method as the control method for his part of the experiment and each using the experimental method as

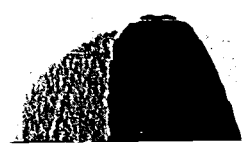
his present skills, abilities, and the like permitted; (3) the cases which were students, regularly enrolled, in the Basic 111 course for the Fall Quarter, 1950; (4) the accuracy, validity, and reliability of the achievement measuring instruments presently used by the Michigan State College Board of Examiners for the Comprehensive Examination for the course in Written and Spoken English; (5) the achievement in these skills as noted at the end of the experiment, and not the retention of these skills; and (6) the achievement indicated for the total groups rather than achievement indicated by different ability groups.

Organization

Plan of Organization

This study is divided into six chapters. Chapter One, The Problem and Its Implications, presents an introduction to the study, a statement of the problem, a discussion of the importance of the problem including some pertinent literature citations indicating recent trends in thinking concerning teaching methods, definitions of terms used in the study, limitations of the study, and the organization of the dissertation.

Chapter Two is a review of the literature pertinent to the study of teaching methods involving democratic atmospheres and methods using discussion procedures. The literature is divided into: (1) studies pertaining to total group results from discussion and elated methods; (2) studies pertaining to



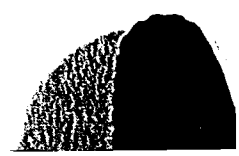
individual student results from discussion and related methods; and (3) studies pertaining to evaluation of "student-centered" methods of procedure.

Chapter Three presents the method of conducting the study, the method of acquiring the data, and the means of analyzing the data.

Chapter Four presents and analyzes the data subjected to statistical treatment.

Chapter Five presents and analyzes the data not subjected to statistical treatment.

The final chapter, Chapter Six, presents a summary of the findings, conclusions drawn from the data, and suggestions and implications for further research.



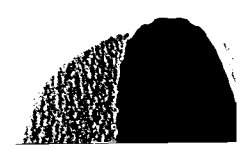
CHAPTER II

CHAPTER II

REVIEW OF THE LITERATURE

Reference to some of the literature pertinent to this study was made in Chapter I.

Most of the research and study relating to the problem of this study has been done since 1924. Prior to that time most attempts at group work were limited to extra-curricular activities. Strang's (15:95-104) report indicates that after 1926 several changes were made in the use of group activities in educational institutions and group work became "a method of education". The survey of Sullivan (16) showed that up to 1944 the published material relating to group work gave little attention to the group process in which the individual students were to be helped to develop their best potentialities. Studies have been made, however, which have attempted to show individual student achievement differences resulting from discussion and some other method of teaching. The more recent literature and studies have attempted to evaluate methods which focus instructor effort on the individual student's problems. These attempts have been variously called, "student-centered", "non-directive", "therapeutic" and "psychotherapeutic", "democratic", and the like. Sheldon and Landsman (17:210-215) report that much of the



study and experimentation reported most recently have resulted from the Snygg and Combs (18) hypothesis which gives crucial importance to the student's attitudes toward himself. This hypothesis of Snygg and Combs proposes that the real difficulty a student has is not his inability to master materials and methods but that the difficulty lies in an inadequate concept of himself. The achievement, then, of a student, they feel, relies on the self-concept in all phases of the student's adjustment.

The present study was conducted to evaluate a method of teaching involving group work (discussion) and oriented to the individual and his problems. The results of this study will be interpreted statistically, so the total group results will be used to obtain meaningful interpretations of the individual changes which took place. It seemed necessary, therefore, to divide the review of literature into three parts:

1- Literature pertaining to research evaluating group achievement (decisions)

2- Literature pertaining to research evaluating individual student gain in achievement when group work (discussion) has been used.

3- Literature pertaining to research evaluating "student-centered" methods of procedure.

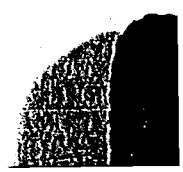
The Literature Pertaining to Research Evaluating Group Achievement

A survey of experimental research dealing with evaluation of discussion procedures and group work was reported by Timmons (19) in 1941. He concluded from his survey that the results of the group were superior to the results of the average individual working alone in the performance of "a wide variety of tasks".

In 1924 Gordon (20:398-400) reported the results of his experimentation with pooled individual judgments for determining the weights of lifted objects. He found that the results of pooled judgments were, under some conditions, more accurate than the average judgment of the individuals.

Watson (21:328-336) was interested in the pooling of ideas through discussion to arrive at solutions to mental problems. The results he obtained indicated that the discussion which took place among committee members or members of a jury resulted in more correct solutions than he had observed to be obtained without discussion. The maze learning experiments (involving group work) of Gurnee (22:437-443) verified the results reported by Watson. Dashiell (23:135) found essentially the same results in his comparisons of accuracy of individual and group accountings of reported events.

Gurnee's (24:106-112) later experiments concerned the giving of correct answers to false and true questions over



material which had been studied. He used discussion and "other means of communication" prior to the administering of the tests. The individual judgments were obtained by use of traditional paper and pencil false and true tests. The "collective judgment" was obtained by using parliamentary procedure; the majority vote was taken as the group answer to the truth or falsity of the statement read. He concluded the study by stating that:

> "The groups in every situation not only excelled the average individual performances in number of correct judgments, but equalled or approximated the performance of the best member."[1]

His own interpretation of the results seems significant:

> "The existence of a probable law of collective action was indicated, namely, that, by simple collective action, the frequency of correct judgments of a group of persons will be increased approximately two sigmas over the average of their individual responses. The major reason for the group superiority was pooling of individual judgments. But analysis showed that pooling could not account for all the superiority; social influences were also operating. Uncertain members tended to be influenced to vote in the direction of the most vigorous response, and this response, in the long-run, was apt to be oftener right than wrong, at least in most of the situations of this experiment."[2]

This interpretation would lead the writer to suspect that any attempt to interpret the results of group work, when social influences are at work while the group results are being obtained, must take into consideration the "probable law of collective action" as indicated by Gurnee.

---

[1] H. Gurnee, "Maze Learning in the Collective Situation," Journal of Experimental Psychology, Vol. 21, (1937), p. 107.

[2] Loc. cit., p. 109.

Watson (25:328-336) experimented with the group method in the improvement of vocabulary. His results show group thinking to be superior to that of the best individual students. The mean score for the group was found to be twenty-six more words gained than gained by the best individual.

Summary of This Part of the Literature

The literature pertaining to group achievement indicates group judgments and group decisions to be superior to those of individuals. It further indicates that group reports of events, situations, and the like to be more accurate than similar reports made by individuals. One study was found which reported that vocabulary improvement resulting from group procedures was superior to vocabulary improvement of the average individual.

Many of these results found in the previous studies do not indicate that the law of "collective action" was controlled in the procedures used to obtain the group results.

The Literature Pertaining to Research Evaluating Individual Student Gain in Achievement When Group Work Was Used

In 1925 Bane (26:300-302) reported his statistical study in which he attempted to determine the relative effectiveness of the lecture and lecture-discussion methods in teaching college courses in education and psychology. His findings showed that the lecture and lecture-discussion methods of

teaching these subjects were about equally effective in immediate recall of subject matter. The lecture method was reported as being more suitable for immediate recall than for retention of subject matter, while the class-discussion method was more suitable for retention than for immediate recall.

Gurnee (24:107) reported the work of Bechterev and de-Lange who had used the discussion method experimentally to determine its effectiveness in forming attitudes toward ethical problems. This work showed that after group discussions, individual students manifested a more intelligent viewpoint on ethical questions.

While Bane (previously reported in this chapter) had experimented with the lecture and discussion methods with college undergraduates in education and psychology, Spence (27:348-368) experimented with graduate students. He used the same teaching methods as did Bane, the lecture and the lecture-discussion, in teaching education and psychology. He found that graduate students gained more in improvement in knowledge about educational psychology as a result of lectures than they did after discussions. These two studies showed essentially the same results favoring the lecture method for acquisition of information for immediate recall, following a period of instruction.

Timmons (19) felt that much of the research he had reviewed dealt with teaching methods in unreal situations.

He chose to study the problem by setting up more real situations. He assumed that using social problems would give more real situations for teaching. The study he designed, then, was to study the relative effectiveness of discussion, and restudying basic information relating to social problems. Polson (28) reports the findings of the study of Timmons. She indicates that all "types" of students gained more from the discussion, but that the gains in making wise decisions were greater for the "poor" students, not so great for the "intermediate" students, and least for the "intellectually good students". She pointed out that this difference in gain may have been due in part to the amounts that each type of student could gain as ascertained by the initial achievement of the students at the beginning of the course. This same limitation, however, would seem to be applicable to students in each of the study methods. The methods used were discussion after an initial period of study, and re-study (individual study) after the period of initial study. There was no indication that the instructor participated in any way in the re-study process. No lecturing was indicated in the Polson review. She reports the following:

> "Low ability groups gained less from reading and more from discussion than the high ability groups. Low ability groups also gained more from the discussion than from individual re-study of the basic information pamphlet."[3]

---

[3] Ruth E. Polson, "Discussion in the Junior High School," (Unpublished Master's thesis) Cornell University, 1942.

Four studies reporting the use of "oral" and "silent" techniques in teaching the rules of grammar and punctuation are reviewed here. The results of these studies were essentially the same. Cutright (29:681-690) compared "oral" and "silent" methods with the lecture method. The oral method involved discussion as one of several oral techniques. The lecture method was also an oral method, but the differential in the study was more student oral participation without the formal instructor lecture. She concluded that all techniques involving oral procedures were found to surpass all other procedures in decreasing the number of grammar errors. Crawford (30:119), Carmichael (31:14), and Strong (32) used a "variety of oral techniques" and the "silent" method of teaching grammar and punctuation. All three reported that the "oral" technique was as effective as the "silent" method.

Johnson (33:446) dealt more specifically with group discussion than did the previous investigators. She limited the method of teaching to be tested to the group discussion technique. She attempted to find the relative effectiveness of teaching the fundamentals of speech by means of group discussion and some "traditional" method. Only one class of college freshmen was used for the experimental cases and only one class for the control cases. Her findings, on the basis of this small sample, indicated that group discussion was "useful" in teaching reflective thinking, obtaining necessary information, effective use of the vocal mechanism, and using

the language effectively. How effective and the relative effectiveness when compared to the "traditional" were not made clear.

In an attempt to determine whether the individual speaking method or the group speaking method was the more effective in realizing "certain outcomes" in the beginning college speech course, Ewing (34:80ff) experimented with these two methods in a college speech course. He found no statistically significant differences in the results of these two methods, but he points out that the "T" test showed favorable results for the group method.

Several types of discussion were compared with the lecture method in Rickard's (35) study of teaching methods. This study was designed to test relative effectiveness of methods used for teaching factual content. The basis of his discussion methods was what he called the "developmental method of discussion", which essentially followed the steps in the Dewey though formula. Rickard's experimental groups were differentiated one from the other in that Type I was instructed with the "developmental method" led by the instructor; Type II was instructed with the "developmental method" led by students; Type III was instructed with the "developmental method" and lecture method. Each of these types was compared in their results with the results obtained with the straight lecture method. He concluded that the discussion methods had their greatest advantage for the inferior

student. With the lecture method, the superior and the average students made about the same increase in factual knowledge, but, by comparison, the inferior student gained considerably less. These conclusions are similar to those given by Bane and others.

Summary of This Part of the Literature Reviewed

The literature pertaining to individual student gain in achievement when group work was used indicates the following:

1- The lecture method is more suitable than the discussion method for immediate recall of information.

2- Discussion methods are more suitable for retention of information than are lecture methods.

3- Poorer students gain more from discussion methods than do better or superior students.

4- Better and superior students gain more from lecture methods than do poorer students.

5- Oral techniques are superior to lecture and silent methods for teaching rules of grammar and punctuation.

6- Fundamentals of speech seem to be taught as well by traditional methods as by discussion methods.

The Literature Pertaining to Research Evaluating "Student-centered" Methods

The student-centered or problem-centered teaching method has been subjected to considerable evaluation. The evaluators of the Eight-year Study (36) and the authors Mead and Orth (37) agreed in their findings that pupils taught under systems

organized on the problem basis, acquired as much or more achievement in conventional knowledge and skills taught in the schools, as did those pupils taught in the "traditional" type systems. Breed (38:531-539) suggested that in addition to these comparable or better achievements in knowledge and skill, the pupils taught under the problem-centered organization profited from special guidance in important aspects of thinking, in important phases of personal adjustment, and "in other directions featured alone in the experimental schools using the problem approach".

The non-statistical study of Terry (39:653-656) used more student participation as method. He attempted to evaluate the method on the basis of student responses from questionnaires concerning their experiences with the method compared with their experiences with the traditional method. He bases his study on the philosophical tenent that the college undergraduate should assume more responsibility for his learning. His classes were divided into discussion groups of about eight people. These discussion groups operated with student leaders and conducted the day's discussion. Leaders for the discussions were rotated so more students would have the experience in leadership. Each group knew its assignment for discussion ahead of time so preparation for the discussion could be planned. During any of these class discussions the instructor assumed the role of consultant for the day's leader.

Signed and unsigned types of questionnaire were used by Terry to obtain his information. Using the unsigned questionnaire for the three hundred and eighty-seven students in the eight sections, he found the following general evaluation of the method:

1- 88% voted for continuance of the method.

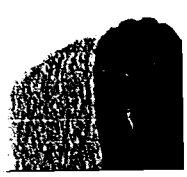
2- 77% said it was more interesting than the ordinary lecture.

3- 86% reported that they "put out" more during the class hour under this method.

4- 59% reported more industrious effort in preparing for such lessons.

For further analysis Terry used the signed questionnaire for two hundred and fifty-four of the students. From these results he found that more than 84% of all students answering the questionaire, including the best students, the average students, and the poorest students, preferred to continue the discussion-type of procedure.

Terry concluded his study by suggesting that the evidence showed the plan of dividing the class into small groups who assume responsibility for the class discussions was practicable for obtaining more vigorous and more energetic attitudes from students. Also, students more often mentioned advantages than disadvantages for the method. Those disadvantages, Terry believed, could be minimized by continued experience in the method by teachers and providing more leadership training for student leaders.



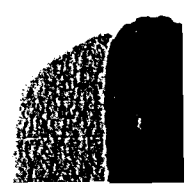
The "student-centeredness" involved in the three studies just reported (Eight-year Study, Mead and Orth, and Terry) is principally related to such procedures as teacher-pupil planning, individual student interest, student responsibility for structuring the course and its procedures with the instructor acting as an advisor. This type of "student-centeredness" is to be differentiated from the "student-centered" procedures implied in the hypothesis of Snygg and Combs (reported in Chapter I). Their hypothesis implied more than student interests, student class operation, and student-structured procedures. It implied special attention to problems of individual adjustment, self-understandings and self-insight. The literature reported in this last part of the present chapter pertains, then, specifically to studies evaluating the effectiveness of the counseling technique of Rogers' (referred to in Chapter I) non-directive counseling and are in literature generally known as non-directive teaching.

Cantor gives the bases for his non-directive methods in The Dynamics of Learning (referred to in Chapter I), and Crime and Society (40). His hypotheses are essentially the same as those of Snygg and Combs. These non-directive teaching methods are essentially applications of the non-directive counseling techniques applied to a group. Cantor's experimental work at the University of Buffalo consisted of teaching course content type classes non-directively and comparing

development of self-insight of students in his class with the development of self-insight of students in his colleague's class taught in a traditional manner. Gross (41:243-248) reports Cantor's results as showing a wide difference in median scores between Cantor's class and his colleague's at the second testing for self-insight. The first testing indicated a difference of 3.5 points (in median score) for self-insight in favor of Cantor's class. The final testing, after the course of instruction, indicated a difference of 16.5 points (in median score) for self-insight in favor of Cantor's class. Gross concludes by suggesting that Cantor's method of instruction may exert a real influence in the development of self-insight.

The emphasis in Cantor's work was on the development of self-insight rather than on the gaining of knowledge and the development of skills of the traditional nature. Baruch (42:143-178) conducted a study similar to that just reported for Cantor. Her teaching technique to be tested was also non-directive. She, however, was more interested in the resulting general therapeutic effects of the method. She reports favorable results for the method tested. Neither of these two studies was concerned with the acquiring of traditional knowledge and skills. Both indicated favorable results, therapeutically speaking.

Sheldon (43) studied the probable causes for academic failure among college students. From his study involving



forty college students having academic difficulty, Sheldon found that with the intelligence ratings of these students ranging from "normal" to "superior" all forty of them were emotionally disturbed. This experimental evidence supported the hypothesis of Snygg and Combs, the critical importance of the self concept as a determinant of academic success or failure. Sheldon and Landsman (44:210-215), then, hypothesized that an improved self concept would result in better academic adjustment, that the non-directive method of teaching would enable the failing college student to obtain a more desirable self concept and make a more satisfying academic adjustment. They conducted a study to test this hypothesis, by testing the non-directive method against the traditional lecture-discussion method in a course of Academic Methods at Syracuse University. These researchers report the results of the study in terms of differences in grade point averages of the two groups, and indicate that the means of the grade point averages were significantly different at the one per cent level of confidence (T value of 6.5 in favor of the experimental group).

The most recent study of non-directive teaching to be reviewed here is that reported by Asch (45). He attempted to measure the relative values of the non-directive method and the lecture-discussion method in teaching undergraduate psychology courses. The relative values of these two methods were to be based on changes brought about in students'

intellectual, social, and emotional adjustment. One phase of the study was to test the effectiveness of non-directive teaching in enabling the students to master the factual subject matter of a course. His results showed that the control students did significantly better on the objective examination given as a final term examination. In contrast to these results of objective data, he concluded that the more subjective data indicated that the experimental students had gained more knowledge of diversified subject matter, did more reading and thinking about psychology, than the control students. Two limitations should be noted for the results of this study. First, the experimenter reports that the experimental group were aware of their participating in an experiment. Second, the objective data from which the above conclusion was made were obtained from a final examination. These data would give status result for each of the two groups and not improvement result for them. It would seem to the writer that a pre-test status would need to be determined and used with the post-test status before valid conclusions could be drawn relative to achievement during an experimental interval. The objective examinations were administered for different purposes, as Asch indicates. The examination was administered to the control group for partial evaluation of a course mark. The same examination was administered to the experimental group only to obtain data for the study (students made out their own grades in conference with the

experimenter, so the examination had no real bearing on the determination of the final grade by the instructor). The validity of these results would need to be checked against these limitations.

Summary of This Part of the Literature Reviewed

The literature pertaining to student-centered methods of teaching seem to indicate the following conclusions:

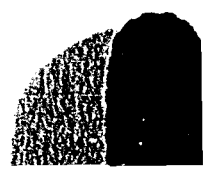
1- The large majority of students experiencing non-directive and more student participation methods prefer these methods to the traditional methods.

2- Problems of an emotional nature interfere with academic adjustment.

3- In some cases non-directive teaching will result in greater academic adjustment.

4- Group therapy methods using non-directive techniques will result in increased individual self-insight and self concepts, but may not result in as much objective content gain as traditional methods.

5- Gains in understanding and breadth of concepts may be more effectively realized from non-directive methods than from traditional methods.



CHAPTER III

CHAPTER III

METHODS AND PROCEDURES FOR THE STUDY

The problem of this study, definitions relating to clarification of the study, limitations of the study, and a general discussion of the procedures used in the instructional methods being tested were presented in Chapter I.

Chapter II presented a review of educational and psychological literature to discover procedures and findings related to the present problem.

The present chapter is a discussion of methods and procedures for conducting the study. The chapter is divided into the following sections.

1- Selection of cases used in the study.

2- Selection and supervision of instructors participating in the study.

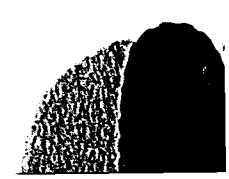
3- Procedures for measuring outcomes of the two methods of instruction.

   a- Acquiring data for quantitative results.

   b- Acquiring data for qualitative results.

4- Procedures for analyzing the data.

5- Operational procedures of the study.



Selection of Cases Used in the Study

The entire student population could not be made available for this research. This is true of most educational research of this nature. Consequently, it was necessary to obtain a sample of the population for the study. The student population from which the individual samples came included all students enrolled in the Basic College course of Written and Spoken English at Michigan State College the Fall Quarter of 1950.

The eight sample groups were made up of class sections resulting from student enrollment in the course. Student enrollment is "randomized" in that any enrolling student may choose any section of the course. At the time of enrollment neither the students nor the enrolling officers knew that eight of the sections would be chosen for the study.

The class sections chosen for the study were those which were assigned to the instructors participating in the study. In order to eliminate such variables as days of the week, times of day, number of meetings per week, length of time spent in each class meeting, the participating instructors were given those classes which met in two two-hour sessions, one meeting on Tuesday and one meeting on Thursday. An experimental and a control section met during the 8-10 period; a section of each met during the 10-12 period; a section of

each met during the 2-4 period; and a section of each met during the 4-6 period on these days.

The specific cases used from these sections were determined by random selection (Lindquist, 46:24-29) of students from all students for which complete data were available. Since some student scores were not available for the Cooperative English Test C 2:Reading Comprehension (Higher Level) Form Y and / or the American Council Psychological Examination;[1] and since some students were absent the days some of the other measuring instruments were administered, the classes did not all have the same number of students for which all data were available. The number of cases used from each section was determined by the fewest number of students in any one section for which all data were available. This number was 16. The 16 cases from each of the other seven classes were obtained by random sampling, as indicated above. There were 16 cases from each of the experimental classes for a total of 64 cases. Likewise, there were 16 cases from each of the control classes for a total of 64 cases.

The experimental and control students were then compared by statistical analysis of the test scores made by these

---

[1] These two tests were used to compare the two groups in ability and achievement in reading comprehension, thereby controlling these two variables for this study. The abbreviations CET-RC and ACE-PE will be used in referring to these tests in this dissertation.

students on the ACE-PE and the CET-RC tests. This analysis of test scores provided the following comparisons:

1- Each experimental class was compared with each of the other experimental classes.

2- Each control class was compared with each of the other control classes.

3- Each experimental class was compared with each of the control classes.

4- The four experimental classes were compared with the four control classes.

If no significant differences were found as a result of these statistical comparisons, the four control classes could be combined and the four experimental classes could be combined in making statistical analyses of differences in achievement, and the variables of ability and reading comprehension would be controlled for this experiment.

Summary of Procedures for Selection of Cases for the Study

The cases used in this study were the result of randomized enrollment procedures placing students into departmental classes. The classes used in the study were those chosen by chance selection for meeting times determined by the experimental design. The design called for those classes which met for the same length of time for the entire quarter, those classes which met the same number of times during each week, those meeting on the same days of the week, and classes meeting the same hours of the day.

The specific cases were chosen by random selection from all those students for which total test and evaluating data were available. The same number of students were used from each class of the four instructors. The number of cases to be chosen from each of the classes was determined by the least number in any one class for which total test and evaluation data were available.

These cases chosen by the above procedure were checked, class by class, for homogeniety of variance of scores made by these students on the Cooperative English Test.....Reading Comprehension, and the American Council Psychological Examination. If no significant differences for the variables of ability and reading comprehension were found, it could be assumed that these two variables were controlled for this study and the achievement scores of all the students in the experimental group could be combined and all the similar scores of the control group could be combined for statistical analysis of difference in achievement resulting from the two methods of instruction.

Selection of Instructors for the Study

The literature shows some studies have used a single instructor for all the classes involved in the particular study, the same instructor for both the experimental and the control groups. It shows, too, that some studies have used

more than one instructor and each instructor taught both a control and an experimental group.

Asch (45), in his experiment with non-directive teaching of psychology, designed the experiment and was the only instructor to participate in the study. He taught both the experimental and control sections.

Cantor (41) in his study of teaching methods taught the experimental group and another instructor taught the control group.

These studies of Asch and Cantor were limited in their interpretations in that it was not possible to suggest that the experimental methods would obtain the same or similar results when used by other instructors. In Asch's study no other instructors tried the experimental method. In Cantor's study the instructor variable was not controlled by comparing the results of the instructor's experimental group with the results of a class he had taught by the control method. Whether the difference obtained in this experiment might also appear if these instructors used the same method would need to be determined before full cause of difference in results from the study could be attributed to method of teaching alone.

Many of the more recent studies which report the use of more than one instructor indicate that each participating instructor taught an experimental class and a control class.

Landsman (47) designed his experimental study of "student-centered" teaching such that each participating instructor taught both the "student-centered" and the "syllabus-centered" classes. Thereby, Landsman believed, each instructor was conducting his own experiment within the over-all study for the several instructors.

In studying the relative effectiveness of the individual and the group methods of teaching the mechanics of English composition to college freshmen, Karp (48) designed his study such that each instructor taught a control class and an experimental class.

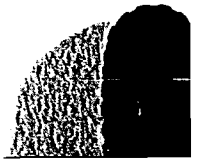
Since these various methods have been employed in previous studies, it seemed justifiable to use for the present study the method which would tend to provide the best control of the instructor variable and which would provide for more meaningful interpretation of results obtained from the study. Therefore, each instructor participating in the present study taught a control class and an experimental class.

In order to insure distinct difference in methods used by these instructors certain designs and checks were provided. First, the one important essential difference between the methods was that that there would be no voluntary lecturing by any instructor in the experimental classes. Second, an hour-by-hour schedule (see Appendix B) was handed to each student in the experimental classes. With that structuring

of individual and group activity each student was permitted to prepare his assignments in advance and no time was provided for the instructor to lecture. Third, the four instructors were free to visit any of the classes of the other instructors at any time. The author was free, therefore, to supervise the procedures being carried out in all the classes. Fourth, on the days that all of the classes met during the week the four instructors discussed the developments, activities, and observations within each of the experimental classes. This provided on-the-job-in-service-training periods twice each week for all instructors.

The philosophy and procedure for the experiment were worked out by the author and were discussed during two, two-hour orientation periods prior to the beginning of the experiment. These were supplemented by several individual meetings of the author and each of the other three instructors prior to and during the experiment, as indicated above.

Summary of selection of instructors for the study. The literature reports different methods employed in the use of instructors for similar studies. Many of the more recent studies used instructors who taught both experimental and control sections. It seemed that such a method provided more control of the instructor variable and more meaningful interpretation of results. So each instructor participating in this study taught one control section and one experimental section.



In order to insure a distinct difference in method, it was determined that no instructor would voluntarily lecture at any time to the experimental group. An hour-by-hour schedule for student participation was given each student and no provision was given for time to be devoted to lecturing by the instructor. Any instructor was permitted to visit classes of the other instructors at any time. The author was therefore free to visit the classes of the other instructors. Twice weekly on-the-job-in-service-training sessions were held to aid in keeping the experimental procedures essentially uniform and distinctly different from traditional methods.

Procedures for Measuring Outcomes of the Two Methods of Teaching

As stated previously, the purpose of this study was to evaluate two methods of teaching Written and Spoken English (Communication) as the course is presently organized at Michigan State College.

In order to measure the effectiveness of the two methods, pre-tests and post-tests were administered to obtain data for evaluating the quantitative (achievement) and qualitative (student reaction) results of the two methods. This section of the present chapter is devoted to an explanation of the test procedures used in the study.

Measurements of Quantitative Results

Three measurements of quantitative results were used: (1) a measurement of improvement in oral communication

(speaking); (2) a measurement of improvement in written communication (writing); (3) an objective measurement of improvement in the four skills of communication (speaking, writing, reading, and listening).

Measurement of improvement in written communication. The method used to measure improvement in written communication was developed jointly by the Staff of Written and Spoken English and the Michigan State College Board of Examiners. This method has been in use since 1944 when the course was first instituted. It is still used as the measuring instrument for writing achievement for the Comprehensive Examination in Basic English.

1- Administration of the measuring instrument for writing. This criterion of writing achievement was administered as a pre-test to the control and experimental classes the second hour the classes met. As a post-test it was repeated after completion of course instruction and before the final examination. All students wrote on the same topic, were given the same amount of time to write the paper, and wrote the themes on the same kind of paper.[2]

---

[2] Each student was given theme paper on which to write the final draft of these themes. This paper, provided by the Michigan State College Board of Examiners, is the same type of paper used for the written part of the Comprehensive Examination for the complete course. It is prepared with the upper right hand corner perforated so it can be torn off. The student writes his name, date, and section number in the spaces provided in the perforated corner. The number stamping machine is used to stamp a number on this perforated corner. The same number is stamped on the remaining section of the paper on which the student has written his theme. This number is the only identification given to the paper as it is handed to the raters.

At the beginning of the hour in which the themes were written, the instructors first handed out the paper on which the final draft (as indicated above) was to be written. The students were informed that they would have one full hour only for writing the theme, and were then given the topic for the theme. The topic used was "High School Education". The instructors gave no help to the students and permitted no books or other materials to be used by the students while the themes were being written. The papers were collected at the end of the hour. The same procedure was followed in the writing of the post-test theme on the same topic.

The pre-test themes were filed, unrated, until after the post-test was given. After the post-test papers were written, they were prepared for rating and given to the raters in the same manner as used by the Michigan State College Board of Examiners for obtaining ratings for themes written for the Comprehensive Examination in Basic English. This procedure is discussed in the following section.

2- Rating the themes to obtain raw scores for statistical analysis. The themes were all rated after the post-test theme had been written. It was thus possible to have the pre-test themes and the post-test themes shuffled together to prevent the raters from knowing whether a particular theme was a first or a second theme.

For the study it was necessary to guard against ratings reflecting prejudice or bias for or against either of the methods of teaching. Therefore, the pre-test and post-test themes of the experimental section of one instructor were shuffled with the pre and post- papers of the control section of this same instructor. The same raters, then, rated all the themes for that one instructor. Papers of the other instructors' classes were handled likewise.

The following procedures were followed in preparing the papers for rating. The perforated corner containing the student-identifying information was given a number that was stamped on this corner of the sheet. This same number was stamped on the remaining section of the paper on which the student had written his theme. This identifying information was then torn off and filed for identification of scores after the papers were rated. With only a number to identify a paper, the raters were unable to discover which student had written the paper, whether the paper was a pre-test or a post-test paper, or for which class the paper had been written.

All of the papers written for any one instructor, shuffled and identified by number only, were given to two other instructors on the department staff. These two instructors rated each of the themes of this one instructor. The two raters did their rating independently. Neither marks nor comments were placed on the papers, but a rating blank (See

Appendix B) was filled in by each rater for each paper. These rating blanks, identified by the numbers found on the papers, were collected by the author (of this study) and checked for agreement in ratings. If the two ratings for a paper were within five points of each other, the two scores were added together to obtain the raw score used for this student in the statistical analysis of the quantitative data for writing improvement. If the two scores for a paper differed by more than five points, a third rater was asked to read and rate the paper. If the third rater's score was within five points of either of the others, it was added to that score to obtain the raw score for that paper. In the event the third rater's score was not within five points of either of the other scores, the three scores were averaged and the average doubled to obtain the raw score for that paper.

Measurement of improvement in oral communication. The criterion for speaking achievement was administered to the control and experimental classes as a pre-test during the third and fourth hours the classes met. As a post-test it was repeated after completion of instruction and before the final examination was given. All students spoke on the same general topic, were given the same amount of time to prepare the speech, and were asked to speak the same day.

1- Administration of the measuring instrument for speaking. At the end of the hour in which the students had written the themes, the instructors informed the students in all sections that they would be asked to give a three-minute speech at the next meeting of the class. The instructors gave no suggestions for preparing the speech. The topic for the speech (the general topic) was then given to the students. The topic was the same topic used for the written theme, "High School Education". The students were informed that the speaking would follow the order in which their names appeared on the class roll. They were also informed that there would be no recesses during the two-hour period, all students would speak before the class was dismissed for the day. Also they were reminded that visitors might be expected any time during the quarter, but that class procedures would continue as planned. This warning had been given during the orientation period, the first hour the classes met. The visitors anticipated were the speech raters who came into the classroom when these speeches were given (other visitors were also welcomed and all staff members were invited to attend any of the classes at any time).

All the visiting speech raters had been duly informed of their responsibilities during the time they were in the classrooms (See Appendix B). Since this is the rating procedure followed by the Michigan State College Examining Board

in obtaining ratings for speeches given for the Comprehensive Examination in Basic English, these raters were experienced in the job of rating they were asked to do. They were instructed to come to the classroom, find a convenient seat in the audience, communicate with no one, rate the speeches independently, leave the classroom at the conclusion of the speeches, and leave the rating sheets in the Main Office of the Department, there to be picked up by the author who then filed them for use in the study.

The same procedure was used for the pre-test as for the post-test; the same topic was used for the speeches; the same amount of time was given for preparation of the speeches; and the same raters rated the speeches.

2- Rating the speeches to obtain raw scores for statistical analysis. Ratings on the speeches were obtained during the time the speeches were being given as indicated in the previous section. The speech achievement scores used in the statistical analysis were obtained by adding the scores of the raters for each student on the pre-test, to obtain the pre-test achievement score, and adding together the two scores of the raters for each student on the post-test, for the post-test score.

Objective measurement of improvement in the four facets of communication (speaking, writing, reading, listening). The criterion used to measure objectively the improvement in

the four facets of communication was the Departmental Term End Examination, developed by the Examination Committee of the Department, for use in the departmental end term examination for Basic 111, Spring Quarter, 1950. This test consisted ofseventy-nine items relating to the four aspects of communication. The students in these classes were asked to take this examination the fifth class period, before any instruction had been given. After the completion of course instruction, the students were asked to take this same objective examination again. These tests were answered on IBM answer type sheets and were graded for the number of correct answers. The raw scores for statistical analysis were the number of correct answers obtained.

Summary of Measurements for Quantitative Results

Each student in the study wrote a theme, made a speech, and took an objective examination for pre-test achievement scores, and again for post-test scores.[1] The difference in the pre and post-test scores, then, gave some evidence of the difference in achievement for each of the students. The pre-test scores were available for adjusting the post-test scores to provide a more accurate statistical result of the analysis of the data. Variation of initial achievement in these skills was controlled by this adjustment of scores.

---

[1] Tiedeman (50) found in his study of retention of classroom learning that the taking of a pre-test had no significant effect on the amount learned.

The measurement used for improvement in writing, the measurement for improvement in speaking, and the objective examination were the same types of measurements and examination used by the Department of Written and Spoken English and the Michigan State Board of Examiners in determining term end grades and Comprehensive Examination grades for Basic English.

Measurements for Qualitative Results

The following three measurements were used to obtain data relative to qualitative results of the two methods of teaching: (1) a sociometric questionnaire;[3] (2) the Michigan State College Student Opinionaire;[4] and (3) the Michigan State College Teacher Evaluation.[4]

Administration and use of the sociometric questionnaire. During the last hour the classes met during the second week of the study, each instructor gave each member of his classes the sociometric questionnaire to fill out before leaving the classroom that day. It was believed the results would indicate, early in the quarter, which students were isolates

---

[3] This questionnaire was developed under the guidance of Mr. Heisler, Assistant in the Department of Education, Michigan State College.

[4] These instruments were developed by the Michigan State College Committee on Administration of Rating Scales and are in current use for obtaining student evaluations of courses of instruction and student evaluations of instructors.

(not chosen by some class member as a preferred co-worker on a committee). The number of names which students requested as they filled out the questionnaire would give some indication of how well acquainted the members of the class were.

During the last session of the class, the students were asked again to answer the sociometric questionnaire. It was thought possible that the differences in the number of isolates and the number of unknown names of preferred people would give some indication of the degree of socialization which had taken place during the two methods of teaching. It might also conceivably indicate how much better acquainted the class members had become during the quarter, to what extent the two methods of teaching made possible the acceptance and recognition of the individuals as members of the total group.

Administration and use of the Student Opinionaire and the Teacher Evaluation

These two instruments are used by the Michigan State College Staff to determine something about student response to the courses they take, and to give instructors some idea about the effectiveness of their teaching. The Committee preparing these questionnaires had in mind their use for evaluating any course by any instructor. These instruments are currently used by Staff Members in many of the Departments of the College, including the Department of Written and Spoken

English. It was thought that the student responses to the questions on these two instruments would be of value in obtaining student opinions relative to the two types of instruction under study.

Each student was asked to fill out these two questionnaires during the last meeting hour of the class. It is recognized that each student experienced only one type of instruction in the course of Written and Spoken English, but it was believed that the responses would give some information relative to student acceptance or rejection of the methods.

Summary of Measurements for Qualitative Results

The three instruments used to measure qualitative results were (1) the sociometric questionnaire, (2) the Student Opinionaire, and (3) the Teacher Evaluation.

The first of these instruments was administered early in the quarter and again at the end of the study. The differences in student responses would give some indication of changes in student acceptance and rejection of fellow class members and some indication of the change in socialization among class members.

The second and third of the instruments were administered at the end of the study. The responses given by students from the two groups would possibly indicate differences in feelings about the course and differences in responses to the method of instruction experienced.

Procedures for Analyzing the Data

Two sets of data were obtained in conducting this study. One set of data was quantitative, the other qualitative. A part of the quantitative data consisted of scores students made on two standardized tests used for comparing the control and experimental groups in ability and reading comprehension for controlling these variables for this experiment. The rest of the quantitative data was obtained from ratings students received on the theme and speech criteria for measuring achievement, and the student scores from the objective examination. The qualitative data were obtained from the student responses to the items of the sociometric questionnaire and from their responses to the items on the Student Opinionaire and the Teacher Evaluation questionnaires given to students for evaluation of the course and the instructor who taught the course. These two sets of data do not lend themselves to the same type of analysis. One type of data consists of scores made on tests and examinations; the other consists of written responses. Therefore, this chapter will be divided into two parts:

1- Procedures used in analyzing the quantitative data.

2- Procedures used in analyzing the qualitative data.

Procedures Used in Analyzing the Quantitative Data

Analysis of variance and covariance were the statistical techniques used in analyzing the quantitative data. These techniques were used in order to obtain the most accurate and most complete analysis of the data.[1] This accuracy is greater than that obtainable from the more traditional method of analyzing data of groups taken two at a time.[2] Johnson (50) points out that in many cases the data handled in this way give estimates of standard errors that may not differ beyond sampling errors when considered in pairs; therefore, the conclusions might be drawn that the observed differences are attributable to random sampling errors.

The technique of analysis of variance developed by R. A. Fisher (Lindquist, 46) produces a more exact estimate of the true population variance (combined estimate) by pooling the sums of squares of the deviations from the various means of the groups. The extension of Fisher's method of analysis of variance to include the pooling of sums of squares of the

---

[1] This decision and other decisions relating to statistical procedures, calculations and the like were made in conference with Dr. William D. Baten, Professor of Mathematics, Michigan Agricultural Experiment Station, Michigan State College, East Lansing, Michigan.

[2] The more traditional method involves calculation of standard deviations, coefficient of correlation, standard errors, and standard errors of the difference (of two means) for each of "paired" groups taken two at a time.

deviations of the separate means from the mean of the total group becomes the technique of covariance; and, as Johnson indicates, provides an exact test of the null hypothesis.

Lindquist points out further that Fisher's analysis of variance technique extended to analysis of covariance enables the research worker to dispense with matching (of cases) procedures by using statistical controls to obtain equivalent precision in testing. These statistical controls consist of adjusting the final, or post-test, scores to initial, or pre-test, scores thereby making allowance for initial student differences in achievement in knowledge or skill as measured by the pre and post tests.

In adjusting the post-test scores to allow for initial differences of student achievement in the skills of communication being evaluated in this study, the following three formulae, given by Mcnemar (51:322-323) are used:

$$(a) \quad b_{xy} = r \frac{\sigma_x}{\sigma_y} = \frac{\Sigma xy}{\Sigma y^2}$$

$$(b) \quad b_x = b_{xy}(\bar{X}-X)$$

$$(c) \quad Y' \text{ (adjusted score)} = Y \text{ (raw score)} - (\pm b_x)$$

Formulae (a) shows the regression coefficient (b_{xy}) to be a function of the coefficient of correlation (r) between the pre and post test scores and the standard deviations of the

pre and post test scores. Mcnemar's derivations show the relationship (equality) between these statistical values normally calculated as individual values in the more traditional method (using pairs of data from two groups taken two at a time as previously indicated) and summed values used in the analysis of variance and analysis of covariance techniques. It is not necessary, therefore, to compute the individual coefficients of correlation and standard deviations for the individual pairs of data in this study, in order to test for significance of difference between the two methods of teaching. If, however, significant differences were to result, then it would become necessary to further analyze the data by inspection or by applying the more traditional method to paired groups of data in order to discover wherein the differences lay. In the event that inspection alone did not indicate wherein the difference lay, T-tests, as indicated by Lindquist (46:51-54) involving the more traditional type of calculations, as indicated previously, would be necessary.

A summary (from Table 62, Mcnemar, 47:321) of the means by which the statistical calculations were made for this study is given on the following page.

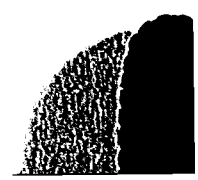
In addition to the greater precision in statistical analysis in determining significance of differences between and among groups of data, as indicated previously, the covariance

	Total	Within	Between
Sum of products	$\Sigma^{a}\Sigma^{b}(X_{ab}-\bar{X})(Y_{ab}-\bar{Y})$ (A_t)	$\Sigma^{a}\Sigma^{b}(X_{ab}-\bar{X}_b)(Y_{ab}-Y_b)$ (A_w)	$\Sigma^{b}{}_{nb}(\bar{X}_b-\bar{X})(Y_b-\bar{Y})$ (A_b)
Sum of squares for X's	$\Sigma^{ab}(X_{ab}-\bar{X})^2$ (B_t)	$\Sigma^{a}\Sigma^{b}(X_{ab}-\bar{X}_b)^2$ (B_w)	$\Sigma^{b}{}_{nb}(\bar{X}_b-\bar{X})^2$ (B_b)
Sum of squares for Y's	$\Sigma^{ab}(X_{ab}-\bar{Y})^2$ (C_t)	$\Sigma^{a}\Sigma^{b}(Y_{ab}-\bar{Y}_b)^2$ (C_w)	$\Sigma^{b}{}_{nb}(\bar{Y}_b-\bar{Y})^2$ (C_b)
Degrees of freedom	N-1	N-K	K-1
Adjusted sum of X's	$B_t-\frac{A_t^2}{C_t}$	$-\ B_w-\frac{A_w^2}{C_w}$	$=$ Adjusted B_b
Degrees of freedom	N-2	N-K-1	K-1

techniques makes it possible to assign appropriate components of the data to different operating factors. Snedecor (52:1-3) gives the mathematical bases showing the technique to be equally well adapted to large or small groups (number of cases in each group) and the separation of the total difference between groups of data, into component elements, part of which are known sources of variation such as instructors, interaction between instructor and method, and methods (of teaching).

In analyzing the quantitative data for this study, then, analysis of variance and analysis of covariance are used to compare the scores achieved by the control and experimental groups on the ACE-PE, the CET-RC, the speech and writing measuring instruments, and the objective examination. The calculations involved in the analysis of the data give ratios of the variances of the scores of the groups of data. Such a ratio of the variances provides an F value which can be compared with tabled values of F, given by Mcnemar (51:353-355), and others, to determine the significance of the computed value. This significance relates to the observed differences in the means of the test and criteria scores of the control and experimental groups.

Summary of statistical procedures. Analysis of variance and analysis of covariance techniques were used in preference to the more traditional method of analyzing the data of

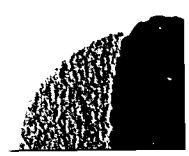


groups, taken two at a time, and computing the various standard deviations, standard errors and the like. This choice was made in order to provide for greater precision in analysis, to eliminate the complexities which accompany matching of cases, to provide for more exact testing of the null hypothesis, and in order to assign differences in variation to specific operating factors.

Analysis of variance was used to compare the groups on the basis of ability and achievement in reading comprehension to bring these variables under control for this study. Analysis of covariance was used to compare the control and experimental groups in gains made in communication skills as shown by the three criteria measurements, speech, theme, and objective examination.

Procedures Used in Analyzing the Qualitative Data

The qualitative data were obtained from three questionnaires: (1) the sociometric questionnaire; (2) the Student Opinionaire; and (3) the Teacher Evaluation. The data from the "Opinionaire" and the "Evaluation" questionnaires are similar. The method of analyzing these data, then will be the same; however the data from the sociometric questionnaire are sufficiently dissimilar to the data from the other two questionnaires that it will be discussed separately in this part of the present chapter.



The data from the three questionnaires is analyzed to obtain information relative to student acceptance or rejection of the experimental procedures, to discover information pertaining to changes in social structure within the two class atmospheres, and to discover some possible effects the two methods have had on socialization within the classes.

1- Procedures for analyzing the data from the sociometric questionnaire.

Those data pertaining to the social structure consist of student choices of class members with whom the student would be willing to work on a committee. These responses were made in answer to the questions asked on the sociometric questionnaire. The responses give data which would indicate the following:

1- The number of isolates (students not chosen by any student).

2- The changes in the number of isolates for the two groups.

3- The type of change of isolation.

a- The number of non-isolates at the beginning of the study, who became isolates by the end of the study.

b- The number of isolates at the beginning of the study, who became non-isolates by the end of the study.

c- The number of isolates at the beginning of the study who were still isolates by the end of the study.

The data indicated for the above categories will be analyzed, in each case, on the basis of the percentage these

are of the total number of students in the control group, and in the experimental group.

Those data for the purpose of evaluating effects of the two methods of instruction have on socialization consist of the number of students chosen but whose names were not known by the students choosing them. The number of names requested early in the quarter will be compared with the number requested at the end of the quarter. The percentage of names requested and the changes in the percentages will be compared for the two groups.

2- Procedures for evaluating data from the Student Opinionaire and the Teacher Evaluation.

The student comments for each of the questions on these two instruments are classified by using Flannagan's (53) technique of setting up categories for critical incidents. Each student comment is compared with each other comment. Similar comments form a single category of comments. For this study, the categorized comments, resulting from this technique, containing the greatest number of student responses will be used for analysis in Chapter V. Three of the groups of categorized comments of the control group will be compared with three from the experimental group. The three groups of categorized comments chosen will be those for which there are the greatest number of student responses. The comparison will show similarity and differences found in these comments.

The "favorable" and "unfavorable" responses given by students will be similarly compared.

Percentages of favorable and unfavorable comments, and percentages of comments pertaining to the instructional procedures being tested will be determined.

Summary of procedures for analyzing the data. The quantitative data will be interpreted by means of analysis of variance and analysis of covariance techniques. Analysis of variance will be used to interpret the standardized test scores from the American Council on Education Psychological Examination and the Cooperative English Test for Reading Comprehension for comparing the two groups in the study for controlling the variables of ability and reading comprehension. The student scores resulting from the pre and post test criteria for measuring gains in achievement in communication skills (the speeches, the themes, and the objective examination) will be analyzed by means of analysis of covariance. Instructor differences, interaction between instructor and method, and differences in methods of instruction will be analyzed for significance.

The qualitative data consists of student comments (subjective data) grouped into categories of similar comments and analyzed by comparing the comments found for the control and experimental groups. The favorable and unfavorable

comments will be similarly grouped. Percentages will be used to indicate differences which may pertain to the problem of this study.

Procedures Involved in the Two Teaching Methods

The previous sections of this chapter have been devoted to (1) selection of cases for the study, (2) selection of instructors for the study, (3) procedures for measuring outcomes of the two methods being tested, and (4) methods of analyzing the data. The rest of the chapter will explain the operational procedures used in the study.

Since the study was not intended to test the effectiveness of assignments and course content materials found in the texts, the same text assignments were made to the TCA (the experimental classes as defined and abbreviated in Chapter I) and the LSP (the control classes as defined and abbreviated in Chapter I) classes. All students were asked to execute the same speaking, writing, reading, and listening assignments prescribed in the Syllabus for Written and Spoken English. The uncontrolled variable being tested was the method of instruction.

The LSP method of instruction was defined and characterized in Chapter 1. Basically it involved authoritarian procedures, with the instructor assuming responsibility for structuring class procedures, making assignments, lecturing,

conducting teacher-question-student-answer recitations, and evaluating all student performance in the execution of assignments.

The TCA method of instruction was defined and characterized in Chapter I. Basically it involved sharing of ideas through democratic procedures. The students work in groups, structure much of the class activity, review the assigned readings, make the individual assignments, and evaluate the student execution of the assignments.

The first hour the classes met was devoted to administrative details and explanation of the general objectives of the course including the use of the texts. All LSP and TCA classes were given this orientation period. In addition to the above orientation, the instructors explained the TCA procedure to the students in the experimental classes. Each student was given a copy of the Orientation sheet and a copy of the hour-by-hour schedule to be followed during the quarter.[5]

The Class Discussion Groups

The groups which were to work together during the quarter were assigned by the instructors using the alphabetical listing of the students in the class. This listing of students is the Michigan State College Class List prepared by the

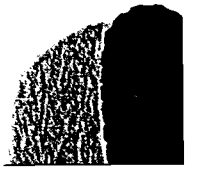
---

[5] Copies of these and other materials used in the study will be found in Appendix B.

College Registrar to indicate which students have enrolled in the specific sections of the course. The students in each of the experimental classes were divided into four groups. The classes ranged in size from 27 to 29. The average number of students in each group became seven. The first seven names appearing on the class roll were read. These students were informed that they would form Group I. The next seven names were read and these students became Group II. The next seven students became Group III. The remainder of the students in the class (six, seven, or eight depending upon the size of the class) became Group IV.

The student whose name appeared first in the alphabetical listing of names for the group, became the leader of that group's first group assignment or activity. The leader's responsibility consisted of organizing, directing, conducting, and terminating the group's activity for the specific assignment. Following the alphabetical listing, other students assumed leadership roles for successive group activities. As the hour-by-hour schedule indicates, these activities consisted of reviewing the assigned readings, specifying the individual student assignments, evaluation of individual student performance in writing, speaking, and the like.

At the end of each two-week period during the quarter, one hour was devoted to group meetings. The groups met to evaluate what they had been doing and to discuss their



procedures for future assignments. The instructor was available as an adviser for the groups.

The Instructor, his Roles and Procedures

The instructor assumed the role of observer during these group activities and during the time individual speeches were given. His role changed during the time groups were evaluating writing and speaking within the groups. Here he became an adviser, a consultant, a resource person, and an observer. During the time that any activity was in progress within the classroom, the instructor was a potential counselor for any student or group. Any individual was free to leave the classroom at any time during the course of the class procedures to consult with the instructor in his office. This choice gave any individual an opportunity to obtain help on problems which were at the moment blocking him in his class participation or interfering with his general happiness and well-being outside the classroom. The instructor, after acting as an observer, was in a position to identify student reactions to the classroom situations and request any student to meet with him during the class period. In these request conferences it was hoped that help might be given to the student to improve his adjustment to the learning environment in which he found himself. In these situations the teacher became a counselor. It was presumed that as a counselor, the teacher would do

whatever he was capable of doing to help the students solve their problems. It was thought that non-directive counseling would be more in keeping with the instructor's role as designed for the study; it was recognized however, that some problems might best be most effectively "solved" by directive methods, referral, or any combination of these three. Each instructor agreed to do his best in the counseling situations. The study did not involve an evaluation of counseling methods; rather, it involved attempting to discover whether students could acquire communication knowledge and skills as well under the experimental procedure as under the traditional procedure, even though some of the instructor's time was devoted to helping individual students through counseling. The variations in degrees of effectiveness in counseling among the four instructors were not in themselves important in the study.

If at any time during any of the class periods, the instructor felt that the procedures in progress at the moment or the future procedures might be improved, he was free to use discussional techniques which were defined in Chapter I. As the instructor led these discussional procedures, he became a non-directive teacher. He created a permissive atmosphere for discussion of problems and the solutions came entirely from the individuals and the groups in the class. In this process, the instructor was operating in two closely related roles. The first was that of a group counselor, and

the second, a non-directive teacher. As defined in Chapter 1, these discussional techniques were designed and conducted so that permissiveness was encouraged. The instructor gave to the class only the information which individuals had given during the course of the discussion. This mirroring is the essence of the non-directive counseling methods developed by Carl Rogers (49).

During the entire course of the study, the instructors maintained this integrated-teacher-role of the non-directive teacher, a counselor, and an adviser, all of which involved the role of an observer.

Summary of Procedure

1- Each instructor taught a control class and an experimental class.

2- Pre-testing of control and experimental classes was done on the same days and under similar conditions.

3- Post-testing of control and experimental classes was done on the same days and under similar conditions.

4- Control and experimental classes used the same texts, were given the same individual writing, speaking, and reading assignments.

5- Control and experimental classes all met on the same days of the week and a section of each met during the same times of the day.

6- All experimental classes followed the same group assignments and did essentially the same things on the same days as indicated by the hour-by-hour schedule.

7- The control procedure involved some voluntary lecturing and an authoritative role by the instructor. The experimental procedure involved no voluntary lecturing and a democratic, non-authoritatian, integrated-teacher-role.

8- The instructor in the control class participated in and/or did the major share of evaluating individual performance in writing and speaking. In the experimental classes, the instructor only directed group and student evaluations for these performances.

9- In the control classes the authority rested in the instructor. In the experimental classes the authority rested in the students and the groups of students.

CHAPTER IV

CHAPTER IV

ANALYSIS AND INTERPRETATION OF THE QUANTITATIVE DATA

This chapter and the following chapter present and analyze the data to determine (1) the comparisons of the two groups in ability and reading comprehension, (2) the gain differences in communication achievement for the two methods of instruction, and (3) the qualitative results of the two methods of instruction as given by student responses.

The present chapter will be devoted to data used to compare the two groups for ability and reading comprehension and data showing gains in achievement of the communication skills.

The first part of this chapter compares the two groups on the basis of the scores made on the two standardized tests: (1) the American Council on Education Psychological Examination, and (2) the Cooperative English Test C 2: Reading Comprehension (Higher Level) Form Y.

The second part of this chapter analyzes the quantitative data from the criteria instruments measuring gain in achievement for speaking, writing, and the combined skills of communication (reading, speaking, writing, and listening). This part of the chapter is divided into the following three parts:

1- Analysis of quantitative data for speaking.

2- Analysis of quantitative data for writing.

3- Analysis of quantitative data for the combined skills.

Comparison of the Groups on the Basis of Standardized Test Scores

In order to find out if any differences in ability and reading comprehension existed between the two groups, the scores made by the experimental group (TCA) were compared with the scores made by the control group (LSP) on two standardized tests. The scores made by the experimental group on the ACE-PE were compared with the scores made by the control group on the same test. Likewise, the scores on the CET-RC test were compared. If no significant differences were found between these two groups for ability and reading comprehension as indicated by their scores on these two tests, it could be assumed for the purposes of this study that these two variables were controlled.

These comparisons were made by analysis of variance technique as explained in Chapter III. The statistical calculations give ratios of the variances of the scores of the groups. The ratio of the variances for any one of the tests is an F value (named after Fisher) which can be compared with tabled values of F to determine the significance of the computed value. This significance relates to the observed difference in the means of the two groups of scores being compared.

In determining the significance of this difference, the null hypothesis, that there is no significant difference between the means of the two groups, is being tested.

The data comparing these scores for the two groups on the ACE-PE and the CET-RC tests are given in the following table, Table I.

TABLE I

ANALYSIS OF DIFFERENCES IN ABILITY AND READING COMPREHENSION

Source of variation	Variable	d.f.	F	Hypothesis [a]
Total	ACE-PE	127	----	--------
	CET-RC	127		
Section [b]	ACE-PE	3	0.35	Accepted
	CET-RC	3	0.57	Accepted
Group [c]	ACE-PE	1	0.01	Accepted
	CET-RC	1	0.09	Accepted

[a] The hypothesis tested is the null hypothesis concerning variation in the same row. For example, the hypothesis regarding section is that there is no significant difference between section means.

[b] Section indicates the classes taught by different instructors.

[c] Group indicates the experimental classes and the control classes.

The data in the above table indicate that the cases in the study, in the classes of any one instructor, were not significantly different in ability and reading comprehension than the cases in the classes of any other instructor. Results of the analysis of their variances, using the analysis of variance technique discussed in Chapter III, indicate that the mean scores of the several groups of cases do not vary significantly from zero. The ratios of the variances on which this significance is based is shown in the third column after "section". The F values are the ratios of these variances. The F values are found to be 0.35 and 0.57 for the psychological examination and the reading comprehension test, respectively. Snedecor (48:222-225), and others, has tabled F values with which computed values can be compared to determine their significance. Snedecor's table value for the three degrees of freedom indicated in the second column after "section" is found to be 3.94 at the five per cent level of significance. Since, then, it might be expected that an F value as great as 3.94 would be obtained five per cent of the time as a result of chance factors alone, it is extremely unlikely that these values of 0.35 and 0.57 indicate any significance in the difference of the observed means for the scores on these tests. The hypothesis that there is no significant difference in the means of these groups is thus accepted.

The null hypothesis, that there is no significant difference between the means of the four control sections and the four experimental sections, was to be tested. The data in the third column (under F) after "group" shows the computed variance ratios of the scores on the two standardized tests for the two groups. These F values are 0.01 and 0.09. The tabled value of F for one degree of freedom is 6.85 for significance at the five per cent level of confidence.

It can be concluded on the basis of this evidence that any differences in ability and reading comprehension which exist between the control and experimental groups are no greater than the difference expected on the basis of chance. These two variables may be said to be controlled for this experiment.

Analysis of Quantitative Data for Gain in Achievement of Communication Skills

As discussed in Chapter III, three criteria measurements were used to show gain in achievement: (1) pre and post-test speeches were used to show gains in speaking; (2) pre and post-test themes, to show gains in writing; and, (3) pre and post administration of the objective examination, to show gains in the four skills of communication. The analysis of covariance, described in Chapter III, was used to analyze the differences in these gains and to determine significant difference due to instructors alone, due to the interaction between any

instructor and the method of instruction, and finally, to determine the significance of the difference attributable to the method of instruction.

The control and experimental groups were equated statistically for their initial ability in the use of the communication skills by adjusting the post-test scores of each student on each of the criteria measurements to the pre-test scores on the same measurement.

Since the groups were controlled for ability and reading comprehension, and the final scores were adjusted to initial achievement, the analysis of covariance would then indicate the significance of the gain which could be attributed to instructors, the interaction between instructor and method of teaching, and the method of instruction. The analysis of these data follows.

Quantitative Achievement Data for Speaking

As indicated previously the post-test speech scores were adjusted to pre-test speech scores to equate statistically the initial ability in speech communication. These adjusted scores were then compared with the pre-test scores by means of analysis of covariance in the determining of gain in achievement and the significance of that gain. The gains of the four control classes were compared with the gains of the four experimental classes. The analysis of covariance technique made it possible to analyze the gains for effects of

the instructor teaching the class, for the effects of method of instruction, and for the effects of interaction between instructor and method of instruction.

The data in Table II show the results and significance of the analysis.

1- The data analyzed for difference in methods of instruction.

The following table shows no significant differences between the two methods of instruction for speech. The test for significance yielded an F value of 0.12. The tabled F value for one and 122 degrees of freedom at the five per cent level of confidence is 3.93. It is extremely unlikely that there is any difference in the speech results obtained that could not be attributed to chance factors alone. Since an F value of 6.85 would be necessary to conclude that the difference was significant at the one per cent level, it is reasonably certain that similar experiments would result in differences as great as those found in this experiment more than 99 per cent of the time.

Thus, it has been demonstrated by these data that either method of instruction would be expected to yield equally good results in speech achievement for this course in so far as the evaluation procedures currently used measure speech achievement.

The average of the speech scores for each of the control classes and the average for each of the experimental classes

TABLE II

ANALYSIS OF PRE-TEST AND POST-TEST SPEECH SCORES

Source of Variation	Degrees of Freedom	X^2	XY	Y^2	Reduced Degrees of Freedom	Reduced Sums of Squares	Reduced Mean Squares	F	Hypothesis[a]
Total	127	16156.22	6716.13	16251.50					
Instructors	3	384.16	-726.53	1942.19	3	2661.90	887.20	10.03	Rejected
Methods	1	11.28	9.50	8.00	1	1.55	1.55	0.12	Accepted
Instructors and Methods	3	334.66	119.66	122.44	3	84.10	28.03	0.32	Accepted
Error	120	15426.13	7313.50	14178.88	119	10711.56	90.01	----	--------
Residual[b]		15760.78	7443.16	14301.31	122	10795.66	88.50	----	--------

[a] The hypothesis tested is the null hypothesis concerning variation in the same row. For example, the hypothesis regarding methods is that there is no significant difference between method-means when the effects of pre-test score have been partialled out.

[b] Since the adjusted mean square for the interaction of instructors and methods proved not to be significant, a pooled sum of squares (consisting of the interaction and error) with 122 degrees of freedom became available for testing the main effects.

are given in Table III. These data show the average speech score for the students of each instructor, for control and experimental classes, for pre and post tests, and the total average difference between the control classes and the experimental classes.

The average gain per student, as the combined averages in the following table indicate, is 0.415 criterion score point[1] greater for the students in the experimental classes than for the students in the control classes. This difference has been shown not to be significant.

2- The data analyzed for instructor differences.

The differences in gains made by the cases in each of the classes of the four instructors have been analyzed for significance. The gain which has been statistically attributed to instructor influence is shown in Table II to be sufficiently great to be significant. The F value of 10.03 is greater than the tabled value of 3.95 for significance at the one per cent level. It is indicated by these values that less than one per cent of the time that these instructors taught classes of these populations, using these methods with their present skills and procedures, could this difference in means be attributed to chance factors alone.

---

[1] A maximum score any student could receive from the ratings, for either the pre-test speech or the post-test speech, is 100.

TABLE III

A COMPARISON OF MEAN SPEECH SCORES OF PRE-TEST AND POST-TEST FOR METHOD AND INSTRUCTOR

Instr. No.		Pre-Test Means LSP	Pre-Test Means TCA	Post-Test Means LSP	Post-Test Means TCA	Mean Differences LSP	Mean Differences TCA	Group Differences LSP	Group Differences TCA
1	(Adjusted)[1]	58.75	56.38	62.61	64.05	3.76	7.67		+3.91
	(Unadjusted)	58.75	56.38	64.06	64.38	5.31	8.00		+2.69
2	(Adjusted)[1]	54.19	60.13	59.89	59.15	5.70	0.98	+4.72	
	(Unadjusted)	54.19	60.13	59.19	61.25	5.00	1.12	+3.88	
3	(Adjusted)[1]	55.25	53.75	71.64	69.72	16.39	16.97		+0.69
	(Unadjusted)	55.25	53.75	71.44	68.81	16.19	15.06	+1.13	
4	(Adjusted)[1]	53.31	53.63	68.67	70.77	15.36	17.14		+1.78
	(Unadjusted)	53.31	53.63	67.56	69.81	14.25	16.18		+1.93
Average mean difference	(Adjusted)								+0.415
	(Unadjusted)							+0.10	

[1] In order to analyze the relative effectiveness of instructors, since analysis showed a significance between instructors for speech, the post-test scores were adjusted as given in Table IX Appendix A. For comparison of adjusted and unadjusted post-test scores, the two sets of scores are given here.

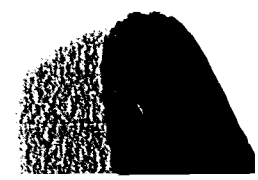
The data in Table III indicate some differences in the results obtained by the various instructors. It is noted that the experimental classes of instructors one, three, and four made greater gains than did their control classes. For instructor two the greater gain was made by the control class.

The speech gains shown for the experimental and control classes of instructor three are not essentially different (16.97 and 16.39, respectively criterion score points gain in average scores). These same gains for the two classes of instructor four show essentially the same (17.14 and 15.36). However, the gains for the classes of instructor one show that the experimental class gain was about twice that of the control class. In contrast to the results shown for instructor one, the results for instructor two show a control group gain of more than five times that for the experimental group.

The gains for control class and the experimental class of instructor three are of essentially the same magnitude as the gains shown for the two classes of instructor four. The gains for the classes of instructors one and two are considerably smaller than those shown for instructors three and four. The control class of instructor one shows about one-fifth the gains for control classes of instructors three and four. For the classes of instructor two the gain is about one-third the gains shown for instructors three and four.

The range of difference in gain among the experimental classes is greater than the range noted for the control classes (control range = 3.76-16.39; experimental range 0.98-17.14). The differences in gain among the experimental classes of the four instructors show reverse effects for instructors one and two. The data for the control classes of these two instructors show considerable more gain (5.70 as contrasted with 3.76) for the class of instructor two. For the experimental classes, on the other hand, the class of instructor one showed the greater gain (7.67 as contrasted with 0.98).

This analysis of the data for instructor differences which were found to be significantly different, seems to show that instructors three and four had possibly used these two methods of teaching equally well and also had produced considerably more student gain in achievement with either method than had been produced by either instructor one or instructor two. Instructor one, however, seemed to produce considerably better results with the experimental method than with his traditional method. In contrast to instructor one, instructor two seemed to produce considerably more gain with his traditional method than with the experimental method. These differences in instructor effects for speech were suggested as limitations in Chapter I. The interpretation of the data for speech gains needs, therefore, to be accepted in view of these limitations.



As previously stated there is no significant difference in methods of instruction for this part of the experiment when the classes of all instructors are combined in the analysis of covariance. The instructor differences pointed out indicate, however, that some unidentified and uncontrolled instructor influences were apparently in operation. This instructor limitation was placed on the present study (Chapter I) and the data for speech gain difference is interpreted in view of these instructor differences. Further study and more intensive control of instructor effects would be needed to identify and bring these influences under control.

3- The data analyzed for interaction between instructor and method.

The interaction effects on gain differences are shown in Table IV not to be significant, as is indicated by the comparison of the calculated F value of 0.32 and the tabled F value of 3.95 at the one per cent level of confidence.

Quantitative Achievement Data for Writing.

As was indicated for the analysis of the speech data, the gains shown for the four control classes and for the four experimental classes were analyzed by analysis of covariance. The writing gains were analyzed similarly, for effects of the instructor teaching the class, for the effects of method of instruction, and for the effects of interaction between instructor and method of instruction. The data in Table IV show the results of this statistical analysis.

TABLE IV

ANALYSIS OF PRE-TEST AND POST-TEST THEME SCORES

Source of Variation	Degrees of Freedom	X^2	XY	Y^2	Reduced Degrees of Freedom	Reduced Sums of Squares	Reduced Mean Squares	F	Hypothesis*
Total	127	27609.30	14900.83	33182.97	---				
Instructors	3	1503.96	1140.45	1181.41	3	384.56	128.18	0.65	Accepted
Methods	1	146.63	-248.31	420.50	1	727.10	727.10	3.69	Accepted
Instructors and methods	3	310.77	332.13	365.06	3	108.81	36.27	0.18	Accepted
Error	120	25647.94	13686.56	31216.00	119	23912.43	200.94	----	--------
Residual **		25958.71	14008.69	31581.06	122	24021.24	196.90	----	--------

* The hypothesis tested is a null hypothesis concerning variation in the same row. For example, the hypothesis regarding methods is that there is no significant difference between method-means when the effects of pre-test score have been partialled out.

** Since the adjusted mean square for the interaction of instructors and methods proved to be insignificant, a pooled sum of squares (consisting of the interaction and error) with 122 degrees of freedom became available for testing the main effects.

1- The data analyzed for difference in methods of instruction.

The above table shows no significant difference between the two methods of instruction in achieving improvement in writing. The computed F value is 3.69. The tabled value for the five per cent level of confidence is 3.92. Since the computed F value approaches the tabled F value, it seems doubtful that the difference in writing gain for the two methods of instruction could be reasonably attributed to chance factors alone. Further experimentation is needed before confidence can be placed in results showing relative effectiveness of the methods of instruction for writing gains.

The average of the writing scores for each of the control classes and the average for each of the experimental classes are given in Table V. These data show the average writing score for the students of each instructor, for control and experimental classes, for pre and post tests, and the total average difference between the four control classes and the four experimental classes.

The gains shown in the following table indicate that the students in the four control classes made greater gains in writing than did the four experimental classes. The greatest difference in writing gain is shown for instructor one (8.20 criterion score points). The least gain shown for a control class is indicated for instructor four (4.24 criterion score points). The average difference in gain for the four classes

TABLE V

A COMPARISON OF MEAN THEME SCORES OF PRE-TEST AND POST-TEST FOR METHOD AND INSTRUCTOR

Instr. No.		Pre-Test Means LSP	Pre-Test Means TCA	Post-Test Means LSP	Post-Test Means TCA	Mean Differences LSP	Mean Differences TCA	Group Differences LSP	Group Differences TCA
1	(Adjusted)	46.69	50.88	51.19	57.18	14.50	6.30	-8.20	
	(Unadjusted)	46.69	50.88	57.13	55.39	10.44	4.50	-5.94	
2	(Adjusted)	56.31	60.19	64.68	62.02	8.37	1.83	-4.44	
	(Unadjusted)	56.31	60.19	65.81	65.75	9.50	5.56	-6.44	
3	(Adjusted)	53.38	58.13	59.51	57.05	6.13	-0.08	-6.21	
	(Unadjusted)	53.38	57.13	59.06	58.63	5.68	1.50	-4.18	
4	(Adjusted)	56.19	52.94	61.24	53.75	5.05	0.81	-4.24	
	(Unadjusted)	56.19	52.94	62.31	53.06	6.12	0.12	-6.00	
Average mean difference		(Adjusted)						-5.27	
		(Unadjusted)						-5.14	

is 6.27 criterion score points. This difference has been shown not to be significant, but the analysis of covariance indicates that it approaches significance at the five per cent level.

Within the limitations set by the group procedures prescribed for the experimental classes, as given in Chapter I, these results seem to indicate that students may possibly attain greater achievement in writing with the traditional methods of instruction. What results would be found if refinement were made in the prescribed group procedures and/or in the instrument measuring these gains would need to be discovered by further study.

2- The data analyzed for instructor differences in writing achievement.

The difference in gain for writing achievement is not significant. The gains for the four instructors are comparable in magnitude and for all four instructors, favor the control group, as indicated in the previous section. The computed F value (0.65) obtained for instructor difference is shown in Table IV. This F value to be significant at the five per cent level would need to be as great as 3.95. It is unlikely, then, that the instructors alone have had much effect upon the differences shown for the writing gains which favor the control classes.

While the analysis of covariance of these scores for the various classes indicates no instructor significance, the data

in Table V show some variations among instructor results (though, as stated, not significantly different when the data for the four control classes are combined and the data for the four experimental classes are combined). The experimental class of instructor three showed a small loss (-0.08) rather than a gain in writing; instructor four, a small gain (+0.81); instructor two a larger gain (+1.83); and instructor one a much larger gain (+6.30). The larger gains shown for the classes of instructor one and two are accompanied by larger gains also by these instructors for their control classes.

While these variations in instructor results as indicated above seem to indicate important instructor differences, the results of analysis of covariance for these effects have not shown that a significant difference exists.

Quantitative Achievement Data For the Four Skills (Objective Examination).

Student gains in achievement of knowledge concerning the four facets of communication were obtained from the difference in student scores on first and second administration of an objective examination used by the Department of Written and Spoken English as a term end examination for the course of Basic 111. The second (post) student scores were adjusted to initial achievement of the knowledge which the instrument was presumed to measure. Analysis of covariance was used to test the significance of the differences between the control and experimental groups for the gains shown by these scores.

The data in Table VI show the results of this analysis.

1- The data analyzed for difference in methods of instruction.

The data indicate no significant difference in method of instruction. The F value of 2.35 indicates that any differences which may exist in these two methods of teaching to obtain knowledge concerning the four communication skills are not much greater than those differences expected from chance factors alone. An F value as great as 3.95 could be obtained before it could be stated with any assurance that the difference was significant at the five per cent level of confidence.

These results do not provide condusive evidence that there are no real differences between these two methods within the limits and under the conditions of this experiment. Additional evidence, possibly obtained from an improved objective instrument for measuring knowledge relative to communication skills, might provide more conclusive results.

The data in Table VII summarizes the mean scores obtained by students in the various classes on this objective criterion.

The data in the following table show that one of the four experimental classes made a lesser gain, as shown by the results of the objective criterion, than did the control class of the same instructor. This lesser gain was 0.72 criterion score point. The average difference gain in score for all classes was 3.93 in favor of the experimental classes. As has

TABLE VI

ANALYSIS OF PRE-TEST AND POST-TEST OBJECTIVE EXAM SCORES

Source of Variation	Degrees of Freedom	X^2	XY	Y^2	Reduced Degrees of Freedom	Reduced Sums of Squares	Reduced Mean Squares	F	Hypothesis*
Total	127	11721.93	7656.70	11462.97					
Instructors	3	444.27	167.27	262.28	3	236.57	78.86	1.57	Accepted
Methods	1	73.51	-43.95	26.28	1	117.74	117.74	2.35	Accepted
Instructors and methods	3	339.84	278.33	236.28	3	15.92	5.31	0.11	Accepted
Error	120	10874.31	7255.06	10938.13	119	6097.73	51.24	----	--------
Residual**		11214.15	7533.39	11174.41	122	6113.66	50.11	----	--------

* The hypothesis tested is a null hypothesis concerning variation in the same row. For example, the hypothesis regarding methods is that there is no significant difference between method-means when the effects of pre-test score have been partialled out.

** Since the adjusted mean square for the interaction of instructors and methods proved to be insignificant, a pooled sum of squares (consisting of the interaction and error) with 122 degrees of freedom became available for testing the main effects.

TABLE VII

A COMPARISON OF MEAN OBJECTIVE EXAMINATION OF PRE-TEST AND POST-TEST FOR METHOD AND INSTRUCTOR

Instr. No.		Pre-Test Means LSP	Pre-Test Means TCA	Post-Test Means LSP	Post-Test Means TCA	Mean Differences LSP	Mean Differences TCA	Group Differences LSP	Group Differences TCA
1	(Adjusted)	42.19	45.50	49.02	51.61	6.83	6.11	+0.72	.
	(Unadjusted)	42.19	45.50	49.50	54.31	7.31	8.81		+1.50
2	(Adjusted)	42.06	41.63	51.11	53.46	9.05	12.83		+3.78
	(Unadjusted)	42.06	41.63	51.50	53.56	9.44	11.93		+2.49
3	(Adjusted)	41.13	36.13	51.18	53.15	10.05	18.02		+7.97
	(Unadjusted)	41.13	36.13	50.94	49.56	9.81	13.43		+3.62
4	(Adjusted)	43.56	39.63	53.79	54.55	10.23	14.92		+4.69
	(Unadjusted)	43.56	39.63	55.19	53.31	11.63	13.68		+2.05
Average mean difference			(Adjusted)						+3.93
			(Unadjusted)						+2.82

previously been pointed out this difference in gain is not statistically significant. The differences which may exist can not, therefore, be conclusively assigned to the method of instruction.

2- The data analyzed for instructor differences for achievement in the four communication skills.

The difference in gain of knowledge concerning the four communication skills, achieved by the control and the experimental classes, as obtained by pre and post test scores resulting from administration of the objective examination has been statistically treated by analysis of covariance. The effects of the difference attributable to the instructors is identified in Table VI. The significance of this instructor difference is indicated by the comparison between the computed F value of 1.57 and the tabled value of 3.95. Since an F as great as 3.95 would be expected five per cent of the time with chance factors alone operating, the computed value of 1.57 does not seem to indicate that a significant amount of the difference in gain can be attributed to the instructors conducting the classes.

The data in Table VII shows some instructor variations. The classes of instructor one, both the control and the experimental, made smaller gains in knowledge achievement than did the classes of the other instructors. The control class for this instructor gained slightly more than did the experimental class. The data show that the other three experimental

classes gained more than their respective control classes and that all these other classes gained more than either of the classes of instructor one. The difference indicated by these data has been shown not to be significant.

3- The data analyzed for effects of interaction between method of instruction and instructor.

The data in Table VI indicate a small F value (0.11), which, when compared with the tabled value of 3.95 at the five per cent confidence level, indicates that these interactions have no significant effects on the gains and the differences on gains shown by these data.

Summary

The statistical analysis of the quantitative data, obtained from the ACE-PE and the CET-RC standardized tests used to control the variables of ability and reading comprehension for this study, indicate that means of the scores made by the experimental group and the control group were not significantly different. These variables of ability and reading comprehension were assumed to be controlled for this experiment.

Either method of instruction seems equally effective in producing improvement in oral communication. The greater gain was achieved by students instructed by the experimental method. The effects on these gains and differences in speech, which can be statistically attributable to the instructors of the classes is significant at a level below the five per cent

level. The effects of the interaction between instructor and method were not found to be significant.

The difference in writing achievement gain for the two methods of instruction is not a significant difference. The difference in gain shown to exist is greater for the students instructed with the traditional methods. This difference approaches significance at the five per cent level of confidence. It is doubtful that this difference is greater than would be expected from chance factors operating, but the present data is insufficient to justify a more accurate evaluation of the relative effectiveness of the two methods of instruction for obtaining achievement in written communication. Instructor effects are not significantly different for producing differences in writing achievement, and no significance is noted for the interaction between instructor and method.

Neither the effects of instructor, the effects of method of instruction, nor the effects of interaction between method and instructor is significantly different for achieving improvement in the four communication skills as shown by these data. The students instructed by the experimental method showed greater gain in achievement of knowledge concerning these four skills as measured by the departmental term end examination.

CHAPTER V

CHAPTER V

ANALYSIS OF QUALITATIVE DATA

In the previous chapter discussion of the quantitative data of the study and its interpretation were presented. The present chapter is concerned with analysis and interpretation of the qualitative data obtained from student reactions (subjective reactions) to experiences in these classes. This chapter is divided into three parts:

1- qualitative data resulting from the sociometric questionnaire
2- qualitative data resulting from the Student Opinionaire questionnaire
3- qualitative data resulting from the Teacher Evaluation questionnaire.

Analysis of Sociometric Data

The purpose of the sociometric questionnaire, as previously discussed in Chapter III, was to acquire data which might be meaningful in evaluating the two teaching methods with respect to their effects on student attitudes toward other students, as might be indicated by the acceptance or rejection of students, and socialization changes which came about as the students experienced the two methods of instruction.

The changes in acceptance of others were sought by having each of the students choose three class members with whom he would be most willing to work on a committee. Any student who was not chosen by another student at the end of the second week of the quarter, when the first sociometric questionnaire was administered, was rated as an "isolate" at this stage of the study. Any student who was not chosen by another student when the same sociometric questionnaire was administered at the end of the quarter, was rated, likewise, as an "isolate". The changes in the number of isolates for the LSP and TCA sections are given in Table VIII below.

Some changes in socialization were sought by checking the number of persons chosen but whose names were not known by the student choosing these people. The students were asked to place an "X" in the parentheses beside the blank to be filled in with a chosen student's name, if the name of that student were not known. The student was then asked to inquire from the instructor the names of these students to be placed in the blanks following the "X's". The difference in number of names requested by students was taken to have some meaning in indicating how well the students had become acquainted with each other during the quarter. The changes in the number of names requested by the LSP and TCA sections are given in the following table, Table VIII.

TABLE VIII

CHANGES IN STUDENT CHOICES INDICATED ON THE SOCIOMETRIC QUESTIONNAIRE[a]

	Pre-test		Post-test		Changes				
					%	Type			
	I	NR	I	NR	NR	I	NI to I	I to NI	I to I
LSP	11	33	20	8	-25	-9	15	5	6
TCA	19	19	16	3	-16	-3	10	12	7

[a] All data are given in per cent of the total number of students in the groups, LSP data for the control classes, and the TCA data for all the experimental classes. Column headings are explained thus: I indicates isolates; NI indicates non-isolates; NR indicates names requested. These data were taken from the questionnaire returned by the 92 LSP and the 90 TCA students.

The per cent of each of the classes found to be isolate at the end of the first two weeks of the quarter is found in the first column of the above table. Eleven per cent of the LSP students were isolate and 19 per cent of the TCA students were isolate. The fact that the LSP students had worked together in small groups for the two week period might possibly account for some of this difference. The initial period of close contact in the group may have been sufficient to set up stereotype reactions to personalities but not a sufficiently long period to make possible better understanding between and among individuals within the groups. The fact that the LSP students were not placed in closely operating groups may have lessened the stereotyping effect of the students in those classes.

The third column indicates the per cent of students shown to be isolate at the end of the quarter. Twenty per cent of the LSP students were isolates and 16 per cent of the TCA students were isolate. These changes in percentages of isolates for the two groups indicate 9 per cent more of the LSP students were isolate at the end of the quarter than at the beginning of the quarter, and 3 per cent fewer of the TCA students were isolate at the end of the quarter than at the beginning of the quarter. These per cent changes show that the TCA classes made a 12 per cent greater reduction in the number of isolates than did the LSP classes. This would seem to indicate that the experimental procedures might be influencial in reducing student rejection of peers in the classroom. The close contact of students operating in the groups may have had some influence in removing the initial stereotyping and permitting students to understand each other better. The counselor role of the instructor may have aided in helping students to adjust to and accept each other more objectively. The principle of group therapy may also have had some influence on the changes that came about.

More detailed and closely structured investigation would be necessary to identify the real changes which are indicated here. Further experimentation would be necessary to determine the significance which could be attached to the differences indicated by these data.

Socialization in this study is considered to be a function of how well acquainted the students are as indicated by their ability to name their fellow students. The second column of data in the preceding table shows the per cent of the students who were chosen as preferred committee workers but whose names were not known at the time the first sociometric questionnaire was administered at the end of the second week of the quarter. It is seen from the percentages given that thirty-three per cent of the LSP class were not known by name, yet were chosen by fellow students. Nineteen per cent of the TCA students were not known by name but were chosen by fellow students. The fact that the TCA students had been working together in groups while the LSP students were working as individuals may account for some of the difference between these percentages. The opportunity for learning names of fellow students may have been greater for those students working in groups. The post-test percentages show considerable decrease in the number of names requested by students in both the groups. Only 8 per cent(a decrease of 25% from the results of the first answering) of the LSP students chosen were not known by name by the end of the quarter. Three per cent (a decrease of 16%) of the TCA students chosen at the end of the quarter were not known by name. The changes in percentages indicate that the LSP students may have become somewhat better acquainted during the quarter than did the TCA students, as

indicated by a nine per cent greater decrease in the number of names that were unknown at the end of the quarter.

The original data[1] indicated no tendency for the group members to choose more often fellow group members than members of other groups. Since TCA students worked in the same group during the entire quarter, it seems reasonable to suppose that these students had less opportunity to mix with all the students in the classes than did the LSP students. Changing the membership of the groups one time or more during the quarter might give different sociometric results. Procedures which are not essentially a part of any method of instruction might also account for some of the difference noted here. One such procedure which might have had its effect is that of taking attendance. If the attendance roll were taken by calling the names from the class roll, and in the hearing of all class members, as is many times done in classes of this nature, several times during the quarter each student would have an opportunity to obtain the names of all class members. The TCA classes, on the other hand, either kept their own record of attendance, or attendance was checked by the instructor as he observed the number of students persent in the groups. If all the students were not found present for a particular group, the instructor identified the absent member(s) by asking the

---

[1] The original data is held in confidence by the writer and may be obtained from the files of the writer.

group who the absent member(s) was, or checking his own student grouping record of the class roll. Some such unidentified procedures may have accounted for some of the difference (favoring the LSP students) shown to indicate students in LSP classes were better known by names.

This study was not designed to determine significance of difference for these data. Further experimentation would be necessary to establish any significance of the differences reported here. Refinement in the method of determining how well acquainted the students became would be desirable. Other types of data would also likely be necessary.

The types of changes in the isolates are shown in table VIII. Fifteen per cent of all the LSP students who were not isolates at the beginning of the quarter, became isolates by the end of the quarter. Ten per cent of the TCA students who were not isolates at the beginning of the quarter, became isolates by the end of the quarter. The difference indicates that fifty per cent more non-isolates became isolates in the LSP classes than in the TCA classes. The data further show that five per cent of the LSP students were changed from isolates to non-isolates during the quarter. Twelve per cent of the TCA students were so changed. This difference indicates that more than twice the number of isolates in the TCA classes than in the LSP classes became non-isolates by the end of the quarter. Since the data presented here cannot be regarded as

conclusive but rather as indicating a consistent trend in favor of the TCA method, further study and experimentation would be necessary to determine the effect these TCA procedures have in producing such differences in change.

The percentage of students for whom no change is indicated by these data is approximately the same for the two groups. Six per cent of the LSP students were initially isolates and remained isolates at the end of the quarter, while seven per cent of the TCA students showed no change.

These data are not statistically interpreted in this study. The results presented here may have some meaning in evaluating these two methods of instruction. While they seem to indicate that the experimental method results in more student acceptance of fellow students, further study is needed to determine the significance of the differences shown in this study.

Analysis of Student Comments in Response to Questions on the Student Opinionaire

The Student Opinionaire, as discussed in Chapter III, was used to obtain student reactions which might be used for some subjective evaluation of the two methods of instruction. This questionnaire consisted of direct but open-ended questions to which students were asked to write answers.

A presentation of the three comments most frequently made by the 69 LSP students and the 68 TCA students returning

the questionnaire[2] to the open-ended questions of the Student Opinionaire is given in Table IX.

Thirty-six of the student comments appear in Table IX. Eighteen, or fifty per cent, of the comments are essentially the same for the two groups. Since fifty per cent of the responses are not useful in showing differences in attitudes of the two groups, it might be concluded that either the questionnaire was not suited to the purpose of discovering these differences, or that there were no great differences existing.

Some analysis of the eighteen comments which were different for the two groups may be useful, however. The TCA comments relative to the purpose of the course seem to indicate a more complete analysis of the purpose as indicated by the fact that the "use of the language" is pointed out and that communication (in all of its phases) is suggested; while the LSP comments tend more often to limit the purpose to one of the communication skills, either writing or speaking. The TCA comment relating to independent thinking was not mentioned by

---

[2] This questionnaire and the Teacher Evaluation questionnaire were given to all the students in the eight classes. Some of the questionnaires were not returned by the students. Instructor two failed to make available to the author any of the returned questionnaires. Consequently, from the total number of 92 LSP students, 69 questionnaires were returned, and from the total of 90 TCA students, 68 questionnaires were returned. Not all students returning the questionnaires made comments for all items on the questionnaires. The analysis of those comments received are presented and analyzed in light of this restriction of total data.

A PRESENTATION OF STUDENT COMMENTS OF LSP AND TCA PROGRAMS FROM THE STUDENT OPINIONAIRE[1]

Item Answered		LSP (N=64) Comment	No. Ans.		TCA (N=63) Comment	No. Ans.
Ia ...what is the most important purpose of the course...?	1-	Improve speaking	28	1-	Improve communication through practice and understanding the language	19
	2-	Learn correct speaking and writing procedures	12	2-	Be able to do speaking	6
	3-	Improve writing	7	3-	Develop independent thinking and study habits	3
IIa- ...what course activity contributed most toward the accomplishment of the above purpose?	1-	Laboratory sessions	20	1-	Laboratory sessions[2]	23
	2-	Demonstration assignment	11	2-	Lectures in the listening lab.	9
	3-	Speeches given	9	3-	Making speeches	7
IIIa-What method of study did you find most necessary to meet the grading requirements of this course?	1-	Reading assigned readings	17	1-	Reading assigned readings	22
	2-	Preparing speeches	11	2-	Keeping up on assignments	10
	3-	Keeping up on assignments	8	3-	Practicing principles learned	6
IVa-What important plan, decision, or course of action are you considering as a partial result of taking this course?	1-	None	13	1-	None	13
	2-	Be a better speaker	6	1a-	[3] Take more speech	13
	3-	Take more speech	5	2-	Practice ideas learned	5
				3-	Take the comprehensive exam	4
Va-What is the most important action the instructor should take to improve the course?	1-	None	7	1-	More instructor participation	7
	2-	Cover text assignments more	6	2-	Improve attitude toward the course	5
	3-	Give more speech assignments	4	3-	Take more responsibility	4
VIa-If you have any additional comments to make	1-	Too many things in the course	2	1-	Procedures different and superior	3

	the accomplishment of the above purpose?	ment 3- Speeches given	9	listening lab. 3- Making speeches	7
IIIa-	What method of study did you find most necessary to meet the grading requirements of this course?	1- Reading assigned readings 2- Preparing speeches 3- Keeping up on assignments	17 11 8	1- Reading assigned readings 2- Keeping up on assignments 3- Practicing principles learned	22 10 6
IVa-	What important plan, decision, or course of action are you considering as a partial result of taking this course?	1- None 2- Be a better speaker 3- Take more speech	13 6 5	1- None 1a-[3] Take more speech 2- Practice ideas learned 3- Take the comprehensive exam	13 13 5 4
Va-	What is the most important action the instructor should take to improve the course?	1- None 2- Cover text assignments more 3- Give more speech assignments	7 6 4	1- More instructor participation 2- Improve attitude toward the course 3- Take more responsibility	7 5 4
VIa-	If you have any additional comments to make ...please state them....	1- Too many things in the course 2- Divide classes according to ability 2a[3]- Use discussions instead of speeches the first quarter to eliminate stage fright	2 1 1	1- Procedures different and superior 2- Instructor's ideas needed 2a[3]- Make course more interesting	3 2 2

[1] The comments most often made by students are recorded here, and are given in the order of greatest frequency.

[2] All TCA laboratories consisted of some group participation. One half of many of the writing laboratories was devoted to group evaluation of individual student writing.

[3] If more than one comment were given by the same number of students, both comments are given here. So those lettered had the same number of comments as those containing the same number but not lettered.

the LSP students and therefore may indicate that the experimental procedure might stimulate individual student responsibility for his own learning.

The two groups gave the same comments relating to the course activity which contributed most to the accomplishment of the purpose.[3] Most frequently, and third most frequently the two groups gave essentially the same comment. However, the most frequent comment for each of the two groups ("laboratory sessions") is made concerning two essentially different types of laboratory sessions. One hour (fifty per cent of the laboratory time) of the TCA laboratory period was devoted to group discussions, and evaluations of papers students had written the previous hour. The entire two-hour period was devoted to student writing by the LSP students. This seems, then, to indicate a favorable student attitude toward the group process in improving and evaluating writing. Table IX shows 23 of the 68 TCA students (36%) responding to this item (IIa) chose to write in the laboratory (50% discussion). One of the two written comments which was given third most frequently for this same item was "discussion". This choice of comment in addition to the comment above, shown to pertain also to discussion, seems to indicate some favorable attitude for the experimental procedure.

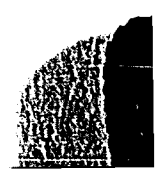
---

[3] It should be kept in mind as the comments for the TCA students relate to a more broad and more inclusive purpose for the course than do the comments of the LSP students (these differences in student identification of the purpose of the course were pointed out in the previous paragraph).

The comments relating to decisions made as a result of the course (item IVa) seem to indicate that the TCA students may have extended the decisions of the ISP students. While neither group indicates that many of the students made any decisions as a result of the course, the TCA students generalized the second and third most frequent comments to include all facets of communication while the ISP students limited their decisions to one facet, speech. This difference is similar to the difference indicated previously in expressing the purpose of the course. Whether the TCA decision to take the comprehensive examination indicates greater confidence these students have in their ability, can not be determined; however, again this decision involves the four facets of communication instead of a single skill, speech.

Item Va relates to changes the student might suggest for instructor improvement. The TCA students seemed to suggest that the instructor needed to make personal changes, in attitude and participation, while the LSP students' suggestions pertained to course content, text, and assignment problems.

The final item of the Opinionaire was more non-directive and permitted the student to state "additional comments". For this item the LSP students suggested the use of discussion and the division of the class into "ability" groups. All were made so infrequently by either group that an attempt to analyze their meaning would be highly irregular in a study of this



nature. The TCA comment related to these suggested changes recognizes the different procedures experienced and suggests them to be "superior", yet again suggesting that the instructor increase his participation and his interest, within the framework of the different procedure.

These student comments seem to indicate that possibly the questionnaire was not particularly well adapted to the purpose of differentiating student attitudes. With this limitation, however, the results may indicate that the TCA students seem to object to the instructor's lack of participation rather than to the procedure of group work. Within the limit of validity as indicated above and in recognition by the author that no real significance can be attached to the responses presented, there may be some indication that the questionnaire results may show the experimental students to have a more complete awareness of the course and its purpose than have the control students and that the TCA students express favorable attitudes toward group and discussion problems. A more refined questionnaire and a more carefully designed procedure would be necessary to obtain information to which some significance could be assigned.

Analysis of Student Responses to Teacher Evaluation Items

The Teacher Evaluation, as discussed in Chapter III, was used to obtain student reactions which might be used for some

subjective evaluation of the two methods of instruction. This questionnaire consisted of seven items which pertain specifically to the instructor and some of his teaching procedures. The students' responses are made by rating the instructor on an A to E (very favorable to very unfavorable) scale for each of the seven items. The results of these student ratings are summarized in Table X on the following page.

The totaled comments for the two groups on each of the ratings (A to E) indicate that the ratings of the TCA group tend to show a slight shift from very favorable to a scale position indicating an evaluation something less than very favorable when compared to the evaluation of the LSP group. However, the data show the greatest number (200) of ratings given by the TCA for the seven items were expressions of very favorable (an A rating) as were the greatest number (250) of the LSP ratings. It is noted, however, that for each of the other scale values (B to E) the TCA students made more ratings than did the LSP students. It is not within the province of this thesis to determine the significance of this shift. Neither can it be stated with any finality just what the cause or causes were for the shift. It is suggested that the following may be some of the probable reasons.

1- The atmosphere of the experimental procedure was generally "permissive". This permissiveness may have had some influence in motivating the TCA student to express more "accurately" his real feeling than would be expressed by the LSP student in the more submissive atmosphere of the traditional class.

TABLE X

SUMMARIZATION OF "TEACHER EVALUATION" DATA

		A	B	C	D	E
Item 1 Were important objectives met?	LSP	40	14	7	5	1
	TCA	31	20	12	2	2
Item 2 Does instructor's presentation of subject matter enhance learning?	LSP	36	24	6	2	0
	TCA	15	27	19	2	3
Item 3 Is instructor's speech effective?	LSP	51	11	6	0	0
	TCA	42	18	6	1	0
Item 4 How well does the instructor work with students?	LSP	43	22	2	0	1
	TCA	45	16	5	1	0
Item 5 Does instructor stimulate independent thinking?	LSP	15	35	19	0	0
	TCA	25	23	16	2	1
Item 6 Do grading procedures give valid results?	LSP	30	26	12	0	0
	TCA	22	26	15	2	0
Item 7 How does this instructor rank with others you have had?	LSP	35	24	9	0	0
	TCA	20	27	16	3	1
Totals	LSP	250	158	59	7	2
	TCA	200	161	89	13	7

2- The TCA ratings may reflect some student frustration resulting from the experience of having to assume considerable responsibility for his learning, which he has not had to assume in his previous experiences in school.

The LSP students were not experiencing a method essentially different from that experienced previously (in many cases). The "halo" effect for the instructor, being in college and the like may have tended to motivate these students to accept most favorably an instructor's procedures with which he (the student) is familiar.

This was recognized as a limitation in the study.

3- One of the bases on which the procedures rested was that of student evaluation and critical analysis of skills. This experience of continued evaluation and critical analysis may have been carried over into the student's evaluation and critical analysis of the instructor and his procedures during the course of the experiment.

It is further noted in the table that more LSP students chose the very favorable (A rating) more often than did the TCA students for all the items except items four and five. These two items, concerning how well the instructor works with students (item four) and whether the instructor stimulates independent thinking (item five), may have some relation to (1) and (3) above. Since, for item five, a substantial difference exists in the numbers of TCA and LSP students (25 and 15) ranking the instructor very favorable on stimulating independent thinking, it might be suggested that this evidence may give added support to (3) above, indicating that this

individual thinking (permissiveness and evaluation and critical analysis) was effective in causing the shift of ratings previously discussed.

This has been an analysis of numerical responses to directive, open-ended items. Student written expressions of attitude were not involved in the ratings made on these seven items. However, the Teacher Evaluation questionnaire provided for student responses in two other parts of the questionnaire. In these two parts the students were asked to write their "favorable" comments and "unfavorable" comments regarding their experiences with the particular instructor during the quarter. Table XI presents a summary of the most frequently given student comments for these parts of the questionnaire.

The favorable comments shown in Table XI indicate that the comments made by the two groups are essentially similar; both groups frequently mentioned development of speaking ability, instructor presentation of material, and instructor-student relationship. The TCA students, however, frequently mentioned two items directly related to the procedures they experienced. The comment most often given by the TCA students indicated that the group work was "effective" and "enjoyed". These students indicated second most frequently that the placing of responsibility on the student was favorable procedure.

A PRESENTATION OF STUDENTS' COMMENTS MOST FREQUENTLY MADE ON THE TEACHER EVALUATION QUESTIONNAIRE*

Type	LSP (N=69) Comment	No. Ans.	TCA (N=68) Comment	No. Ans.
Favorable	1- Helpful in making speeches	7	1- Group operation enjoyed and effective	7
	2- Instructor informal and gives all help he can to students	6	2- Instructor presents material very clearly	3
	3- Interesting and worth-while experience	4	2a**- Places responsibility on student	3
			3- Instructor gets to know students	2
	3a**- Material presented well by instructor	4	3a**- Helpful in developing speaking ability	2
Unfavorable	1- Very little gotten out of the course	4	1- Course needs to be made more interesting	3
	2- Didn't get much help on speaking	3	2- (The remainder of the unfavorable comments were given by the same number of students)	
	3- Too little result from writing	2	a- More discussion needed	1
			b- More work using texts needed	1
			c- Shouldn't depend on students so much	1
			d- Themes and speeches should be rated by instructor	1

*The comments most often made by students are recorded here, and are given in the order of greatest frequency. See footnote 2 this chapter.

**If more than one comment was given by the same number of students, both comments were recorded here. So those lettered had the same number of comments as those containing the same number but not lettered.

Table XII shows the percentage distribution of all the student comments made in response to the "favorable" and "unfavorable" parts of the Teacher Evaluation questionnaire.

TABLE XII

PERCENTAGE DISTRIBUTION OF STUDENT COMMENTS FROM THE TEACHER EVALUATION QUESTIONNAIRE

	LSP		TCA		
	Number of comments	% of Total	Number of comments	% of Total	% Related to exp. Proc.[1]
Favorable	24	65	12	57	83
Unfavorable	13	35	9	43	33
Total	37	100	21	100	---

[1] These percentages are based on the total number of "favorable" or "unfavorable" comments and not on the total number of comments made.

The percentage distribution above shows that the LSP students made more favorable and more unfavorable comments than did the TCA students. The figures also show a higher percentage of favorable comments made by LSP students than made by the TCA students. The unfavorable comments made by the TCA students can be seen from the summary of comments to be related primarily to procedures rather than to skills which were to be attained. In contrast, the LSP students most frequently mentioned the lack of results in achievement of the skills.

The percentage analysis of the favorable and unfavorable comments of the TCA students shows that 83 per cent of the favorable comments were directly related to the experimental procedures and that 33 per cent of the unfavorable comments were directly related to the experimental procedures.

This analysis seems to indicate that the LSP students were more free in making responses to the non-directive items and that a higher percentage of their responses were favorable than were those of the TCA students. The responses seem to show further that the largest percentage of TCA responses were favorable to the experimental procedures and that the objections did not pertain to the feeling of lack of improvement in the skills to be achieved.

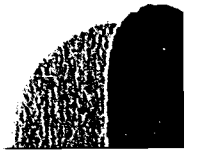
Summary

The qualitative data presented in this chapter provides the following suggestions for subjective evaluation of the two methods of instruction being tested.

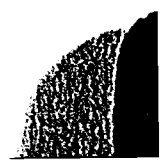
1- The experimental method seemed to provide for more acceptance of fellow students.

2- The traditional method seemed to provide better for students to learn the names of fellow students.

3- The responses from the Student Opinionaire failed to differentiate attitude differences adequately, but seemed to show the TCA student responses to be more complete and inclusive.



4- The responses from the Teacher Evaluation indicated greater response from the LSP students. These responses were more limited, than the TCA responses, to facets of the course (similarly found in the comments from the Student Opinionaire) and skills involved in the course. The highest percentage of comments made by the TCA students were favorable to the experimental procedures.



CHAPTER VI

CHAPTER VI

SUMMARY, CONCLUSIONS, AND IMPLICATIONS FOR FURTHER RESEARCH

This final chapter presents a summary of the experiment which was conducted, conclusions that were drawn from the data collected, and some implications for further research.

The Problem

School administrators, teachers, teacher training staffs of colleges and universities, and others interested in educational processes are concerned with the problem of making the learning process more effective. The dynamics of the culture require the constant evaluation, examination, and reevaluation of existing educational procedures, objectives, and curricula. The emphasis on democratic citizenship, worth and dignity of the individual, and general education suggests the need for additional analysis of current education practices. In recent times numerous modifications and proposals for modifications in courses, objectives, instructional procedures, and educational philosophies have been made. Further scientific study, investigation, and experimentation are needed to add validity and support to these proposed modifications. The present experimental study is an attempt to provide some scientific evidence in evaluation of the relative effectiveness of two

instructional methods for teaching communication (the integrated skills of speaking, reading, writing, and listening). The study attempts to evaluate the relative effectiveness of traditional methods (instructors assuming the dominant role in an authoritarian classroom atmosphere) and a teacher-counselor-adviser method (instructor acting as counselor, adviser, and consultant in a permissive and democratic classroom atmosphere) in teaching the communication skills, in the Basic 111 course at Michigan State College, Fall Quarter, 1950.

The Procedure

The two methods of instruction under study were used in teaching the course in communications, Written and Spoken English, as it is at the present organized at Michigan State College.

Each of the four participating instructors taught a control class with his own traditional procedures and taught an experimental class with the instructional procedures designed for this experiment.

The classes used in the study were composed of students who enrolled in these classes during Fall registration of 1950. The specific classes participating in the study were those which met on the same days of the week and during the hours of the days as specified by the experimental design such that a control class and an experimental class met during the same hours.

Among the orientation tests given all entering freshmen at the beginning of the Fall Quarter, 1950, were the American Council on Education Psychological Examination, and the Cooperative English Test for Reading Comprehension Test C 2: (Higher level) Form Y. The Michigan State College Board of Examiners administered these tests and made the scores available for this study. The scores, from these two standardized tests, of the control students were compared with the scores of the experimental students by analysis of their variances. If no significant differences were found between the mean scores shown for these two groups on these tests, it could be assumed that the two variables, ability and reading comprehension, were controlled for this experiment.

In addition to the quantitative data obtained from the two standardized tests for the purpose of comparing the two test groups, certain other quantitative data were obtained. These other quantitative data consisted of achievement scores for speaking, writing, reading and listening. These achievement scores were obtained by administering the three measuring instruments currently used by the Michigan State College Board of Examiners for the Written and Spoken English Comprehensive Examination. These consist of a student speech, a student theme, and an objective examination. These achievement criteria were administered as pre-tests and again as post-tests. The post-test scores on each were adjusted to

account for initial differences in proficiency in communication skill. These adjusted post-test scores for the control group were then compared with the pre-test scores of this same group in order to obtain gain in achievement for these skills. Similarly, the scores for the experimental group were adjusted and compared. The probable differences in gain between the control group and the experimental group as evidenced by the scores from each of the three criteria measurements were statistically compared by the technique of analysis of covariance. With this statistical technique it was possible to determine the significance of these differences in achievement gain. Also it was possible with the covariance technique to determine the effects which could be attributable to (1) the method of instruction; (2) the instructor; and, (3) the combination of effects due to these instructors using these methods (interaction between instructor and method).

Certain other data were obtained by the use of questionnaires. This data was qualitative since it resulted from student responses to items on three questionnaires: (1) the sociometric questionnaire, administered early in the quarter and again at the end of the study; (2) the Student Opinionaire, administered at the end of the study; and, (3) the Teacher Evaluation, also administered at the end of the study. These data became available for evaluating the relative effectiveness of the two methods of instruction from the subjective reactions

of students participating in the study. These student responses were non-statistically analyzed. However, from the number and content of the comments it was hoped to discover some useful information for determining the relative effectiveness of the two structional methods as indicated by: (1) student acceptance or rejection of fellow class members; (2) extent of acquaintance among class members; and, (3) student assessment of the experimental procedure.

The findings from the analysis of these data follows.

1- Statistical analysis of the scores made by the two groups on the American Council on Education Psychological Examination and the Cooperative English Test C 2: Reading Comprehension (Higher Level) Form Y showed no significant difference between these two groups in ability and reading comprehension. It could, therefore, be assumed that the variables of ability and reading comprehension were controlled for this experiment.

2- When achievement scores for the two groups (control and experimental) in each of the criteria measurements for communication skills were compared statistically by analysis of covariance, it was found that the combined effects of those instructors using these instructional methods (interaction between instructor and method) were not significant effects in bringing about the differences noted between the two groups on either of the criteria measurements.

3- Even though no significant effects could be attributed to the combined effect of instructors using these methods, a significant difference between instructors alone, in obtaining achievement differences in speech, did exist. The students in the control and experimental classes of two of the instructors showed from two to three times the gain in speech achievement as did the students in the classes of the other two instructors. However, instructor differences were not significant for either achievement in writing or achievement in the combined skills.

4- Although a significant difference was found between instructors for obtaining speech achievement gains and differences in gain, the method of instruction had no significant effect on these gains or the differences between them for the two groups. The data shows, however, that the greater gains in speech achievement were for the students in the experimental classes. This average difference of 0.415 rating score points (maximum rating score points were 100) per student did not approach significance at the five per cent level of confidence.

5- While there were no significant differences found for the two methods in the achievement gains for either speaking or writing, the differences in speech gain favored the experimental group and the differences in writing gains favored the control group. The greater gain noted for the control group

for writing achievement was not significant. However, the greater gain (an average of 6.27 rating score points per student, based on a maximum of 100) approached significance at the five per cent level of confidence.

6- The method of instruction had no significant effect on bringing about gains and differences in gains for the combined communication skills of reading, writing, speaking, and listening as indicated by statistical analysis of the results of the scores on the objective examination. The greater gain (average of 3.93 examination score points, based on a maximum of 79) was made by the experimental group. This difference in gain made by the experimental group is greater than the difference they showed for speech, but less than the difference in gain made by the control group in writing. This difference in method for the combined skills is not a significant difference.

7- The experimental method gave better results in obtaining greater student acceptance of fellow class members as indicated by fewer non-isolates becoming isolates, and more isolates becoming non-isolates by the end of the study.

8- The traditional method gave better results for acquainting students with each other as indicated by fewer students being unknown by name at the end of the study.

9- The structured (directive) questions of the Student Opinionaire and the Teacher Evaluation did not result in

sufficient differentiation of student response to show any very great difference in attitudes of the two groups for either the course, the instructor, or the methods of instruction. The experimental group seemed to imply in their written responses that perhaps they grasped a more complete concept of the objectives of the course in communication skills.

The unstructured (non-directive) items, of "favorable comments" and "unfavorable comments", were somewhat more meaningful than the structured items in obtaining responses which might indicate differences in student attitudes. The control group tended to comment on specific aspects of the course, while the experimental group tended to generalize a point of view relative to the experiences during the quarter. The control group made more responses to the two items than did the experimental group. The majority of the control group responses related to a single aspect or skill of the course. The majority of the experimental group favorable responses (83 per cent) related to the method of instruction, in contrast to 33 per cent of their unfavorable comments being related to the method of instruction.

Conclusions and Implications

1- It is possible some unidentified differences in instructors may be more influencial in achieving student improvement in oral communication (speaking) than are the instructional procedures they use. Further research attempting to

identify these differences might provide valuable information for training and selection of teachers in speech. Whether these differences might be inherent in the personality of the individual, the result of background training and experience, the result of interests, or caused by philosophical beliefs and the like would need to be investigated.

2- The gain shown in communication skills immediately following a course of instruction is about the same when students experience either a traditional method or the experimental method of instruction used in this study. This is essentially the same conclusion Bane (26) found in his evaluation of the lecture method and the lecture-discussion method used in the teaching of educational psychology. Asch (45) found no difference in gains, as shown by his objective examination, for the non-directive teaching procedures as compared to the traditional method for achieving adjustment for students. The limitation of the present study to difference in gains shown immediately following a course of instruction precludes any conclusive statement relative to the retention of these skills or the application of them in other experiences. A follow-up study using appropriate criteria for obtaining accurate data would possibly give some indications of the effects of the two methods for retention and application of the skills taught in this course of communication. Within the limitations of the present study and on the basis of the

findings from the data, it would seem that the two methods of instruction are equally effective in teaching these communication skills for immediate use. The rigid hour-by-hour structuring of some procedures used in the experimental method was pointed out in Chapter I as a limitation to the present study. The conclusion that the two methods are equally effective in teaching communication skills must be made in view of this and other limitations indicated for the study. If the instructor and the students were free to structure more of the class activities in accordance with observed needs, perhaps group procedures would be found which were more effective than those which were chosen at random from the several possible ones. Studies which did not use this structuring of the group procedures might produce results different from those found here for the relative effectiveness of the two methods. Still other studies which attempted to evaluate the two methods when the experimental method was used by instructors who were specially trained in counseling, leadership training, and the like, might reveal still other results. Additional studies intended to evaluate the effectiveness of the two methods when such departmental restrictions as prescribed texts, assignments, and the like were removed might show still other results.

3- Optimum training and experience is likely not provided by some traditional methods of teaching communication. Since

the teacher-counselor-adviser method tested here seems to yield communication skill achievement equally as good as do some traditional methods, it is possible, then, to provide training and experience over and beyond that required by course objectives. Experiences in leadership, group membership, democratic activity, attention to individual student problems, and the like can possibly be provided for students in these communication classes. This may have implications for further studies of classroom procedures in areas other than communication and at other levels than the college.

4- Students seem to appraise favorably this experimental method and indicate that it may possibly result in increased stimulation of individual thinking.

5- It is possible that important findings might result if the relative effectiveness of these two methods were determined for different ability groups, the low ability, the average ability, and the high ability.

To the writer these seem to be some important conclusions and implications resulting from this experiment on the relative effectiveness of the two methods of teaching communication as limited and designed for this study.

LITERATURE CITED

LITERATURE CITED

1- DeHuzzar, G. B., Practical Applications of Democrary, Harper Brothers, New York, 1942, P. 22.

2- Newcomb, Hartley; Eugene Hartley, and others, Readings in Social Psychology, Henry Holt and Company, New York,

3- Thelen, H. A., "Resistance to Change of Teaching Methods," Progressive Education, Vol. 26, No. 7, (May, 1949), pp. 208-214.

4- Axelrod, Joseph; B. Bloom, and others, Teaching by Discussion, (The College of the University of Chicago Bulletin), University of Chicago Press, Chicago, 'January, 1940), pp. 6,v.

5- Lewin, Kurt, "The Dynamics of Group Action," Educational Leadership, Vol. I, No. 4, (January, 1944), pp. 196-203.

6- Rahn, L. N., "An Experiment in Self Guidance," (Unpublished PhD thesis) Cornell University, 1946.

7- Lippitt, R; R. K. White, "Individual Differences as Related to Autocratic and Democratic Group Atmospheres," Psychological Bulletin, Vol. 36 (July, 1939), p. 557.

8- Lewin, Kurt; R. Lippitt; and S. Escalona, "Studies in Topological and Vector Psychology I," Studies in Child Welfare, Vol. 16, No. 3, (February, 1940), University of Iowa Press, Iowa City, Iowa, p. 307.

9- Cantor, N., The Dynamics of Learning, Foster and Stewart, Buffalo, New York, 1946.

10- Albrecht, M; and L. Gross, "Nondirective Teaching," Sociology and Social Research, Vol. 32, (May, 1948), pp. 874-881.

11- Rogers, C. R., Client-Centered Therapy, Houghton Mifflin Company, New York, 1951, pp. 384-428.

12- Erickson, C. E., A Practical Handbook for School Counselors, The Ronald Press Company, New York, 1949.

13- Bradford, L. P., "Leading the Large Meeting," Adult Education Bulletin, (December, 1949), pp. 84,38-50.

14- Gordon, T., "What is Gained by Group Participation," Educational Leadership, Vol. 7, No. 4, (January, 1950), p. 220.

15- Strang, R, "Group Work in Schools and Institutions of Higher Learning," (in) Hendry, C. E., editor, Decade of Group Work, New York Assoc. Press, 1948, pp. 95-104.

16- Sullivan, D. F., The Practice of Group Work, New York Assoc. Press, New York, 1941.

17- Sheldon, W. D.; and T. Landsman, "An Investigation of Nondirective Group Therapy With Students in Academic Difficulty," Journal of Consulting Psychology, Vol. 14, No. 3, (June, 1950), pp. 210-215.

18- Snygg, D; and A. W. Combs, Individual Behavior, Harper Brothers, New York, 1949.

19- Timmons, W. M., "Discussion, Debate, and Research," Quarterly Journal of Speech, Vol. 28, No. 3, October, 1941, pp. 415-421.

20- Gordon, K., "Group Judgments in the Field of Lifted Weights," Journal of Experimental Psychology, Vol. 7, (1924), pp. 398-400.

21- Watson, G. B., "Do Groups Think More Effectively than Individuals?" Journal of Abnormal and Social Psychology, Vol. 23, (1928), pp. 328-336.

22- Gurnee, H., "Maze Learning in the Collective Situation," Journal of Experimental Psychology, Vol. 3, (1936), pp. 437-443.

23- Dashiell, J. F., Handbook of Social Psychology, Clark University Press, Worcester, Mass., 1939, p. 135.

24- Gurnee, H., "Maze Learning in the Collective Situation," Journal of Experimental Psychology, Vol, 21, (1937).

25- Watson, G., "Do Groups Think More Effectively Than Individuals?" Journal of Abnormal Psychology, Vol. 23, (1928), pp. 328-336

26- Bane, C. L., "The Lecture Versus the Class Discussion Method of College Teaching," School and Society, Vol. 21, (1925), pp. 300-302.

27- Spence, R. B., "Lecture and Class Discussion in Teaching Educational Psychology," Journal of Educational Psychology, Vol. II, (1927), pp. 348-368.

28- Polson, R. E., "Discussion in the Junior High School," (Unpublished Master's thesis), Cornell University, 1942.

29- Cutright, P., "A Comparison of Methods of Securing Correct Language Usage," Elementary School Journal, Vol. 24, (1934), pp. 681-690.

30- Crawford, C. C.,: and Madie Royes, "Oral Drill Versus Grammar Study," Elementary School Journal, Vol. 36, (1935), p. 113.

31- Carmichael, H. E., "A Comparative Evaluation of Oral and Written Methods of Teaching Tenth Grade English," (Unpublished Master's thesis) Wayne University, 1938.

32- Strong, H. D., "A Comparative Study of Relative Progress in Punctuation, Grammar, and Speech in Certain Courses in Cooley High School During the School Year 1937-1938," (Unpublished Master's thesis), Wayne University, 1939.

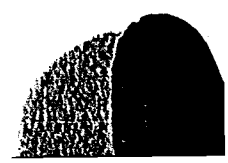
33- Johnson, A., "Teaching Fundamentals of Speech Through Group Discussion," Quarterly Journal of Speech, Vol. 25, (1939), p. 446.

34- Ewing, W. H., "An Evaluation of the Individual Versus the Group Speaking Methods of Teaching Beginning College Speech Course," Speech Monographs, Vol. 11, 1944, p. 80 ff.

35- Rickard P., "An Experimental Study of the Effectiveness of the Group Discussion in Teaching Factual Content," (Unpublished PhD Dissertation), Northwestern University, 1946.

36- _____ (Commission on the Relation of School and College, Progressive Education Association), Adventure in American Education, Vols. 1-5, Harper and Brothers, New York, 1942.

37- Mead, C; and F. Orth, The Transitional Public School, The Macmillan Company, New York, 1934.



38- Breed, F. S., "How Make Teaching Democratic," School Review, Vol. 57, No. 10, (December, 1949), pp. 531-539.

39- Terry, P. W., "Stimulating Discussion in College Classes," School and Society, Vol. 45, (May, 1947), pp. 653-656.

40- Cantor, N., Crime and Society, Henry Holt and Company, Inc., New York, 1939.

41- Gross, L., "An Experimental Study of the Validity of the Non-Directive Method of Teaching," The Journal of Psychology, Vol. 26, pp. 243-248.

42- Baruch, D. W., "Therapeutic Procedures as Part of the Educative Process," Journal of Consulting Psychology, Vol. 67, (1945), pp. 143-178.

43- Sheldon, W., "A Study of College Students With Scholastic Difficulties," (Unpublished PhD Dissertation), Syracuse University, 1949.

44- Sheldon, W. D., and T. Landsman, "An Investigation of Non-directive Group Therapy With Students in Academic Difficulty," Journal of Consulting Psychology, Vol. 14, No. 3, (June, 1950), pp. 210-215.

45- Asch, M. J., "Nondirective Teaching in Psychology: An Experimental Study," Psychological Monographs, Vol. 65, No. 4, (entire publication).

46- Lindquist, E. F., Statistical Analysis in Educational Research, Houghton Mifflin Company, New York, 1940.

47- Landsman, T.; and K. Peterson, "Design for an Experiment in Student-Centered Teaching," Educational Leadership, Vol. 7, (November, 1949), pp. 102-106.

48- Karp, M., "Evaluation of An Individual Method and a Group Method of Teaching College Freshmen and Mechanics of English Composition," Journal of Experimental Education, Vol. 11, (September, 1942), pp. 102-106.

49- Tiedeman, Herman R., "A Study in Retention of Classroom Learning," Journal of Educational Research, Vol. 41, No. 7, (March, 1948), pp. 516-531.

50- Johnson, P. O., Statistical Methods in Research, Prentice Hall, New York, 1949.

51- McNemar, Q., Psychological Statistics, John Wiley and Sons, Inc., New York, 1949.

52- Snedecor, G. W., Statistical Methods, Collegiate Press, Inc., Ames, Iowa, 1940, pp. 174-177.

53- Flanagan, J. C.,: and others, Critical Requirements For Research Personnel, American Institute for Research, Pittsburg, Pennsylvania, 149, pp. 20-22.

54- Rogers, C., Counseling and Psycotherapy, Houghton Mifflin Company, Chicago, 1942.

APPENDICES

APPENDIX A

TABLES OF RAW DATA AND CALCULATIONS

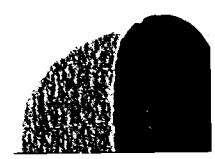


TABLE I

RAW TEST DATA

Instructor No. 1 - TCA - Section 13

No.	P	R	Speech 1st	Speech 2nd	Speech chg.	Theme 1st	Theme 2nd	Theme chg.	Objective Exam. 1st	Objective Exam. 2nd	Objective Exam. chg.	Final Exam.
1	100	104	43	68	25	68	51	-17	45	56	11	59
2	115	92	64	65	1	55	75	20	56	61	5	58
3	137	83	22	45	23	23	45	22	56	58	2	57
4	94	56	63	74	11	63	51	-12	35	53	18	51
5	96	51	51	68	17	40	48	8	33	44	10	59
6	81	77	63	56	- 7	32	63	31	36	49	13	54
7	83	76	30	50	20	32	45	13	39	52	13	55
8	103	76	65	70	5	51	57	6	43	42	-1	52
9	80	38	49	56	7	41	31	-10	34	46	12	50
10	128	98	50	74	24	20	75	5	53	58	5	57
11	139	118	75	87	12	63	67	4	56	59	3	64
12	99	62	66	60	- 6	43	49	6	49	52	3	50
13	114	73	77	71	- 6	72	68	- 4	52	64	12	54
14	116	52	86	79	- 7	59	51	- 8	51	59	8	53
15	117	67	44	61	17	57	69	12	44	58	14	54
16	119	90	54	46	- 8	45	41	- 4	46	58	12	52

TABLE II

RAW TEST DATA

Instructor No. 1 - LSP - Section 56

No.	P	R	Speech 1st	Speech 2nd	Speech chg.	Theme 1st	Theme 2nd	Theme chg.	Objective Exam. 1st	Objective Exam. 2nd	Objective Exam. chg.	Final Exam.
17	95	61	68	62	- 6	53	81	28	52	56	4	59
18	133	106	67	85	18	68	67	- 1	56	62	6	59
19	102	58	64	84	20	32	65	33	41	34	- 7	56
20	86	62	63	57	- 6	42	75	33	47	56	9	60
21	81	56	77	87	10	49	43	- 6	38	42	4	51
22	104	55	37	47	11	35	43	8	37	52	15	51
23	115	76	49	53	4	43	53	10	47	44	- 3	50
24	94	52	48	41	- 7	20	47	27	39	57	18	63
25	97	62	59	82	23	71	55	-16	50	58	8	61
26	122	84	51	61	10	73	67	- 6	49	57	8	55
27	99	63	72	76	4	62	74	12	37	48	11	50
28	108	70	33	51	18	27	15	-12	22	28	6	47
29	107	76	75	67	- 8	40	64	24	38	56	18	57
30	118	110	47	50	3	47	37	-10	47	59	12	62
31	112	79	59	65	6	49	61	12	50	52	2	51
32	97	35	71	56	-15	36	67	31	25	31	6	45

TABLE III

RAW TEST DATA

Instructor No. 2 - TCA - Section 24

No.	P	R	Speech 1st	Speech 2nd	Speech chg.	Theme 1st	Theme 2nd	Theme chg.	Objective Exam. 1st	Objective Exam. 2nd	Objective Exam. chg.	Final Exam.
33	116	73	56	77	21	56	64	8	41	59	18	64
34	95	63	75	64	-11	39	66	27	37	39	2	59
35	130	119	65	65	0	52	60	8	51	59	8	63
36	81	46	66	74	8	52	81	29	38	67	29	61
37	108	102	68	66	- 2	65	65	0	45	51	6	61
38	120	95	52	49	- 3	78	77	- 1	45	58	13	55
39	129	92	65	52	-13	71	62	- 9	48	54	6	58
40	105	63	52	56	4	71	49	-22	46	67	21	63
41	98	65	68	76	8	47	45	- 2	34	65	31	57
42	80	79	66	77	11	60	77	17	40	60	20	65
43	101	39	37	35	- 2	43	27	-16	35	51	16	51
44	146	113	62	60	- 2	70	69	- 1	40	53	13	56
45	99	76	57	52	- 5	52	69	17	38	48	10	58
46	90	62	64	73	9	67	73	6	46	48	2	60
47	118	81	58	54	- 4	77	75	- 2	45	45	0	52
48	92	73	51	50	- 1	63	86	22	37	33	- 4	50

TABLE IV

RAW TEST DATA

Instructor No. 2 - LSP - Section 89

No.	P	R	Speech 1st	Speech 2nd	Speech chg.	Theme 1st	Theme 2nd	Theme chg.	Objective Exam. 1st	Objective Exam. 2nd	Objective Exam. chg.	Final Exam.
49	127	88	43	53	10	43	55	12	40	48	8	51
50	128	99	43	57	14	55	73	18	47	48	1	56
51	116	103	63	51	8	77	86	9	45	62	17	64
52	113	77	60	58	- 2	67	76	9	50	57	7	59
53	85	75	39	46	7	67	54	-11	33	44	11	57
54	122	64	67	60	- 7	49	49	0	46	55	9	64
55	118	76	67	64	- 3	50	71	21	62	62	0	51
56	96	77	62	69	7	35	50	15	47	57	10	51
57	62	39	49	68	19	74	65	- 9	38	43	5	45
58	73	19	66	64	- 2	63	71	8	29	41	12	45
59	103	89	53	59	6	49	70	21	44	54	10	56
60	92	58	48	56	8	49	81	32	32	30	- 2	48
61	129	105	47	57	10	39	79	40	39	49	10	54
62	99	63	44	67	23	60	24	-36	29	44	15	46
63	142	122	60	56	- 4	69	77	8	57	68	11	68
64	128	117	56	62	6	55	72	17	35	62	27	54

TABLE V

RAW TEST DATA

Instructor No. 3 - TCA - Section 16

			Speech			Theme			Objective Exam.			Final
No.	P	R	1st	2nd	chg.	1st	2nd	chg.	1st	2nd	chg.	Exam.
65	54	34	45	72	27	30	51	21	17	48	31	42
66	127	90	46	79	23	67	70	3	40	50	10	54
67	120	88	61	71	10	68	67	- 1	45	52	7	63
68	133	105	60	65	5	54	45	- 9	47	60	13	59
69	98	58	39	53	14	58	75	18	24	20	- 4	52
70	109	96	61	47	14	49	32	-17	41	53	12	63
71	110	55	43	71	28	61	58	- 3	23	35	12	50
72	113	94	63	89	26	83	62	-21	49	60	11	63
73	103	72	51	74	23	47	54	7	31	59	28	59
74	89	55	61	58	- 3	50	47	- 3	40	49	9	56
75	104	45	68	57	-11	46	70	24	41	46	5	47
76	90	52	49	61	12	39	45	6	27	46	19	43
77	151	107	64	81	17	77	89	12	60	67	7	68
78	93	46	42	77	35	51	67	16	19	46	27	56
79	108	78	43	66	23	61	63	2	42	50	8	53
80	100	77	64	80	16	73	43	-30	32	52	20	48

TABLE VI

RAW TEST DATA

Instructor No. 3 - LSP - Section 25

No.	P	R	Speech 1st	Speech 2nd	Speech chg.	Theme 1st	Theme 2nd	Theme chg.	Objective Exam. 1st	Objective Exam. 2nd	Objective Exam. chg.	Final Exam.
81	99	85	64	83	19	61	77	16	37	52	15	57
82	96	33	68	68	0	71	67	- 4	22	42	20	48
83	109	81	57	74	17	59	51	- 8	44	57	13	61
84	132	97	46	88	22	64	77	13	47	59	12	66
85	126	90	59	67	8	47	59	12	53	57	4	60
86	97	57	49	71	22	69	62	- 7	39	51	12	60
87	130	100	54	73	19	71	52	-19	56	70	14	60
88	166	154	59	66	7	71	73	2	62	72	10	68
89	76	46	54	68	14	35	41	6	31	47	16	37
90	148	96	44	65	21	64	81	17	45	52	7	53
91	97	67	76	86	10	57	84	27	56	53	- 3	59
92	106	95	48	44	- 4	40	53	13	35	37	2	53
93	112	60	68	83	15	35	40	5	31	53	22	39
94	47	21	31	71	40	35	32	- 3	21	24	3	34
95	97	76	69	72	3	42	55	13	40	46	6	51
96	73	40	38	64	26	33	41	8	39	43	4	56

TABLE VII

RAW TEST DATA

Instructor No. 4 - TCA - Section 90

			Speech			Theme			Objective Exam.			Final
No.	P	R	1st	2nd	chg.	1st	2nd	chg.	1st	2nd	chg.	Exam.
97	85	27	56	60	4	32	36	4	25	42	17	38
98	95	99	50	73	23	47	60	13	29	58	29	59
99	151	106	50	72	22	43	43	0	42	64	22	59
100	134	136	47	74	27	84	63	-21	49	58	9	55
101	103	56	43	65	22	45	55	10	31	47	16	57
102	83	64	56	64	8	90	40	-50	28	43	15	54
103	111	86	54	71	17	61	50	-11	57	60	3	62
104	100	80	50	75	25	50	69	19	46	68	22	66
105	102	64	51	67	16	57	79	22	40	47	7	53
106	120	90	46	61	15	35	55	20	35	47	12	51
107	129	92	48	72	24	65	46	-19	42	55	13	55
108	113	69	52	45	- 7	58	50	- 8	40	48	8	48
109	106	89	64	76	12	31	29	- 2	39	56	17	57
110	138	94	60	82	22	59	70	11	50	63	13	61
111	105	79	70	83	13	44	50	6	40	48	8	49
112	104	53	61	77	16	46	54	8	41	49	8	60

TABLE VIII

RAW TEST DATA

Instructor No. 4 - LSP - Section 54

No.	P	R	Speech 1st	Speech 2nd	Speech chg.	Theme 1st	Theme 2nd	Theme chg.	Objective Exam. 1st	Objective Exam. 2nd	Objective Exam. chg.	Final Exam.
113	115	105	61	74	13	62	53	- 9	63	65	2	63
114	148	94	52	59	7	37	73	36	45	54	9	54
115	117	70	42	58	16	43	75	32	46	58	12	58
116	86	73	64	76	12	48	51	3	48	57	9	62
117	94	57	54	70	16	79	76	- 3	43	60	17	64
118	134	99	73	71	- 2	54	78	24	47	59	12	55
119	105	47	55	71	16	64	53	-11	46	50	4	51
120	130	124	41	82	41	58	54	- 4	40	63	23	65
121	107	62	51	55	4	61	66	5	43	52	9	49
122	80	73	53	57	4	47	59	12	50	47	- 3	54
123	95	37	49	62	13	80	67	-13	30	53	23	57
124	87	65	53	71	18	43	55	12	40	55	15	57
125	134	110	67	76	9	88	86	- 2	57	64	7	62
126	141	80	55	73	18	52	57	5	29	62	33	63
127	86	52	43	63	20	33	33	0	25	32	7	35
128	110	84	40	63	23	50	61	11	45	52	7	51

TABLE IX

PRE-TEST AND POST-TEST (ADJUSTED FOR PRE-TEST)
SPEECH SCORES FOR INSTRUCTORS AND METHODS

Method	Instructor	Pre-test (X)*	x	bx*	Post-test Y	Y-bx (adjusted)
TCA	1	56.38	0.73	0.33	64.38	64.71
	2	60.13	4.46	2.10	61.25	63.35
	3	53.75	-1.92	- .91	68.81	67.90
	4	53.63	-2.04	- .96	69.81	68.85
LSP	1	58.75	3.08	1.45	64.06	65.51
	2	54.19	-1.48	- .70	59.19	58.49
	3	55.25	- .42	- .20	71.44	71.24
	4	53.31	-2.36	-1.11	67.56	66.45

APPENDIX B

TESTS, SCHEDULES, AND QUESTIONNAIRES

Basic 111 Summer 1950

ORIENTATION

The class procedure will follow the outline presented to each class member.

Please note the specifics given below.

GROUPS

Groups are to conduct most of the class discussions and make the evaluations of student performance to help individual students improve the work they do in performance assignments.

These groups are to begin the class, on days assigned, at 10 minutes after the hour even though the Instructor is not present.

Each student should be prepared to take up as much as 8 minutes of time during each discussion or evaluation he participates in.

Each group should plan to take at least 30 minutes for each of their discussions. At least 10 minutes should be used at the end of the discussion or evaluation for audience questions to the discussants.

Leaders will change for each different discussion or evaluation. Follow the class roll to determine who follows whom as leader. Leaders will be responsible for the success of organization, progress and control of the discussions.

These groups (the individuals in the group) are the authorities at the moment. They, too, are the evaluators of performance to help each student in improving his own work in written and sopken English. These groups (individuals in the group) will need to be adequately prepared for their duties each time they have an assignment.

1- They should spend adequate time and give adequate attention to their specific assignment.

2- They should check their texts and as many references (Reserve books in Library Annex and books in Office 35) as possible.

3- They are expected to KNOW by citing authority and by giving examples, illustrations, etc., what they are talking about. Give the class straight"dope", facts, references, etc.

4- They are expected to be well prepared to present their discussions clearly and completely.

5- The group in charge may be questioned by anyone in the audience after the leader has completed his plans for the day. The leader will ask for questions and pass these questions to individuals in the group, or have the entire group discuss the questions, as he chooses. The LEADER DOES NOT enter the discussion or answer questions at any time. He should know the available materials so well that he can keep the discussion organized and moving toward some goal established by the group. The questions which are requested by the leader are for clarification and added information ONLY, not for disagreement or argument, so facts and not opinions will be the ammunition of group members.

6- Use the Friday group meetings to make plans for your next group assignments.

THE INSTRUCTOR

1- The Instructor may or may not be in the class room at any stated time.

2- If the Instructor is in the class room, he may be asked by group members or audience members to clarify any notions class members have.

3- If the Instructor is not in the class room, the student should take notes or write questions in a note book. Take these ideas and questions to the Instructor when it is convenient for you to do so.

4- If the Instructor is not in the class room, he will be in Office 35.

THE STUDENT

1-The student may feel free to leave the class room at anytime to consult the Instructor in Office 35.

a- If the student is a member of a group which is in operation, he may leave even his own group discussion if he feels he needs the Instructor's help to enable him to properly take part in his group's discussion.

b- If the student is a member of the audience (not in a discussing group at themoment), he may leave the class room to consult the Instructor, providing, of course, the student has such a problem which only the Instructor can at that moment be of greatest help in solving.

c- The student should feel free to consult the Instructor about any problem which he (the studdnt) feels needs solution to improve his work in the course and adjustment to the

conditions under which he carries out his class participation.

2- At the end of the first hour you will be given a lo minute"break" for smoking and relaxation. Please return to the class room by 10 minutes after the hour. Let us try to help the groups which have a second hour discussion, by being ready for them to begin by 10 minutes after the hour. The groups will very much appreciate your cooperation.

3- Look ahead in the assignment sheet and give yourself plenty of time to prepare for your discussion periods.

MISCELLANEOUS

Your improvement in using English in writing and speaking will greatly depend upon the degree to which you make use of sources of help and the degree to which you apply the characteristics which are known to be necessary for "good" communication. You will, then, recognize most self-improvement and personal satisfaction if you:

1- Give your best to adequately, specifically, accurately and objectively participate in your group discussions.

2- Arm yourself with the most authoritative material you can find from texts and reference books and with ~~keen observation, thinking~~ your own observations, thinking and experience (for examples and illustrations) in doing your best to aid your fellow students.

3- Give your most intense attention to the evaluations, discussion presentations and class participations at which times your fellow students are attempting to do their best to be of most help to you and themselves.

4- Make as much use of the Instructor's help and guidance as you can.

BASIC III
FALL QUARTER 1950

Section_____

Instructor_____
Office _____
Office hours_____

First Week 25 September to 29 September

1st hour

Orientation

Assignment
1- Prepare a 3-minute talk on the topic "High School Education" for the next meeting.
2- Read the following in the Syllabus:
pp. 8-21
pp. 109-118
3- Each student should outline one of the talks (not his own) given at the next meeting. Hand in this outline and a 300-500 word evaluation of this talk the first meeting next week.

2nd hour

Write a 200-300 word paper on the topic "High School Education". Hand in completed paper by the end of the hour.

3rd hour

Assignment
1- All assigned readings of Unit I in the Syllabus.
2- Read especially well the assignments in Brigance and Perrin.
3- Group I to discuss organization in speaking and writing (see time later in this class outline).
4- Group II to discuss the use of English At Work and techniques for improving reading speed and comprehension (see time later in this outline).
5- Group III to discuss assigned readings in Unit II and specify the speaking and writing assignments for Unit II (see time later in this outline).

Recitation
1- Begin 3-minute talks.
2- Each student should outline one of these talks (not his own). Hand in this outline and a 300-500 word evaluation of this talk at the next meeting.

4th hour

Finish talks begun last hour.

Basic III
Fall Quarter 1950 (cont.)

Second Week 2 October to 6 October

1st hour

Assignment

1- Reading lab. next meeting.
Review English At Work.

2- Group II to discuss use of English At Work and techniques for improving reading speed and comprehension at the next meeting.

Recitation

Evaluation examination
one hour

2nd hour

1- Group I will discuss organization in speaking and writing (20 min.).

2- Group III will discuss Unit II readings and make Unit II assignments (20 min.).

3rd hour:

Assignment
Talks of Unit II as assigned by Group III.

Recitation
Group II discussion of the Use of English At Work, etc.

4th hour

Class reading lab. Each student will proceed to read Unit I reading assignments, record own reading rate (keeping own time), grade objective tests, etc.

SPEECH RATING SCALE

Name and Number _____ Date _____

	Superior									Unsatisfactory
	10	9	8	7	6	5	4	3	2	1
Fluency										
Physical and Vocal Control										
Organization										
Content										
Sense of Communication										

Rater _____ Total _____
(6590)

THEME RATING SCALE

Name and/or Number _____ Date _____

	Superior									Unsatisfactory
	10	9	8	7	6	5	4	3	2	1
Conventions of Grammar										
Sentence Structure										
Diction										
Organization										
Content										

Rater _____ Total _____

THEME RATING SCALE

Name and/or Number _____ Date _____

	Superior									Unsatisfactory
	10	9	8	7	6	5	4	3	2	1
Conventions of Grammar										
Sentence Structure										
Diction										
Organization										
Content										

Rater _____ Total _____

AMERICAN COUNCIL ON EDUCATION

COOPERATIVE ENGLISH TEST

TEST C2: READING COMPREHENSION

(Higher Level)

FORM Y

by

FREDERICK B. DAVIS, George Peabody College for Teachers; CLARENCE DERRICK, University School (Shaker Heights, Ohio); and JEANNE M. BRADFORD and GERALDINE SPAULDING, Cooperative Test Service

with the editorial assistance of

JOSEPH C. LANDIS, Queens College; JANE M. MALTBY, Hamden High School; LOUISE BINDER SCOTT, San Marino City Schools; and ARTHUR E. TRAXLER, Educational Records Bureau

Please print:

Name.....Date.....
Last First Middle

Grade, Form, or Class.....Age.....Date of Birth.....
Yrs. Mos.

School.....City.....Sex.....
M. or F.

Title of the English course you are now taking.....Instructor.....

General Directions: Do not turn this page until the examiner tells you to do so. This examination consists of two parts, and requires 40 minutes of working time. The directions for each part are printed at the beginning of the part. Read them carefully and proceed at once to answer the questions. DO NOT SPEND TOO MUCH TIME ON ANY ONE ITEM. ANSWER THE EASIER QUESTIONS FIRST; then return to the harder ones if you have time. There is a time limit for each part. If you finish Part I before the time is up, go on to Part II. If you have not finished Part I when the time is up, stop work on that part and proceed at once to Part II. If you finish Part II before the time is up, you may go back and work on either part. No questions may be asked after the examination has begun.

You may answer questions even when you are not perfectly sure that your answers are correct, but you should avoid wild guessing, since wrong answers will result in a subtraction from the number of your correct answers.

Part	Minutes
I. Vocabulary	15
II. Reading	25
Total	40

	Scaled Score	Percentile
Vocabulary		
Speed of Comprehension		
Level of Comprehension		

(Sum of Scaled Scores for Parts:)

Total		

PART I

VOCABULARY

(15 minutes)

Directions: In each group below, select the numbered word or phrase that **most nearly** corresponds in meaning to the word at the head of that group, and put its **number** in the parentheses at the right. It is quite likely that you will finish this part before the time is up. In that case, **go on immediately to Part II.**

Column A

1. carol
   1-1 prayer
   1-2 song
   1-3 bird
   1-4 battle cry
   1-5 motto . . . . . 1( )

2. toxin
   2-1 poison
   2-2 weed
   2-3 failure
   2-4 belief
   2-5 disease . . . . . 2( )

3. alteration
   3-1 pause
   3-2 quarrel
   3-3 change
   3-4 step
   3-5 turning . . . . . 3( )

4. competition
   4-1 achievement
   4-2 capacity
   4-3 repayment
   4-4 selection
   4-5 rivalry . . . . . 4( )

5. fling
   5-1 run
   5-2 replace
   5-3 chew
   5-4 hurl
   5-5 upset . . . . . 5( )

6. symptom
   6-1 harmony
   6-2 outline
   6-3 indication
   6-4 result
   6-5 invention . . . . 6( )

7. verify
   7-1 taste
   7-2 weigh
   7-3 question
   7-4 confirm
   7-5 attempt . . . . . 7( )

Column B

8. partition
   8-1 spasm
   8-2 passageway
   8-3 division
   8-4 bias
   8-5 treatment . . . . 8( )

9. tolerate
   9-1 allow
   9-2 disobey
   9-3 resent
   9-4 suspect
   9-5 confess . . . . . 9( )

10. annul
    10-1 approve
    10-2 enforce
    10-3 revise
    10-4 corrupt
    10-5 cancel . . . . . 10( )

11. preposterous
    11-1 dignified
    11-2 heavy
    11-3 noisy
    11-4 disguised
    11-5 absurd . . . . 11( )

12. retard
    12-1 resume
    12-2 delay
    12-3 substitute
    12-4 announce
    12-5 break . . . . . 12( )

13. molest
    13-1 grind
    13-2 disdain
    13-3 combine
    13-4 bother
    13-5 soften . . . . . 13( )

14. sever
    14-1 label
    14-2 learn
    14-3 scold
    14-4 mend
    14-5 cut . . . . . 14( )

Column C

15. garland
    15-1 glove
    15-2 gesture
    15-3 wreath
    15-4 look
    15-5 hook . . . . . 15( )

16. chronicle
    16-1 mural
    16-2 history
    16-3 clock
    16-4 large pimple
    16-5 jar . . . . . 16( )

17. savory
    17-1 green
    17-2 preserved
    17-3 appetizing
    17-4 well-blended
    17-5 secret . . . . . 17( )

18. adept
    18-1 actual
    18-2 extreme
    18-3 skilled
    18-4 distinct
    18-5 fortunate . . . 18( )

19. humane
    19-1 living
    19-2 certain
    19-3 realistic
    19-4 active
    19-5 kind . . . . . 19( )

20. imaginary
    20-1 insulting
    20-2 fancied
    20-3 exaggerated
    20-4 foolish
    20-5 temporary . . . 20( )

21. filch
    21-1 hide
    21-2 separate
    21-3 steal
    21-4 soil
    21-5 destroy . . . . 21( )

Go on to the next page.

Column D

22. **lore**
22-1 knowledge
22-2 interval
22-3 sermon
22-4 crack
22-5 cuff . . . . . .22( )

23. **maze**
23-1 folk dance
23-2 alloy
23-3 pale blue
23-4 labyrinth
23-5 dizzy spell . . .23( )

24. **concord**
24-1 victory
24-2 harmony
24-3 structure
24-4 danger
24-5 weight. . . . . .24( )

25. **civility**
25-1 pacifism
25-2 politeness
25-3 loyalty
25-4 courage
25-5 government . .25( )

26. **supple**
26-1 condensed
26-2 shrewd
26-3 flexible
26-4 useful
26-5 cheerful . . . .26( )

27. **lethargy**
27-1 apathy
27-2 magnetism
27-3 slyness
27-4 prejudice
27-5 paleness . . . .27( )

28. **valid**
28-1 sound
28-2 brave
28-3 moral
28-4 careful
28-5 neutral . . . .28( )

29. **comely**
29-1 comfortable
29-2 attractive
29-3 sturdy
29-4 stout
29-5 ordinary . . . .29( )

Column E

30. **refute**
30-1 recover
30-2 seek
30-3 enroll
30-4 control
30-5 disprove . . . .30( )

31. **wield**
31-1 fasten
31-2 use
31-3 accumulate
31-4 pound
31-5 bend . . . . . .31( )

32. **jeopardy**
32-1 wickedness
32-2 jealousy
32-3 righteousness
32-4 danger
32-5 stubbornness . .32( )

33. **adorn**
33-1 paint
33-2 praise
33-3 fasten
33-4 ornament
33-5 admire . . . .33( )

34. **turbulent**
34-1 bulging
34-2 towering
34-3 agitated
34-4 powerful
34-5 concealed . . .34( )

35. **frivolous**
35-1 trivial
35-2 chilly
35-3 delightful
35-4 abundant
35-5 rambling. . . .35( )

36. **allege**
36-1 assert
36-2 warn
36-3 suspect
36-4 lie
36-5 decide . . . . .36( )

37. **hypocrisy**
37-1 ill will
37-2 blasphemy
37-3 slander
37-4 insincerity
37-5 criticism . . . .37( )

Colun

38. **gibe**
38-1 injure
38-2 gossip
38-3 scoff
38-4 point
38-5 doubt . . . . .38(

39. **dearth**
39-1 crop
39-2 hymn
39-3 supply
39-4 dryness
39-5 scarcity . . . .39(

40. **gaudy**
40-1 happy
40-2 frozen
40-3 showy
40-4 worthless
40-5 clumsy . . . .40(

41. **concur**
41-1 concentrate
41-2 struggle
41-3 close
41-4 pretend
41-5 agree . . . . .41(

42. **edifice**
42-1 building
42-2 body of laws
42-3 design
42-4 assistance
42-5 entrance . . . .42(

43. **rational**
43-1 reasonable
43-2 limited
43-3 reckless
43-4 persuasive
43-5 rebellious . . .43(

44. **sinuous**
44-1 polished
44-2 dangerous
44-3 dark
44-4 feminine
44-5 winding . . . .44(

45. **cleavage**
45-1 depth
45-2 division
45-3 clearance
45-4 growth
45-5 instrument . . .45(

Go on to the next pag

Column G

46. **undue**
46-1 unready
46-2 exposed
46-3 unexpected
46-4 excessive
46-5 scanty . . . . . 46( )

47. **candor**
47-1 charm
47-2 personality
47-3 tact
47-4 frankness
47-5 logic . . . . . 47( )

48. **cacophony**
48-1 adjunct
48-2 link
48-3 officer
48-4 gesture
48-5 discord . . . . 48( )

49. **sultry**
49-1 sickeningly sweet
49-2 disagreeable
49-3 stormy
49-4 weary
49-5 hot and humid . 49( )

50. **pallet**
50-1 rug
50-2 fence
50-3 garden
50-4 trough
50-5 bed . . . . . 50( )

Column H

51. **wroth**
51-1 wrong
51-2 angry
51-3 evil
51-4 twisted
51-5 afraid . . . . . 51( )

52. **evince**
52-1 report
52-2 display
52-3 evade
52-4 develop
52-5 detect . . . . . 52( )

53. **cosmos**
53-1 planet
53-2 chemical reaction
53-3 species
53-4 universe
53-5 formula . . . . 53( )

54. **censure**
54-1 blame
54-2 suppress
54-3 deny
54-4 register
54-5 resolve . . . . 54( )

55. **laconic**
55-1 terse
55-2 lazy
55-3 slow
55-4 liquid
55-5 cynical . . . . 55( )

Column I

56. **incursion**
56-1 sudden invasion
56-2 condemnation
56-3 spiral movement
56-4 repulse
56-5 investigation . . 56( )

57. **recant**
57-1 forgive
57-2 speak with emotion
57-3 place on a slant
57-4 take back
57-5 revise . . . . . 57( )

58. **choreography**
the art of
58-1 singing
58-2 carving
58-3 painting
58-4 dancing
58-5 weaving . . . . 58( )

59. **indigenous**
59-1 repulsive
59-2 native
59-3 undeveloped
59-4 unaware
59-5 rare . . . . . 59( )

60. **divagation**
60-1 undersea exploration
60-2 location of position
60-3 wandering
60-4 observation of stars
60-5 separation . . . 60( )

Go on to the next part.

Number wrong	0 | 2	3 | 6	7 | 10	11 | 14	15 | 18	19 | 22	23 | 26	27 | 30	31 | 34	35 | 38	39 | 42	43 | 46	47 | +
Amount to be subtracted	0	1	2	3	4	5	6	7	8	9	10	11	12	

Number right_____

Subtract_____
(See table above)

Raw Score = Difference_____

Scaled Score_____
(See table on key)

PART II: READING

(25 minutes)

Directions: This part consists of selections taken from stories, articles, textbooks, etc. Following each passage ar several multiple-choice items concerning it. In each case, you are to **read the passage carefully first**, and then decid on the basis of the passage which one of the choices following each incomplete statement or question **best** complete the meaning of the statement or answers the question. If you cannot decide, you may go back to the passage. Writ the **number** of the choice you think is best in the parentheses at the right of each item. You are not expected to finis this part in the time allowed, but work as rapidly as you can without making careless mistakes.

Most boys at school have at some time learned the dates of the English kings. But as a rule they fail to keep this up and lose all the good of it. I have an old friend, a college classmate, who has carefully kept this knowledge alive. He is now able in his old age to get great enjoyment from saying these dates to himself. His keepers tell me that he shows many other signs of mental activity and often recites for them lists of genitive plurals and verbs that take the dative.

It pleased me, I must say, at my country place last summer when there was some mathematical difficulty about marking the tennis court to have one of my guests, a student in my classes at Yale, offer to work out the measurements with a logarithm. He said it was quite simple. He needed, in short, nothing but a hypotenuse and two acute angles, all of which luckily were found around the place. It was very interesting to watch the boy calculate, at first. I am certain he would have got the solution, only while he was preparing to mark the court by means of his logarithm the chauffeur marked it with whitewash.

1. It can be inferred that the reason why the young man did not get his solution was that
   - 1-1 he made a mistake in measuring the acute angles.
   - 1-2 he got the wrong hypotenuse.
   - 1-3 he did not know enough mathematics.
   - 1-4 he tried to hurry.
   - 1-5 his method took too long. . . . . 1( )

2. The writer hints that most boys learn the dates of the English kings because
   - 2-1 these dates are an essential part of history.
   - 2-2 they are required to do so.
   - 2-3 these dates may provide enjoyment in later life.
   - 2-4 it is a sign of mental activity to know these dates.
   - 2-5 most educated people know these dates. . . . . 2( )

3. There is evidence that the writer is a
   - 3-1 mathematics teacher.
   - 3-2 history teacher.
   - 3-3 college professor.
   - 3-4 Latin scholar.
   - 3-5 young man. . . . . 3( )

4. Apparently the old friend mentioned in the first paragraph
   - 4-1 had been a history teacher.
   - 4-2 has lost his memory.
   - 4-3 was in an insane asylum.
   - 4-4 was in jail.
   - 4-5 had studied too hard in college. . . . 4(

5. The writer introduces a little humor in the second paragraph by
   - 5-1 making fun of the chauffeur's efforts to mark the court.
   - 5-2 exaggerating the difficulty of marking the court.
   - 5-3 speaking of mathematical concepts as though they were concrete objects.
   - 5-4 stressing the simplicity of marking the court by mathematics.
   - 5-5 sympathizing with the boy's efforts to make his calculation come out right. . . . . 5(

6. The main point of this passage is that
   - 6-1 many useless things are learned at school.
   - 6-2 memorizing damages the brain.
   - 6-3 dates are sometimes useful.
   - 6-4 mathematics is helpful in practical situations.
   - 6-5 almost all schooling is a waste of time. 6(

- - - - - - - - - -

To increase its sale value, a cheap stone is often sol under a name closely resembling that of a valuable gem For instance, some red stones are given names which sug gest to the uninformed purchaser that they are a variet of ruby. Thus, red pyrope garnets are sold under suc trade names as American ruby and Arizona ruby; re and orange spinels are called Balas ruby. A mineral a different from the true ruby as rose quartz is frequentl offered as Bohemian ruby. Rose and pink topaz may b sold as Brazilian ruby, and red or pink tourmalines a rubellite or Siberian ruby.

7. The best title for this passage is
   - 7-1 Rubies.
   - 7-2 Varieties of Ruby.
   - 7-3 Red Stones.
   - 7-4 Untruthful Advertising.
   - 7-5 Misleading Names for Gems. . . . . 7(

Go on to the next pag

8. Which one of the following is really topaz?
   - 8-1 Arizona ruby
   - 8-2 Balas ruby
   - 8-3 Bohemian ruby
   - 8-4 Siberian ruby
   - 8-5 Brazilian ruby . . . . . 8( )

9. The passage states that trade names of the type mentioned are used to
   - 9-1 identify varieties of stones for purchasers.
   - 9-2 make it possible to sell certain stones at a higher price.
   - 9-3 describe imitation rubies.
   - 9-4 identify varieties of valuable gems.
   - 9-5 increase the sales of cheap stones. . . 9( )

10. The writer would apparently favor
   - 10-1 giving trade names only to cheap stones.
   - 10-2 giving trade names only to precious gems.
   - 10-3 forbidding the sale of stones that look like rubies.
   - 10-4 doing away with trade names for stones.
   - 10-5 giving a special trade name to true rubies. . . . . 10( )

- - - - - - - - - -

Perhaps the gorilla was not wilfully a conservative. It may be that his family wandered into a country that suited them so well—so much like the combination of forest and plain in which they had developed—that they had no cause to change their way of living. Why should they, so long as the forests, the plains, and the weather remained so satisfactory for gorilla welfare? After millions of years of this contented life, the gorilla became fixed in his habits—"a living fossil." If conditions in Africa change, if the forests disappear, and the weather grows colder, the gorillas will probably perish, for they have lost the ability to change.

We don't mean they have become more stupid. We mean merely that now there is a great sameness among gorillas. Little gorillas, if they went to school, would learn equally fast. In the football games in such a school, there would be some, but not much, difference among the players. Almost any eleven young gorilla students would make a good team; this is not true, as well we know, among the white primates. It is this uniformity in the gorilla's ability that would prevent his surviving a great catastrophe like a glacial epoch.

When a race of animals has considerable variation among its members—when some prefer hot weather and others cold, when some are good musicians and others good football players—then when earthquakes come and the weather changes, some will be sure to survive. Those that survive will have children like themselves who can live under the new conditions. Thus that race of animals will change. This change is not always for the better. Some mammals that ran through the forests on four feet became whales and probably grew more stupid; at any rate they failed to stay with the progressive branches of the mammals such as tigers, primates, and dogs.

11. In the event of great changes of climate, it is likely that gorillas would
   - 11-1 acquire the ability to change.
   - 11-2 learn to like cold weather.
   - 11-3 die out.
   - 11-4 become more stupid.
   - 11-5 become more variable. . . . . 11( )

12. The writer appears to believe that
   - 12-1 ancestors of whales once ran about the forests.
   - 12-2 the glacial epoch was unimportant.
   - 12-3 gorillas are brighter than tigers.
   - 12-4 children are likely to be brighter than their parents.
   - 12-5 many gorillas were killed by earthquakes. . . . . 12( )

13. The writer emphasizes that one of the major differences between men and gorillas is that men
   - 13-1 are weaker.
   - 13-2 have been in existence a shorter time.
   - 13-3 are more variable in ability.
   - 13-4 are not such good football players.
   - 13-5 are primates. . . . . 13( )

14. The writer indicates that gorillas may be conservative as a result of
   - 14-1 stupidity.
   - 14-2 choice.
   - 14-3 circumstance.
   - 14-4 variation.
   - 14-5 change. . . . . 14( )

15. There is an implication that
   - 15-1 change is almost always for the better.
   - 15-2 gorillas once had the power to change.
   - 15-3 uniformity is a good thing.
   - 15-4 the average gorilla has changed for the worse.
   - 15-5 gorillas can learn as fast as men. . 15( )

16. The answer expected to the question in the middle of the first paragraph is
   - 16-1 "No reason."
   - 16-2 "In order to keep the power to change."
   - 16-3 "In order to survive."
   - 16-4 "Because conditions might change some day."
   - 16-5 "Because change is growth." . . . 16( )

17. The writer states that survival is dependent upon
   - 17-1 changes for the better.
   - 17-2 changes in living conditions.
   - 17-3 uniformity.
   - 17-4 variation.
   - 17-5 intelligence. . . . . 17( )

- - - - - - - - - -

Go on to the next page.

Mighty fleets and armies, harbors and arsenals, vast cities—they are great; but what do they become? Agamemnon, Pericles, and their Greece; all is gone now to some ruined fragments, dumb wrecks: but the Books of Greece! There Greece can be called up again into life.

18. The word "There" (in the last sentence) could best be replaced by the phrase
- 18-1 "Beside the ruined fragments."
- 18-2 "In the Age of Pericles."
- 18-3 "Wherever there are mighty fleets and armies."
- 18-4 "By reading the books."
- 18-5 "In the vast cities of modern times." 18( )

19. The writer is probably most interested in
- 19-1 sculpture.
- 19-2 architecture.
- 19-3 literature.
- 19-4 painting.
- 19-5 warfare. . . . . 19( )

20. The writer implies that the most important information about the ancient Greeks concerns their
- 20-1 political activity.
- 20-2 ships.
- 20-3 ideas.
- 20-4 military skill.
- 20-5 vast cities. . . . . 20( )

21. The writer makes his point by
- 21-1 describing ancient ruins.
- 21-2 quoting from the books of Greece.
- 21-3 praising harbors and arsenals.
- 21-4 giving examples.
- 21-5 appealing to authority. . . . . 21( )

22. The main topic of this passage is
- 22-1 books.
- 22-2 *modern* Greece.
- 22-3 mighty fleets and armies.
- 22-4 Agamemnon and Pericles.
- 22-5 ruined fragments. . . . . 22( )

– – – – – – – – – –

(1) Literary criticism in those days had some odd
(2) customs. It was scholarly, or at least tried to
(3) appear scholarly. It was dominated by the
(4) assumption that whatever is worth knowing is al-
(5) ready known and whatever is worth doing has
(6) already been done. Astonishment is unbecoming
(7) to scholars and their attitude toward newcomers
(8) is best expressed by the word "recognition." Any-
(9) body fresh who turned up was treated as a would-

(*Continued in next column*)

(*Continued from preceding column*)

(10) be Dalai Lama and examined carefully for evidence
(11) of his predecessor's soul. So it was that every
(12) one of us who started writing in the nineties was
(13) discovered to be a second somebody or other. In
(14) the course of a few years, I was welcomed as a
(15) second Dickens, a second Bulwer-Lytton, and a
(16) second Jules Verne. But I was also a second
(17) Barrie, though J.M.B. was hardly more than my
(18) contemporary, and when I turned to short stories
(19) I became a second Kipling. I certainly, on occa-
(20) sion, studied both these excellent masters. Later
(21) on, I figured as a second Diderot, a second Carlyle,
(22) and a second Rousseau.

23. Which one of the writers mentioned does the author of the passage think he most closely resembles?
- 23-1 Dickens
- 23-2 Verne
- 23-3 Barrie
- 23-4 Kipling
- 23-5 It is impossible to say. . . . . 23( )

24. Which one of the following qualities must have shown itself in the writings of the author of the passage?
- 24-1 Consistency
- 24-2 Conventionality
- 24-3 Variety
- 24-4 Fine literary style
- 24-5 Originality. . . . . 24( )

25. If a writer believed in the assumption mentioned in line 4, that belief would almost certainly lead him to
- 25-1 imitation.
- 25-2 excellence.
- 25-3 originality.
- 25-4 progress.
- 25-5 recognition. . . . . 25( )

26. To gain emphasis, the writer relies chiefly on
- 26-1 exaggeration.
- 26-2 repetition.
- 26-3 deliberate understatement.
- 26-4 shocking statements.
- 26-5 reasoned argument. . . . . 26( )

27. The passage implies that, of the following writers, the one born most recently was
- 27-1 Barrie.
- 27-2 Diderot.
- 27-3 Carlyle.
- 27-4 Rousseau.
- 27-5 Bulwer-Lytton. . . . . 27( )

Go on to the next page.

The writer thinks the opinions of the literary critics of the nineties were

28–1 discriminating.
28–2 superficial.
28–3 hostile.
28–4 challenging.
28–5 astonishing. . . . . 28( )

Literary critics in the period mentioned were seldom

29–1 scholarly.
29–2 sure of themselves.
29–3 surprised.
29–4 interested in newcomers.
29–5 familiar with the past. . . . . 29( )

"Fresh" in line 9 most nearly means

30–1 up and coming.
30–2 talented.
30–3 odd.
30–4 new.
30–5 saucy. . . . . 30( )

* * * * *

illions of dollars are spent annually in misleading public regarding health facts, and other millions are nt by a gullible public in return, while Miss Jones has y-five minutes a week (if she is lucky) with a class ifty students to teach hygiene. She is more than frently begrudged this time allotment because it is taken n some other more important subject in the curricu- such as algebra, trigonometry, the Renaissance, or kespeare. Her materials are oftentimes limited bese of an inadequate budget. Yet a manufacturing cern will pay a radio entertainer $8,000 for a single formance on a program designed to acquaint the lic with the health-giving values of a cathartic.

The writer uses the expression "if she is lucky" to indicate that

31–1 hygiene is easy to teach.
31–2 most teachers have less time to teach hygiene.
31–3 most teachers have more students in their classes.
31–4 advertisements can be used in the classroom.
31–5 advertisements on the radio make hygiene courses unnecessary. . . . 31( )

32. The writer would be most likely to support a movement for

32–1 founding a Shakespearean theater.
32–2 increasing the size of hygiene classes.
32–3 decreasing the number of radio programs.
32–4 spending more money on the teaching of hygiene.
32–5 teaching mathematics on the radio. . 32( )

33. The main subject of this paragraph is

33–1 hygiene courses.
33–2 health education.
33–3 commercial advertising.
33–4 the inadequacy of teachers' salaries.
33–5 the health-giving values of a cathartic. . . . . 33( )

34. The writer seems to be

34–1 satisfied.
34–2 philosophical.
34–3 gullible.
34–4 amused.
34–5 indignant. . . . . 34( )

35. The claim made in lines 1 and 2 is partially supported by the statement that

35–1 Miss Jones has only forty-five minutes a week in which to teach hygiene.
35–2 there are only fifty students in Miss Jones' hygiene class.
35–3 Miss Jones' materials are limited.
35–4 the time for hygiene is taken from other subjects.
35–5 a radio entertainer receives $8,000 for a single performance. . . . . 35( )

36. The writer implies that catharties

36–1 are not truthfully advertised.
36–2 are not widely used.
36–3 are sold at exorbitant prices.
36–4 should not be mentioned in public.
36–5 should be advertised in classrooms. 36( )

– – – – – – – – – –

Go on to the next page.

(1) Last night I was endeavoring to converse with
(2) a young Englishman who had just finished his
(3) second year at Cambridge University. He did not
(4) know any of the distinguished professors there and
(5) had not even heard of their names. "Of course,"
(6) he said, "I took up rowing at once, and if you go in
(7) for it seriously, you live in a very restricted circle."
(8) Whereupon he complained about the latest genera-
(9) tion, saying that they had been spoiled by dancing
(10) and automobiles and shirked working for their
(11) colleges. Coming from his lips, "working" took
(12) me back. I questioned him; he meant football.
(13) I felt reassured.

37. "Working for their colleges" in lines 10 and 11 means
- 37–1 earning money to meet expenses.
- 37–2 raising money for the colleges.
- 37–3 raising academic standards.
- 37–4 going out for varsity sports.
- 37–5 studying hard. . . . . .37( )

38. The Englishman evidently spent most of his time
- 38–1 with distinguished people.
- 38–2 at social affairs.
- 38–3 in mental activity.
- 38–4 in physical activity.
- 38–5 trying to make money. . . . . .38( )

39. The Englishman had not heard of any of the famous Cambridge professors because
- 39–1 he had not yet gone to class.
- 39–2 there weren't any there.
- 39–3 he had been there only two years.
- 39–4 he was too busy studying.
- 39–5 he was not interested in academic matters. . . . . .39( )

40. "Took me back" in lines 11 and 12 most nearly means
- 40–1 surprised me.
- 40–2 escorted me.
- 40–3 amused me.
- 40–4 disgusted me.
- 40–5 recalled to my mind. . . . . .40( )

41. The writer felt reassured (line 13) because he knew that
- 41–1 battles are won on the playing fields of England.
- 41–2 all work and no play makes Jack a dull boy.
- 41–3 his original impression was correct.
- 41–4 the future of England was in good hands.
- 41–5 football is important. . . . . .41( )

42. The writer's attitude toward the Englishman is
- 42–1 mildly scornful.
- 42–2 approving.
- 42–3 sympathetic.
- 42–4 severe.
- 42–5 reassuring. . . . . .42( )

43. The writer is probably
- 43–1 a Cambridge graduate.
- 43–2 a Cambridge professor.
- 43–3 a former athlete.
- 43–4 a young American student.
- 43–5 not an Englishman. . . . . .43(

44. "The latest generation" in lines 8 and 9 refers to
- 44–1 students many years younger than the Englishman.
- 44–2 fellow students of the Englishman.
- 44–3 students preceding the Englishman by a few years.
- 44–4 American students.
- 44–5 students of the previous generation. 44(

– – – – – – – – – –

Pure gold is much too soft to be durable as a mountin
It must, therefore, be mixed, or alloyed, with other meta
to increase its hardness. The gold content of these alloy
that is, their fineness or purity, is indicated by the ter
carat or karat, which means one twenty-fourth par
Thus, 18-karat gold, usually stamped 18K, consists
18 parts of gold and 6 parts of other metals. In order t
reduce the cost, alloys of lesser gold content are also use
Custom and practice permit 10K alloys, when so stampe
to be sold as gold, but an alloy with less than 50 per ce
gold is not properly designated as gold. The term *fi*
gold is used to indicate pure gold. Fineness may also
expressed in terms of parts of one thousand; thus, 75
fine means that the alloy contains 750 parts of gold o
of every 1,000. When gold is alloyed with differe
metals, changes in color may be secured. These alloy
are known as yellow, white, and green gold.

45. Which one of the following alloys cannot properly be labeled "gold"?
- 45–1 10 karat
- 45–2 12 karat
- 45–3 15 karat
- 45–4 18 karat
- 45–5 24 karat . . . . . .45(

46. A gold alloy that is 250 fine can be described as
- 46–1 6 karat.
- 46–2 8 karat.
- 46–3 12 karat.
- 46–4 18 karat.
- 46–5 21 karat. . . . . .46(

47. This passage is probably part of
- 47–1 an advertisement for jewelry.
- 47–2 a schoolbook about minerals.
- 47–3 an article in a popular magazine.
- 47–4 a jeweler's catalogue.
- 47–5 a law regulating the sale of gold. .47(

Go on to the next pag

48. How many reasons are indicated in the passage for alloying gold?
    48-1 One
    48-2 Two
    48-3 Three
    48-4 Four
    48-5 Five . . . . . .48( )

– – – – – – – – – –

Read your favorite poem again and again and the words lose their meaning. Meet your favorite picture or musical composition frequently and you find yourself growing blind and deaf to it. Saturate yourself with your favorite perfume and it loses its appeal. The fact is that any pleasant sensation tends to disappear upon too frequent repetition. One's first *Filet Mignon Béarnaise* is a ravishment. The second, unless it occurs after an interval of repose, is less effective. A third in rapid succession can hardly be thought of.

Any artistic experience, like any gastronomic one, requires a pause for thought and rumination. In many areas of experience, we automatically take vacations. We put the books back on the shelf, stay away from that room in the museum, go to another theater. In music this is not so easy; we are not able to make up our own programs. When next you see me tiptoeing out of a concert and inquire anxiously, "What! Aren't you staying to hear the *Pathétique*?", you will hear me whisper, "No thanks. I'm on the wagon."

49. From the passage, it is clear that *Filet Mignon Béarnaise* is something to
    49-1 eat.
    49-2 listen to.
    49-3 read.
    49-4 smell.
    49-5 look at. . . . . .49( )

50. The writer expects that when he leaves the concert his friends will express
    50-1 amusement.
    50-2 surprise.
    50-3 disappointment.
    50-4 envy.
    50-5 anger. . . . . .50( )

51. Apparently, the writer has been
    51-1 drinking too much.
    51-2 enjoying too many *filets mignons*.
    51-3 reading too much poetry.
    51-4 looking at too many pictures.
    51-5 hearing the *Pathétique* too often. .51( )

52. The writer thinks that it is hardest to avoid getting too much of a good thing when one is in a
    52-1 library.
    52-2 theater.
    52-3 museum.
    52-4 concert hall.
    52-5 restaurant. . . . . .52( )

53. The writer thinks of leaving the concert because he
    53-1 does not like the *Pathétique*.
    53-2 likes the *Pathétique* very much.
    53-3 fears that the *Pathétique* won't be performed to suit him.
    53-4 is unfamiliar with the *Pathétique*.
    53-5 intends never to listen to the *Pathétique* again. . . . . .53( )

– – – – – – – – – –

Still farther down among the lower forms of life, the whole question of mother love becomes silly. Even popular sentimentality seems to regard generosity as a function of the backbone. A self-sacrificing cockroach or jellyfish is inconceivable. There are those, of course, who have tried, nonetheless, to discern mother love even in these depths. They point out that among the beetles, solitary wasps, and spiders the most elaborate precautions are made for the care of the young. It is well known that ants lick their eggs with great care and carry them off when danger threatens. But the eggs give off a pleasant-tasting juice, and the ants bestow equal care upon the grubs of their enemies, which also give off a tasty juice, but grow up to eat the ants' own eggs and grubs.

54. The reason why the ants attempt to save their eggs is probably that they
    54-1 want to safeguard their offspring.
    54-2 like the taste of the juice given off.
    54-3 are driven by parental instincts.
    54-4 wish to destroy their enemies.
    54-5 intend to eat them. . . . . .54( )

55. The writer believes that mother love among the insects
    55-1 is frequently observed.
    55-2 can be proved scientifically to exist.
    55-3 is a sentimental fairy tale.
    55-4 is accurately described by other writers.
    55-5 is found in a few isolated cases. . .55( )

56. Just before the passage quoted, the writer apparently discussed
    56-1 mother love among the higher animals.
    56-2 mother love *versus* father love.
    56-3 the differences between human beings and other animals.
    56-4 the harm done by sentimental feelings.
    56-5 the importance of a backbone. . .56( )

– – – – – – – – – –

Go on to the next page.

No man is desirous of placing himself in a disagreeable situation. But if he have no choice in the case, if there be no choice presented to him but a neglect of duty or the enmity of those who are called the world, he merits the contempt as well as the indignation of his country who can hesitate which to embrace.

57. In the last line, the word "embrace" most nearly means
- 57-1 desire.
- 57-2 choose.
- 57-3 deserve.
- 57-4 consider.
- 57-5 recommend. . . . . .57( )

58. The writer probably likes to think of himself as
- 58-1 crafty.
- 58-2 skeptical.
- 58-3 flexible.
- 58-4 suggestible.
- 58-5 courageous. . . . . .58( )

59. The writer is probably leading up to a statement that he believes will result in
- 59-1 great popularity for him.
- 59-2 widespread indignation.
- 59-3 hesitation.
- 59-4 neglect of duty.
- 59-5 public reward. . . . . .59( )

60. The writer feels obliged to
- 60-1 avoid a disagreeable situation.
- 60-2 accept the verdict of public opinion.
- 60-3 do his duty.
- 60-4 hesitate over a difficult choice.
- 60-5 criticize his own country. . . . . .60( )

* * * * *

I bought me a dollar watch and set it by the great clock on the Parliament House at 8:05 p.m., then went back to my room and buried myself in my book. Now the Parliamentary clock has a peculiarity that exists in no other clock. On the half hour it strikes the succeeding hour, then strikes the hour again at the proper time. After I had been reading for a while, the great clock began to boom and I counted—ten. I reached for my new watch to see how it was getting along; it was marking 9:30. It seemed rather poor speed even for a dollar watch, but I supposed that the climate was affecting it. I shoved it half an hour ahead, took to my book, and waited to see what would happen. Soon the great clock struck ten. I looked—the watch was marking 10:30. This was too much speed for the money; I pushed the hands back a half hour. By and by the great clock struck eleven. The watch showed 10:30. I pushed it ahead with some show of temper. Soon the Parliamentary clock struck eleven again. The watch showed up 11:30 now, and I beat its brains out against the bedstead. I was sorry the next day when I found out.

61. What was it that the writer found out the next day?
- 61-1 That he had damaged the bedstead with the watch
- 61-2 That the great clock itself had been wrong the previous evening
- 61-3 That his watch was broken beyond repair
- 61-4 That he had broken his watch in his sleep
- 61-5 That the great clock struck each hour twice . . . . . .61(

62. At 9:30 the great clock must have struck
- 62-1 once.
- 62-2 eight times.
- 62-3 nine times.
- 62-4 ten times.
- 62-5 eleven times. . . . . .62(

63. The writer was ready to believe that his watch was wrong because he had
- 63-1 taken a dislike to it.
- 63-2 reset it so many times.
- 63-3 just bought it.
- 63-4 never known the great clock to be wrong.
- 63-5 paid so little for it. . . . . .63( )

64. This passage was probably written principally to
- 64-1 warn the public against dollar watches.
- 64-2 make fun of the Parliamentary clock.
- 64-3 make fun of dollar watches.
- 64-4 advise against hasty action.
- 64-5 amuse its readers. . . . . .64( )

- - - - - - - - - - -

If I were to choose between the power of writing a poem and the ecstasy of a poem unwritten, I would choose the ecstasy. It is better poetry.

65. The writer considers a written poem to be
- 65-1 an accident.
- 65-2 a by-product.
- 65-3 a result of hard work.
- 65-4 a method of achieving ecstasy.
- 65-5 a reward for humility. . . . . .65( )

66. The writer values most
- 66-1 the desire to write.
- 66-2 the ability to write.
- 66-3 the recitation of poetry.
- 66-4 a mood.
- 66-5 patience. . . . . .66(

- - - - - - - - - - -

Go on to the next page.

To avoid or repair the results of plowing we have the new plowless system. It requires at least as many plows as the old system and should be called moldboardless farming, because moldboard plows, which turn soil upside down and bury the dead and live vegetation, are not used. The new plows have blades or rods that run along under the surface and kill the grass and weeds but leave the vegetable materials on the surface.

A modern farmer, when he raises a crop of wheat, leaves all the straw on the surface after the harvest, because he knows that it is the best soil and crop insurance he can get. One drop of hard rain can splash bare soil eight inches into the air. The effect of billions of drops is to move tons of soil downhill.

67. The passage implies that the effect of leaving the straw on the wheat field is to
- 67-1 make plowing unnecessary.
- 67-2 reduce erosion.
- 67-3 keep the soil from getting too wet.
- 67-4 make fertilizing unnecessary.
- 67-5 discourage insects and other pests. . 67( )

68. The chief difference between the old and new plows is that the old ones
- 68-1 kill the grass and weeds.
- 68-2 leave only the live vegetation on the surface.
- 68-3 leave only the dead vegetation on the surface.
- 68-4 leave all the vegetation on the surface.
- 68-5 bury all the vegetation. . . . . 68( )

69. According to the writer, it is inaccurate to call the new system
- 69-1 plowless.
- 69-2 moldboardless.
- 69-3 successful.
- 69-4 widespread.
- 69-5 modern. . . . . 69( )

– – – – – – – – – – –

There is a later song that rivals *The Rosary* as America's choice—a musical setting for Joyce Kilmer's *Trees*. Here, too, the words play an important part. Ever since it was written, *Trees* has been the sort of poem that people cut out and carry around in their pocketbooks. This is not the case with *From the Land of the Sky-Blue Water* or *Evening Star*. The music for *Trees* is pretty bad but there is one thing in its favor. It is so like Rimsky's *Song of India* that the two could be played at the same time without discomfort. *Trees*, therefore, like *Moonlight and Roses*, does not have to beat its own path to the brain. It travels a furrow already ploughed by a famous predecessor.

70. From the passage it is apparent that *Song of India* was composed before
- 70-1 *The Rosary.*
- 70-2 *From the Land of the Sky-Blue Water.*
- 70-3 *Trees.*
- 70-4 *Evening Star.*
- 70-5 *Moonlight and Roses.* . . . . . 70( )

71. The writer indicates that the words are a large factor in the popularity of
- 71-1 *Song of India.*
- 71-2 *From the Land of the Sky-Blue Water.*
- 71-3 *Evening Star.*
- 71-4 *The Rosary.*
- 71-5 *Moonlight and Roses.* . . . . . 71( )

72. In the last two sentences, the writer uses two figures of speech. Corresponding words are "path" and
- 72-1 "predecessor."
- 72-2 "brain."
- 72-3 "ploughed."
- 72-4 "travels."
- 72-5 "furrow." . . . . . 72( )

73. The writer's statements about the music for *Trees* can best be described as
- 73-1 flattering.
- 73-2 very faint praise.
- 73-3 noncommittal.
- 73-4 uncomplimentary.
- 73-5 bitter. . . . . 73( )

74. We may infer that the writer thinks the American people's taste in music is
- 74-1 improving rapidly.
- 74-2 good.
- 74-3 neither good nor bad.
- 74-4 poor.
- 74-5 disgusting. . . . . 74( )

75. It is most likely that the writer is sarcastic when he states that
- 75-1 people carry a copy of *Trees* around in their pocketbooks.
- 75-2 *Trees* is very popular.
- 75-3 the words of *Trees* are important.
- 75-4 there is one thing in favor of the music for *Trees*.
- 75-5 *Trees* and *Song of India* could be played together without discomfort. 75( )

– – – – – – – – – – –

Go on to the next page.

(1) The Arabs in Spain are strangely neglected in
(2) current histories. To write of medieval Europe
(3) without them is to ignore the principal civilization
(4) of the period. The fullest histories, the strongest
(5) literature, the largest life, were all south of the
(6) Pyrenees throughout the Dark Ages. Yet this
(7) civilization occupies five lines out of five hundred
(8) pages in the best-known handbook on that period.
(9) We read, in the Arab historians, of different kings
(10) having elaborate gardens with every variety of
(11) plant; of the literary academy to whom new poems
(12) were recited; of the fund for the endowment of
(13) learned men, and the attraction of scholars from
(14) all parts of the world. The crowning glory was
(15) the library of Al Hakem, who in 970 A.D. entirely
(16) filled a palace at Cordova with books sought from
(17) the whole known world. The classified shelves of
(18) this library held 600,000 volumes, all catalogued
(19) and in order.

76. The writer apparently believes that we should

76-1 visit Cordova.
76-2 live south of the Pyrenees.
76-3 use palaces as libraries.
76-4 know more about the Arabs in Spain.
76-5 have elaborate gardens with every variety of plant. . . . . 76( )

77. As used in line 14, "crowning" most nearly means

77-1 best-known.
77-2 historical.
77-3 intellectual.
77-4 royal.
77-5 greatest. . . . . 77( )

78. The writer mentions the orderliness of the library as evidence of

78-1 a love of beauty.
78-2 a respect for learning.
78-3 the medieval character.
78-4 the Spanish tradition.
78-5 the neglect of current historians. . 78( )

79. In the latter half of this passage, the writer's main purpose is to

79-1 show evidence of a high civilization.
79-2 give examples of the work of Arab historians.
79-3 describe the library of Al Hakem.
79-4 prove that Cordova was a center of learning.
79-5 explain why scholars were attracted to Cordova. . . . . 79( )

80. For information in support of his ideas the writer relies on

80-1 current histories.
80-2 the best-known handbook.
80-3 Arab historians.
80-4 the literary academy.
80-5 the library of Al Hakem. . . . . 80( )

- - - - - - - - - -

The temper of the country was not revolutionary. There were hopes of a new heaven and a new earth among a few intellectuals in Paris; but men of sound sense could afford to smile at such dreams. There was a network of "secret" democratic societies; but as a rule they were well known to the police and without any real strength.

81. The dreams mentioned in the passage were dreams of

81-1 America.
81-2 democracy.
81-3 frontier life.
81-4 a return to primitive customs.
81-5 a new religion. . . . . 81( )

82. In the first sentence, the word "temper" means

82-1 mood.
82-2 hope.
82-3 anger.
82-4 intellect.
82-5 common sense. . . . . 82( )

83. The first sentence in the passage is supported by the statement that

83-1 there were hopes of a new heaven.
83-2 there were hopes of a new earth.
83-3 there were democratic societies.
83-4 the societies were known to the police.
83-5 the societies were without strength. 83( )

84. The word "secret" is in quotation marks to indicate that the societies were

84-1 illegal.
84-2 revolutionary.
84-3 not secret.
84-4 not democratic.
84-5 not important. . . . . 84( )

85. The writer's main point is that

85-1 men of sound sense were prosperous.
85-2 the police knew what was going on.
85-3 the intellectuals were hopeful.
85-4 the country was conservative.
85-5 there is always a preference for democracy. . . . . 85(

- - - - - - - - - -

Go on to the next page

No vulgar belief is more settled than that groups of gregarious animals are usually ruled and protected by wise old leaders. Man himself is a gregarious animal and his leaders, though frequently old, are rarely wise. But the instincts of the lower animals are thought to move them to select without error the wisest among them for leaders and to accept their guidance and help. No such reports, however, come from those who, free from sentimental bias, have watched animals. There is never any action that aims at aiding another individual. It is a fact that monkeys often rush up at the cry of a wounded companion, but as often as not they inflict further injury upon the injured one. Stags, in particular, run away at the first sign of danger and rejoin the does and fawns only when it is past. When a herd of caribou is fleeing from wolves, the old bulls, it is true, bring up the rear and so expose themselves to being the first victims. But they have no choice; they just can't run as well as the cows and calves.

86. Compared with the females, old bull caribou are
- 86-1 braver.
- 86-2 wiser.
- 86-3 slower.
- 86-4 more selfish.
- 86-5 more active. . . . . 86( )

87. The most cowardly behavior mentioned appears to be that of the
- 87-1 wounded monkey.
- 87-2 bull caribou.
- 87-3 cow caribou.
- 87-4 stag.
- 87-5 female deer. . . . . 87( )

88. "Vulgar," as used in the first line of the passage, most nearly means
- 88-1 popular.
- 88-2 coarse.
- 88-3 firm.
- 88-4 dubious.
- 88-5 rude. . . . . 88( )

89. In this passage the writer contends that, with respect to leaders,
- 89-1 man is no better off than other animals.
- 89-2 other animals are no better off than man.
- 89-3 wisdom increases with age.
- 89-4 man is guided by instinct as much as the lower animals are.
- 89-5 animals have well-developed instincts for choosing the right ones. . 89( )

90. The writer believes that among animals
- 90-1 the strong care for the weak.
- 90-2 the males protect the females.
- 90-3 the well care for the wounded.
- 90-4 the old protect the young.
- 90-5 each one must look out for himself. 90( )

* * * * *

Number wrong	0–2	3–6	7–10	11–14	15–18	19–22	23–26	27–30	31–34	35–38	39–42	43–46	47–50	51–54	55–58	59–62	63–66	67–70	71+
Amount to be subtracted	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Speed of Comprehension Score

Total number right_____

Subtract_____
(See table above)

Raw Score = Difference_____

Scaled Score_____
(See table on key)

Level of Comprehension Score

Number of *completed* scales_____
(1 if last item marked is 30, 31, ··· 59;
2 if last item marked is 60, 61, ··· 89;
3 if last item marked is 90)

Number right_____
(on *completed* scales only)

Subtract_____
(Look up in table at left amount to be subtracted corresponding to the number wrong on *completed* scales)

Raw Score = Difference_____

Scaled Score_____
(See table on key under column corresponding to number of scales *completed*)

1949 Edition

AMERICAN COUNCIL ON EDUCATION

Psychological Examination

For College Freshmen

Prepared by Educational Testing Service
From materials developed by L. L. Thurstone and Thelma Gwinn Thurstone

Cooperative Test Division
Educational Testing Service
Princeton, New Jersey

General Instructions

This examination is different from the ordinary school examinations to which you have been accustomed. The plan for each of these tests is as follows. First, you are given detailed *instructions* about the test, so that you know just what you are expected to do. Then you have some *practice problems*. Then you go to the *test proper*. This is the procedure for each of the six tests in this examination. The total examination requires an hour.

The six tests in this examination represent a variety of tasks. Three of them involve thinking of a quantitative sort, while the other three require more linguistic ability. If you find one test hard, do not be discouraged; you may find the next test easier. Nevertheless you should do your best on all the tests.

People differ markedly in the speed with which they can do these different tests. The tests are long enough to keep everyone busy for the whole time, and you are not expected to complete the tests in the time allowed. By noting how many questions you can answer in a certain length of time, we can determine your speed on each kind of test. You must begin to work on a test promptly when the examiner calls the starting time and stop immediately when he says "Stop." Do not begin a test until the examiner gives the starting signal for that particular test. Do not turn back to a test after the time for it has expired. You are to work on each test during, and only during, the specified time as announced by the examiner in charge.

You are to record your answers on a separate answer sheet rather than on the pages of the test booklet. Instead of writing down your answers, you will record each answer by blackening the space between a pair of lines. *Do not make any marks or record any answers on the pages of this test booklet.*

Your answer sheet will be scored accurately if you observe carefully the following directions:

1. On the answer sheet, find the *section* which corresponds to the practice problems or to the test proper on which you are working.
2. Then find the *row of answer spaces* which is numbered the same as the question you are answering.
3. Then find the *pair of dotted lines* which corresponds to the answer you choose and blacken the space. MISPLACED ANSWERS ARE COUNTED AS WRONG ANSWERS.
4. Indicate each answer with SOLID BLACK PENCIL MARKS drawn vertically between the two dotted lines. Solid black marks are made by going over each mark two or three times and by pressing firmly on the pencil.
5. Make your marks as long as the dotted lines.
6. If you change your answer, erase your first mark completely.
7. Make no unnecessary marks in or around the dotted lines.
8. Keep your answer sheet on a hard surface while marking your answers.
9. Make no folds or creases in the answer sheet.
10. *No scratch paper* is allowed for any of these tests. The answer sheet contains a special section which may be used for scribbling.
11. Fold the pages of your test booklet back so that *only one page is visible*. Place the test booklet to the left. Keep the answer sheet under the test booklet so that the answer spaces being marked are as close as possible to the questions being answered.

(Omit the next paragraph unless the tests are to be machine-scored.)

The examination will be scored by an electric test-scoring machine, which makes use of the fact that a solid black pencil mark will carry a current of electricity in the same way that a copper wire does. LIGHT PENCIL MARKS MADE WITH A HARD PENCIL WILL NOT CARRY A CURRENT OF ELECTRICITY! The machine will not give you a correct score unless you indicate your answers with solid black pencil marks made with the *special* pencil which is provided. Do not use any pencil other than the special one provided. The machine cannot distinguish between intended answers and stray pencil marks. If you are careless in erasing or if you leave unnecessary marks on or near the pairs of lines, such marks may be counted by the machine as wrong answers with the result that your score will be lower than it should be.

Wait until the examiner gives the starting signal for the first set of practice problems.

Arithmetic

PRACTICE PROBLEMS

In this test you will be given some problems in arithmetic. After each problem there are five answers, but only one of them is the correct answer. You are to solve each problem and blacken the space on the answer sheet which corresponds to the answer you think is correct. The following problem is an example:

1. How many pencils can you buy for 50 cents at the rate of 2 for 5 cents?
   (a) 10 (b) 20 (c) 25 (d) 100 (e) 125

Find on the answer sheet the space labeled "ARITHMETIC, Practice Problems, Page 3." The correct answer to the problem is 20, which is answer (b).

In the row numbered 1, space (b) has been blackened.

In the *second* row, blacken the space which corresponds to the answer to the second practice problem.

2. If James had 4 times as much money as George, he would have $16. How much money has George?
   (a) $4 (b) $8 (c) $12 (d) $16 (e) $64

You should have blackened space (a), which corresponds to $4, the correct answer.

Blacken the spaces corresponding to the answers to the following problems:

3. In 5 days Harry has saved a dollar. What has his average daily saving been?
   (a) 20¢ (b) 22½¢ (c) 25¢ (d) 30¢ (e) 40¢

4. John sold 4 magazines at 5 cents each. He kept ½ the money and with the other ½ he bought papers at 2 cents each. How many did he buy?
   (a) 3 (b) 4 (c) 5 (d) 6 (e) 10

When the signal is given (not yet), turn the page and work more problems of the same kind. Work rapidly and accurately. Your rating will be the total number of correct answers. You may not be able to finish in the time allowed.

Stop here. Wait for the signal.

Find the correct answer to each problem below. Then blacken the corresponding space on the answer sheet.

ARITHMETIC

1. Twelve girls rented a cottage for 3 months at $40 per month. What was the total rent paid by each girl?
   (a) $3.33 (b) $9.00 (c) $10.00 (d) $12.66 (e) $120.00

2. A farmer used 10 bushels of seed wheat on an 8-acre field. At that rate, how many bushels of seed will he need for a field of 40 acres?
   (a) 20 (b) 25 (c) 30 (d) 40 (e) 50

3. The capital of a partnership is $18,000. A owns 2 shares, B owns 3 shares, and C owns 5 shares. How much of the capital belongs to A?
   (a) $1,800 (b) $3,600 (c) $3,800 (d) $4,000 (e) $4,500

4. If a car goes 8 miles in 15 minutes, how many miles an hour is it going?
   (a) 16 (b) 24 (c) 32 (d) 40 (e) 48

5. A tank with a capacity of 150 gallons is half full of water. How many minutes will it take a pipe supplying water at the rate of $7\frac{1}{2}$ gallons per minute to finish filling the tank?
   (a) 1 (b) 5 (c) 10 (d) 20 (e) 100

6. John and Will played 50 games. Eighteen games were tied, and John won $\frac{1}{4}$ of the rest. How many games did Will win?
   (a) 8 (b) 12 (c) 16 (d) 20 (e) 24

7. On a total bill of $860 a discount of $\frac{1}{2}\%$ was allowed. How much was the discount?
   (a) $2.15 (b) $3.45 (c) $4.20 (d) $4.30 (e) $43.00

8. Sound travels 1,080 feet per second. If the sound which accompanies a flash of lightning is heard 3.5 seconds after the flash is seen, how many feet away is the lightning?
   (a) 3,240 (b) 3,680 (c) 3,720 (d) 3,780 (e) 3,790

9. A clock that gained 2 minutes per day was set correctly at noon Tuesday. What time was it by this clock at midnight the following Thursday?
   (a) 12:00 (b) 12:01 (c) 12:02 (d) 12:04 (e) 12:05

10. Mr. Lawson pays $65 per month for rent. His salary is $3,120 per year. What per cent of his salary does he spend for rent?
    (a) $12\frac{1}{2}$ (b) 15 (c) 20 (d) 25 (e) 30

11. The perimeter of a rectangular field is 48 yards. The length is 15 yards. How many square yards are in the area?
    (a) 135 (b) 145 (c) 270 (d) 360 (e) 720

12. How much more is $\frac{1}{3}$ of $\frac{3}{4}$ than $\frac{1}{4}$ of $\frac{3}{4}$?
    (a) $\frac{1}{16}$ (b) $\frac{3}{16}$ (c) $\frac{5}{16}$ (d) $\frac{3}{8}$ (e) $\frac{1}{8}$

13. X, Y, and Z gathered 100 chestnuts altogether. X gathered 4 more than Y, and Y gathered 6 more than Z. How many did Z gather?
    (a) 28 (b) 32 (c) 34 (d) 36 (e) 38

14. If 10% is lost by selling a bicycle for $9.00, for how much should it have been sold to gain 10%?
    (a) $9.90 (b) $10.00 (c) $10.10 (d) $11.00 (e) $12.00

15. The average person attends school 1,080 days. What part of a 12-year course does he complete, if 180 days are counted as a school year?
    (a) $\frac{1}{3}$ (b) $\frac{1}{2}$ (c) $\frac{5}{8}$ (d) $\frac{2}{3}$ (e) $\frac{3}{4}$

16. If 42 be added to John's age, the result is 4 times his age. How old is he?
    (a) $10\frac{1}{2}$ (b) 14 (c) 16 (d) 21 (e) 30

17. A man buys oranges at 10 cents per dozen and sells them at 18 for 20 cents. How many oranges must he sell to make a profit of $1.00?
    (a) 240 (b) 360 (c) 400 (d) 480 (e) 600

18. X can do a piece of work in 8 days, whereas Y would take 20 days. After X has worked alone for 3 days, how many days will it take Y to finish the work by himself?
    (a) 8 (b) 9 (c) 10 (d) 12 (e) $12\frac{1}{2}$

19. If $\frac{3}{4}$ of A's money equals $\frac{1}{2}$ of B's money and they have $40 together, how much has A?
    (a) $8 (b) $10 (c) $12 (d) $16 (e) $24

20. The head of a fish is 3 inches long; the tail is as long as the head plus $\frac{1}{3}$ of the length of the body; the body is as long as the head and the tail. How many inches long is the fish?
    (a) 5 (b) 8 (c) 12 (d) 16 (e) 20

Completion

PRACTICE PROBLEMS

Look at the following definition. You are to think of the word that fits the definition.

1. A contest of speed.
   B F M P R

The word is *race*. The letter *R* is the first letter in the word *race*. In the section of the answer sheet labeled "COMPLETION, Practice Problems, Page 5," the space indicated by *R* in the first row has been blackened.

Blacken the space corresponding to the first letter of the word which fits the following definition:

2. A place or building for athletic exercises.
   C D G H T

The word is *gymnasium*. You should have marked the space indicated by *G* because it is the first letter in the word *gymnasium*.

Do the following examples in the same way:

3. The thin cutting part of an instrument, as of a knife or a sword.
   A B D H W

4. The wife of a king.
   F N P Q V

5. A small or portable bed, as of canvas stretched on a frame.
   C G N P T

When the starting signal is given (not yet), turn the page and work more problems of the same kind. Work rapidly because your rating will be the total number of correct answers. You may not be able to finish in the time allowed.

Stop here. Wait for the signal.

Think of the word that fits the definition. Then mark the first letter of that word on the answer sheet.

COMPLETION

21. A cap or cover used in sewing to protect the finger.
R S T W Y

22. A bride's personal outfit, as of clothes, jewelry, etc.
E G K M T

23. A whirling wind accompanied by a funnel-shaped cloud.
P Q T U V

24. A thickly populated street marked by wretched living conditions.
F J S U V

25. A mark to shoot at, as for practice.
F H J R T

26. The internal process which renders food absorbable.
B D F H J

27. The apparent junction of earth and sky.
B D F H I

28. An excavation for obtaining building stone.
B J L O Q

29. The latter part and close of the day and early part of darkness or night.
E F H I K

30. A lure to catch fish or other animals.
B J K O V

31. The workroom of a painter or sculptor.
C J K P S

32. The radius or ray of a wagon wheel.
B F J S T

33. A floating object moored to the bottom to mark a channel, anchor, or rock.
B G I O R

34. A unit of weight for precious stones, especially diamonds and pearls.
A C H X T

35. A list of books relating to a given subject.
B D F H J

36. The theft of literary or artistic ideas.
O P R U W

37. A light spear for hurling.
C F G J K

38. A person given or kept as a pledge, as for fulfillment of a treaty.
G H I J K

39. The resistance to motion between two surfaces in contact.
B C D E F

40. A puppet moved by strings or by hand.
C F H L M

41. A combat on horseback between two knights with lances.
A H I J K

42. A detailed list of goods with their estimated worth.
B D H I K

43. A collection of wild animals in cages for exhibition.
F K M N T

44. Any of the ten symbols expressing number.
D M P U W

45. A fictitious narrative enforcing some useful truth.
C D F G W

46. Any very small painting, especially a portrait.
H M Q S T

47. The art of making articles of baked clay, as pottery, tiles, etc.
C F I L O

48. One of the earliest known inhabitants of a country.
A C F G J

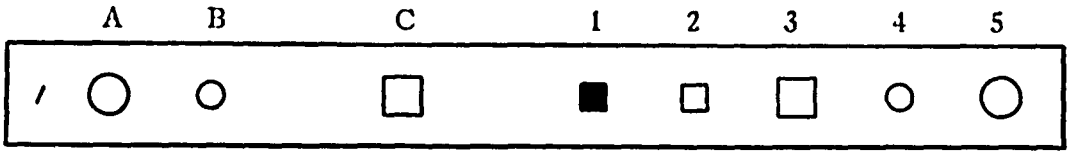
49. A strap or strip of leather.
D F I O T

50. The network spread by a spider.
A C E G I

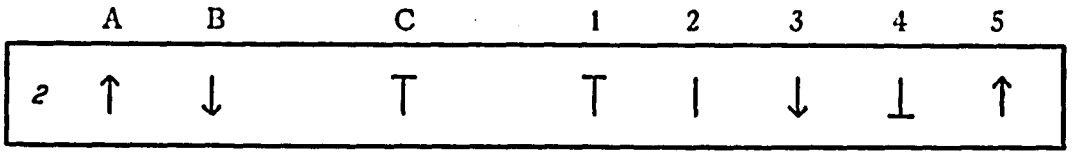
Figure Analogies

PRACTICE PROBLEMS

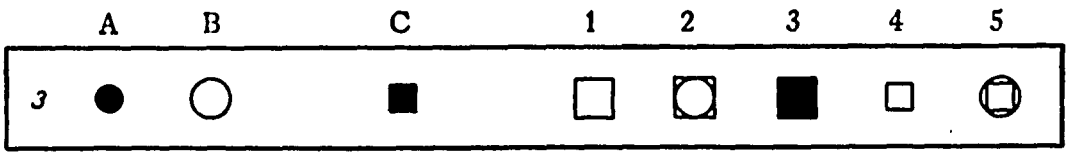
Look at the figures A, B, and C in Sample 1 below. Figure A is a large circle. Figure B is a small circle. By what rule is Figure A changed to make Figure B? The rule is "making it smaller." Now look at Figure C. It is a large square. What will it be if you change it by the same rule? It will be a small square of the same color as the large square. Figure 2 is a small white square. In the section of the answer sheet labeled "FIGURE ANALOGIES, Practice Problems, Page 7," the space numbered 2 in the first row has been blackened to indicate the correct answer.



In Sample 2 below, the rule is: "Turn Figure A upside down to make Figure B." Now look at Figure C and think how it would look when turned upside down. It would look like Figure 4. The space numbered 4 has already been blackened on the answer sheet



In Sample 3 below, the rule has two parts: "Make Figure B of the opposite color and larger than Figure A." Apply the rule to Figure C and blacken the space which corresponds to the correct answer.

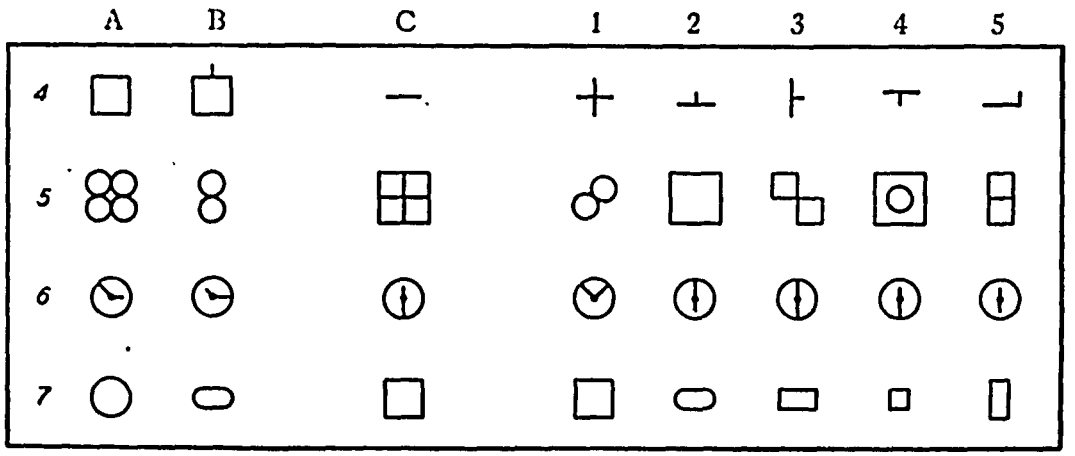


You should have blackened the space numbered 1, which corresponds to the large white square.

Notice that the rule changes from one example to another. You are to do four things to each exercise on this page and the next.

a. Decide what rule is used to change Figure A to Figure B.
b. Apply this rule to Figure C.
c. Select the resulting figure from the five figures at the right.
d. Blacken the space on the answer sheet which is numbered the same as the figure you have selected.

Proceed to the four exercises below, marking your answers on the answer sheet.



When the starting signal is given (not yet), turn the page and work more problems of the same kind. Work rapidly because your rating will be the total number of correct answers. You may not be able to finish in the time allowed.

Stop here. Wait for the signal.

In each line below, find the rule by which Figure A is changed to make Figure B. Apply the rule to Figure C. Select the resulting figure at the right and blacken the corresponding answer space.

FIGURE ANALOGIES

	A	B	C	1	2	3	4	5
51								
52								
53								
54								
55								
56								
57								
58								
59								
60								
61								
62								
63								
64								
65								

	A	B	C	1	2	3	4	5
66								
67								
68								
69								
70								
71								
72								
73								
74								
75								
76								
77								
78								
79								
80								

Same-Opposite

PRACTICE PROBLEMS

The word at the left in the following line is "many."

1. many	(1) ill	(2) few	(3) down	(4) sour

One of the four words at the right means either the *same* as or the *opposite* of "many." The word "few," which is numbered 2, is the opposite of "many." In the section of the answer sheet labeled "SAME-OPPOSITE, Practice Problems, Page 9," space number 2 in the first row has been blackened.

The word at the left in the second example is "ancient." Select the one of the four words at the right that means the *same* as or the *opposite* of "ancient." In the second row on the answer sheet, blacken the space which corresponds to the answer you have selected.

2. ancient	(1) dry	(2) long	(3) happy	(4) old

You should have blackened the space numbered 4 because 4 corresponds to "old," which means the same as "ancient."

In each of the following lines select the word that means the *same* as or the *opposite* of the word at the left. On the answer sheet, blacken the space which corresponds to the answer you have selected.

3. deep	(1) blue	(2) shallow	(3) tense	(4) watery
4. awkward	(1) clumsy	(2) loyal	(3) passive	(4) young
5. hot	(1) dry	(2) cooked	(3) red	(4) cold

When the starting signal is given (not yet), turn the page and work more problems of the same kind. Work rapidly because your rating will be the total number of correct answers. You may not be able to finish in the time allowed.

Stop here. Wait for the signal.

In each row select the word at the right which means the *same* as or the *opposite* of the first word in the row. Blacken the space which corresponds to the word you have selected.

SAME-OPPOSITE

81. severe	(1) cloudy	(2) lax	(3) flat	(4) rustic
82. barbarous	(1) tidal	(2) haughty	(3) cultured	(4) abrupt
83. stingy	(1) tart	(2) generous	(3) distinct	(4) positive
84. imperative	(1) brilliant	(2) mandatory	(3) cheap	(4) honorable
85. rasping	(1) harsh	(2) minute	(3) kinesthetic	(4) marshy
86. uncouth	(1) plausible	(2) refined	(3) restful	(4) sneaking
87. raw	(1) silken	(2) slick	(3) cooked	(4) stale
88. diminutive	(1) distraught	(2) large	(3) inductive	(4) reluctant
89. despotic	(1) open	(2) comparative	(3) tyrannical	(4) brisk
90. oblique	(1) fearful	(2) cruel	(3) ignorant	(4) slanting
91. vague	(1) definite	(2) fashionable	(3) valuable	(4) infinite
92. fastidious	(1) musical	(2) famed	(3) negligent	(4) early
93. obsolete	(1) outworn	(2) rampant	(3) bucolic	(4) genuine
94. single	(1) hearty	(2) knowing	(3) doubtful	(4) unique
95. legible	(1) illegal	(2) ineligible	(3) readable	(4) essential
96. arduous	(1) barren	(2) easy	(3) capable	(4) correct
97. stately	(1) howling	(2) good	(3) furious	(4) august
98. indubitable	(1) questionable	(2) dismal	(3) contented	(4) sick
99. impotent	(1) powerful	(2) prosaic	(3) troubled	(4) tribal
100. heinous	(1) hateful	(2) liable	(3) majestic	(4) foremost
101. dogmatic	(1) stealthy	(2) urgent	(3) opinionated	(4) worthy
102. bellicose	(1) usable	(2) warlike	(3) bald	(4) witty
103. precocious	(1) nodding	(2) hairy	(3) backward	(4) endless
104. inebriated	(1) drunken	(2) defensive	(3) cynical	(4) drab
105. occidental	(1) immodest	(2) calculating	(3) powerless	(4) western
106. innocuous	(1) harmful	(2) nocturnal	(3) null	(4) doleful
107. noble	(1) base	(2) facile	(3) profuse	(4) continual
108. bland	(1) peculiar	(2) undue	(3) athletic	(4) brusque
109. indolent	(1) safe	(2) gradual	(3) emotional	(4) industrious
110. lethal	(1) regal	(2) volatile	(3) arid	(4) deadly
111. perfidious	(1) eastern	(2) entire	(3) faithful	(4) liberal
112. ludicrous	(1) loyal	(2) insane	(3) comic	(4) splendid
113. austere	(1) strange	(2) black	(3) oriental	(4) gentle
114. circuitous	(1) indirect	(2) obligatory	(3) stable	(4) prudent
115. callow	(1) sundry	(2) sophisticated	(3) constant	(4) tall
116. derogatory	(1) dilapidated	(2) distinguishing	(3) disparaging	(4) dilatory
117. refractory	(1) wintry	(2) obedient	(3) plain	(4) lone
118. erratic	(1) consistent	(2) wrong	(3) righteous	(4) courageous
119. puerile	(1) wicked	(2) mature	(3) enraged	(4) gay
120. blatant	(1) tantamount	(2) latent	(3) vicarious	(4) vociferous
121. sardonic	(1) infernal	(2) conjectural	(3) sarcastic	(4) contrary
122. exigent	(1) foaming	(2) pressing	(3) opulent	(4) average
123. anomalous	(1) irregular	(2) accurate	(3) critical	(4) secular
124. tenuous	(1) lateral	(2) periodic	(3) thin	(4) molar
125. torpid	(1) warm	(2) kind	(3) active	(4) bound
126. incorporeal	(1) fierce	(2) joyous	(3) grave	(4) material
127. imminent	(1) eminent	(2) imposing	(3) stupendous	(4) impending
128. redolent	(1) unscrupulous	(2) odorous	(3) unruly	(4) tasteless
129. recondite	(1) obvious	(2) creative	(3) ascribable	(4) valiant
130. egregious	(1) regretful	(2) emerging	(3) destructive	(4) extraordinary

Number Series

PRACTICE PROBLEMS

The numbers in each series below follow some rule. For each series you are to find the *next number.*

In the first series below, each number is 2 larger than the preceding number. The *next number* in the series would be 14. Of the five answers at the right, answer (e) is, therefore, correct. In the section of the answer sheet labeled "NUMBER SERIES, Practice Problems, Page 11," space (e) in the first row has been blackened.

	Series						*Next Number*				
1.	2	4	6	8	10	12	10 (a)	11 (b)	12 (c)	13 (d)	14 (e)

Find the rule in the series below, and blacken one of the answer spaces in the second row on the answer sheet.

2.	20	19	18	17	16	15	10 (a)	12 (b)	14 (c)	15 (d)	16 (e)

Each number in this series is 1 less than the preceding number. You should have blackened space (c), which corresponds to 14, the next number in the series.

Find the rule in the series below, and blacken the space on the answer sheet which corresponds to the next number.

3.	10	8	11	9	12	10	9 (a)	10 (b)	11 (c)	12 (d)	13 (e)

The series above goes by alternate steps of subtracting 2 and adding 3. You should have blackened space (e), which corresponds to 13, the next number.

In each series below, find the rule and blacken the space on the answer sheet which corresponds to the next number. There is a different rule for each series. Go right ahead. Do not wait for any signal.

4.	8	11	14	17	20	23	10 (a)	13 (b)	23 (c)	25 (d)	26 (e)
5.	27	27	23	23	19	19	15 (a)	16 (b)	17 (c)	18 (d)	19 (e)
6.	16	17	19	20	22	23	18 (a)	20 (b)	22 (c)	24 (d)	25 (e)

When the starting signal is given (not yet), turn the page and work more problems of the same kind. Work rapidly because your rating will be the total number of correct answers. You may not be able to finish in the time allowed.

Stop here. Wait for the signal.

Find the rule in each problem below and blacken the space which corresponds to the next number.

NUMBER SERIES

131.	9	12	15	18	21	24	27	30 (a)	31 (b)	32 (c)	33 (d)	36 (e)
132.	2	3	9	10	30	31	93	89 (a)	91 (b)	92 (c)	93 (d)	94 (e)
133.	82	73	64	55	46	37	28	14 (a)	18 (b)	19 (c)	20 (d)	27 (e)
134.	18	21	17	20	16	19	15	11 (a)	13 (b)	16 (c)	18 (d)	19 (e)
135.	20	18	21	17	22	16	23	9 (a)	12 (b)	15 (c)	21 (d)	24 (e)
136.	24	48	12	24	6	12	3	6 (a)	12 (b)	18 (c)	24 (d)	48 (e)
137.	16	18	21	14	16	19	12	5 (a)	8 (b)	9 (c)	13 (d)	14 (e)
138.	4	4	0	5	5	1	6	2 (a)	4 (b)	6 (c)	8 (d)	11 (e)
139.	3	8	5	10	7	12	9	6 (a)	12 (b)	14 (c)	17 (d)	18 (e)
140.	4	5	6	7	5	6	7	3 (a)	6 (b)	7 (c)	8 (d)	9 (e)
141.	60	64	32	36	18	22	11	0 (a)	5 (b)	7 (c)	10 (d)	15 (e)
142.	2	6	3	9	6	18	15	12 (a)	20 (b)	30 (c)	45 (d)	50 (e)
143.	8	9	12	13	15	16	19	17 (a)	20 (b)	21 (c)	23 (d)	24 (e)
144.	1	2	4	7	11	16	22	24 (a)	25 (b)	26 (c)	27 (d)	29 (e)
145.	2	5	6	5	8	9	8	4 (a)	7 (b)	9 (c)	11 (d)	12 (e)
146.	28	27	25	22	18	13	7	0 (a)	5 (b)	7 (c)	8 (d)	9 (e)
147.	5	3	4	6	4	5	7	4 (a)	5 (b)	6 (c)	8 (d)	9 (e)
148.	1	2	4	8	10	20	22	24 (a)	40 (b)	44 (c)	46 (d)	48 (e)
149.	4	8	9	18	22	23	46	48 (a)	50 (b)	69 (c)	70 (d)	90 (e)
150.	12	15	19	23	28	33	39	41 (a)	43 (b)	44 (c)	45 (d)	46 (e)
151.	88	90	45	48	16	20	5	1 (a)	8 (b)	9 (c)	10 (d)	25 (e)
152.	10	14	16	19	23	25	28	30 (a)	31 (b)	32 (c)	33 (d)	34 (e)
153.	16	61	15	51	14	41	13	12 (a)	13 (b)	14 (c)	21 (d)	31 (e)
154.	22	15	21	16	20	17	19	13 (a)	14 (b)	16 (c)	18 (d)	21 (e)
155.	22	20	10	12	6	4	2	2 (a)	4 (b)	6 (c)	8 (d)	10 (e)
156.	45	36	28	21	15	10	6	2 (a)	3 (b)	4 (c)	12 (d)	16 (e)
157.	41	37	38	19	15	16	8	1 (a)	2 (b)	3 (c)	4 (d)	5 (e)
158.	21	18	9	27	24	12	36	12 (a)	18 (b)	33 (c)	42 (d)	72 (e)
159.	84	21	63	65	64	16	48	13 (a)	16 (b)	24 (c)	47 (d)	50 (e)
160.	5	10	13	9	18	21	17	13 (a)	20 (b)	27 (c)	30 (d)	34 (e)

Stop here.

Verbal Analogies

PRACTICE PROBLEMS

Read the following words.

1. foot-shoe	hand-	(1) thumb	(2) head	(3) glove	(4) finger	(5) clasp

The first two words, *foot-shoe*, are related. The next word is *hand*. It can be combined with one of the remaining words in the row so as to make a similar pair, *hand-glove*. In the section of the answer sheet labeled "VERBAL ANALOGIES, Practice Problems, Page 13," space number 3 in the first row has been blackened.

Read the following words:

2. father-son	mother-	(1) aunt	(2) sister	(3) child	(4) daughter	(5) niece

The first pair is *father-son*. The next word is *mother*. It can be combined with the word *daughter* to make the similar pair, *mother-daughter*. In the second row on the answer sheet, blacken space number 4, which corresponds to the word *daughter*.

In each row of words, the first two words form a pair. The third word can be combined with another word to form a similar pair. Select the word which completes the second pair. On the answer sheet, blacken the space which corresponds to the word you select.

3. sky-blue	grass-	(1) ground	(2) sod	(3) path	(4) blue	(5) green
4. ice-solid	water-	(1) hard	(2) fire	(3) iron	(4) liquid	(5) boat

In the third row on the answer sheet, you should have blackened space number 5, which corresponds to *green*. In the fourth row, you should have blackened space number 4, which corresponds to *liquid*.

Select the answers to the following problems and blacken the corresponding spaces on the answer sheet. Go right ahead. Do not wait for any signal.

5. ear-music	nose-	(1) face	(2) perfume	(3) breath	(4) tone	(5) noise
6. cloth-dye	house-	(1) shade	(2) paint	(3) brush	(4) door	(5) wood
7. green-grass	yellow	(1) silver	(2) color	(3) golden	(4) china	(5) gold
8. cattle-hay	man-	(1) eat	(2) drink	(3) water	(4) life	(5) bread

When the starting signal is given (not yet), turn the page and work more problems of the same kind. Work rapidly because your rating will be the total number of correct answers. You may not be able to finish in the time allowed.

Stop here. Wait for the signal.

In each row, select the word which completes the second pair.
Blacken the space which corresponds to the word you have selected.

VERBAL ANALOGIES

161. clothes-tear	dishes-	(1) eat	(2) silver	(3) fall	(4) wash	(5) break
162. soldier-uniform	knight-	(1) fight	(2) armor	(3) heraldry	(4) sword	(5) gallant
163. tree-forest	flower-	(1) petal	(2) garden	(3) perfume	(4) aroma	(5) rose
164. coffee-bean	tea-	(1) cup	(2) cake	(3) tree	(4) leaf	(5) lunch
165. skate-ice	ski-	(1) skis	(2) sport	(3) winter	(4) snow	(5) danger
166. tiger-hair	trout-	(1) meal	(2) water	(3) fish	(4) scales	(5) swims
167. finger-hand	toe-	(1) nail	(2) heel	(3) foot	(4) arch	(5) leg
168. boat-lifebelt	airplane-	(1) pilot	(2) air	(3) train	(4) mail	(5) parachute
169. nurse-hospital	teacher-	(1) office	(2) pupil	(3) class	(4) school	(5) examination
170. tragedy-comedy	tears-	(1) laughter	(2) weep	(3) handkerchief	(4) movie	(5) amusement
171. body-food	engine-	(1) wheels	(2) fuel	(3) smoke	(4) fire	(5) motion
172. Indian-wigwam	Eskimo-	(1) ice	(2) igloo	(3) home	(4) Arctic	(5) seal
173. table-wood	knife-	(1) cutting	(2) chair	(3) fork	(4) handle	(5) steel
174. sight-color	hearing-	(1) blind	(2) deaf	(3) hue	(4) tone	(5) ear
175. own-rich	know-	(1) kind	(2) conceited	(3) educated	(4) old	(5) money
176. laborer-foreman	private-	(1) officer	(2) army	(3) servant	(4) soldier	(5) duty
177. offend-defend	attack-	(1) fight	(2) protect	(3) duel	(4) besiege	(5) battle
178. past-present	yesterday-	(1) today	(2) tomorrow	(3) Christmas	(4) future	(5) forgotten
179. scepter-king	chains-	(1) bonds	(2) mail	(3) slave	(4) link	(5) carpenter
180. automobile-wagon	motorcycle-	(1) walking	(2) horse	(3) bus	(4) train	(5) bicycle
181. nation-war	clan-	(1) group	(2) peace	(3) feud	(4) guns	(5) family
182. large-object	loud-	(1) soft	(2) small	(3) heavy	(4) weight	(5) sound
183. bow-violin	stick-	(1) violinist	(2) juggler	(3) orchestra	(4) leader	(5) drum
184. metal-gold	grain-	(1) plant	(2) silver	(3) vegetable	(4) food	(5) oats
185. banquet-snack	oration-	(1) chat	(2) drama	(3) voice	(4) manuscript	(5) sermon
186. caution-safety	risk-	(1) security	(2) danger	(3) insurance	(4) life	(5) good
187. abundant-cheap	scarce-	(1) buy	(2) costly	(3) bargain	(4) rare	(5) plentiful
188. odor-fragrant	taste-	(1) sweet	(2) bitter	(3) sugar	(4) tongue	(5) smell
189. eraser-ink	suds-	(1) soak	(2) stock	(3) dirt	(4) clothes	(5) foam
190. hose-nozzle	pitcher-	(1) handle	(2) rim	(3) cover	(4) spout	(5) basin
191. book-author	machine-	(1) inventor	(2) genius	(3) factory	(4) mechanic	(5) driver
192. wolf-sheep	cat-	(1) fur	(2) kitten	(3) dog	(4) mouse	(5) puzzle
193. trifle-disaster	spark-	(1) small	(2) hot	(3) bright	(4) burn	(5) conflagration
194. cloud-storm	fever-	(1) thermometer	(2) temperature	(3) doctor	(4) patient	(5) sickness
195. date-calendar	hour-	(1) time	(2) minute	(3) clock	(4) week	(5) o'clock
196. hinge-door	joint-	(1) bend	(2) open	(3) fasten	(4) arm	(5) tendon
197. cave-house	club-	(1) police	(2) gun	(3) strike	(4) rock	(5) armor
198. plumber-pipe	carpenter-	(1) saw	(2) board	(3) wrench	(4) screw	(5) bench
199. lawless-lynch	legal-	(1) kill	(2) execute	(3) condemn	(4) drown	(5) trial
200. cable-wire	crowd-	(1) audience	(2) trio	(3) individual	(4) mob	(5) message

Stop here.

READING

Questions 1 through 3 are to be answered from the material read in Rudolph Flesch's "The Art of Plain Talk: Live Words and Crowded Words".

Which one of the following statements would Mr. Flesch be likely to agree with?
1. The modern writer does not need to be able to write as well as Shakespeare to be a literary genius.
2. In order to evaluate the effect words have in a sentence, we must first recognize the grammatical labels which should be given to these words.
3. The use of adjectives as Time magazine uses them will not increase the clarity of the communication.
4. Descriptive and commenting adjectives form the basis for our language, for they are able to express beauty, rhythm, and exactness.

What is the author's main objection to modern English writing?
1. Too much writing is nonfiction.
2. Not enough of the writing is fiction.
3. The writers of modern English fail to use concrete examples in the development of their ideas
4. Too many verbs are not well chosen.

Which one of the following types of sentence would the author advise?
1. A sentence which contains a single thought and properly chosen defining adjectives.
2. A sentence which contains two or more main ideas which are well tied together with transitional words.
3. A sentence which contains a single thought and properly chosen commenting adjectives.
4. A moderately long sentence with the main ideas properly separated with punctuation.

Question 4 is to be answered in light of S. J. Perelman's ideas presented in "Strictly From Marx, Or, How to Philander in Five Easy Colors"

Which one of the following statements does Mr. Perelman seem to believe?
1. Those people who are persuaded by the antics of the characters in the comic strip advertisement are not emotionally mature.
2. Comic strip advertisements add to the sum total of human knowledge.
3. The "comic strip" type of advertising should be made unlawful by means of a Federal law.
4. A profitable profession, for ambitious young writers, would be the writing of conclusions to the "comic strip" advertisements.

The following question concerns "The Ivory Lab" by Jacques Barzun:

Which one of the following statements gives the author's conclusion?
1. Science must assert itself; it must be relieved of its embarrassing ties with the classics; it must stand independently on its own feet.
2. The classics, philosophy, and science are over-lapping, andcom lementary disciplines
3. Science must more and more be rushed into the field of related exact studies such as mathematics and kindred fields.
4. Philosophy will gradually be rushedout as weextend our field of scientific certainty

The following question concerns "Carbon Monoxide Poisoning" by Claude Bernard:

In performing the experiment, how did the author reason?
1. He made an observation, chose a hypothesis, and proved it false or true.
2. The author prepared a hypothesis from the proven facts of others and compared them with his latest findings.
3. The author reasoned from the general to the particular: he examined the phenomenon, compared it with other known facts, and drew comparative conclusions.
4. The writer came to no conclusion; he left his findings to another to build on.

Questions 7 and 8 concern "Gate Receipts and Glory" by Robert W. Hutchins:

According to Mr. Hutchins, why has football remained prominent in American colleges?
1. Football makes our country more democratic.
2. Faculty members are accurately interested in the relationship between good sportsmanship and higher learning.
3. Football is profitable.
4. Football is an integral part of higher education in America.

According to Mr. Hutchins, what is the effect of the present stress on athleticism instead of on athletics?
1. It is making American colleges better.
2. It is making American colleges less competitive
3. It is distorting the functions of the American colleges.
4. It is failing to satisfy alumni.

Questions 9 and 10 concern "The Usefulness of Useless Knowledge" by Abraham Flexner:

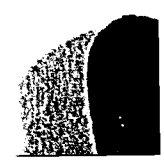
Which one of the following statements presents a suggestion made by the author?
1. All learning must satisfy immediate and materialistic ends.
2. Intellectual curiosity should be encouraged.
3. Knowledge is already too streamlined.
4. There are no new answers worth finding.

How does the author consider idle curiosity?
1. as impractical 2. as unpredictable 3. as undemocratic
4. as potentially valuable

Questions 11 and 12 concern "Modern Man Is Obsolete" by Norman Cousins:

According to Mr. Cousins, why is modern man obsolete?
1. because he wants to be
2. because he is no longer religious
3. because he is incapable of resolving conflicts with the world around him
4. because of the Darwinian theory

According to Mr. Cousins, what will be the results of the atomic age?
1. It will make modern man wholly self-sufficient.
2. It will necessitate a return to the good old days.
3. It will make optimists pessimistic.
4. It will force man, if he is to survive, to think of serious readjustment.



Questions 13 and 14 concern "The Sermon on the Mount":

Which one of the following statements is true of the above sermon?
1. It restates a dynamic code of behavior.
2. It is not applicable in an atomic age.
3. It is allegorical in nature.
4. It is obsolete ethically.

Which one of the following statements best describes the content of "The Sermon On the Mount"?
1. It solely concerns life in this world.
2. It promises salvation.
3. It contradicts other "New Testament statements
4. It suggests moral principles upon which one can build a substantial life.

LISTENING

Question 15 through 26 concern lectures delivered during the last half of the term:

According to Mr. Reeve, how is a dictionary most accurately described?
1. as a history book 2. as a spelling manual 3. as an infallible guide to language 4. as a useless text

According to Mr. Reeve, in what matters is a dictionary almost always infallible?
1. spelling 2. pronunciation 3. definition 4. etymology

According to Mr. Reeve, which one of the following is the most satisfactory (for college students) definition of "housemaid's knee"?
1. a swelling due to an enlargement of the bursa in the front of the patella
2. an enlarged bursa in front of the knee that affects housemaids or others who kneel in working.
3. A swollen condition of the knee joint, caused by continued kneeling
4. inflammation of the bursa over the anterior region of the knee-pad

According to Mr. Babcock, in his lecture on "The Development of the English Language, which one of the following words does not characterize the English language?
1. expressiveness 2. infallibility 3. inconsistency 4. copiousness

According to Mr. Babcock, which one of the following words concerns the evolution of the meaning of words?
1. phonetic 2. grammatical 3. orthographic 4. semantic

According to Mr. Babcock, how is the shift of meaning of the word deer, from denoting any wild animal to denoting a specific species of wild animal, defined?
1. transfer 2. elevation 3. specialization 4. generalization

According to Mr. Wilburne, in his lecture on "Development of American English", from what dialect has the standard of British English evolved?
1. the Northern dialect 2. the East Midland dialect 3. the West Midland dialect 4. the Southern dialect

According to Mr. Winburne, which one of the following dialects do the greatest part of the American people speak?
1. General American 2. Eastern 3. Southern 4. a mixture

According to Mr. Winburne, what are the standards for American English?
1 the same as for British English
2 the speech of the college professors
3 those prevailing in one's own area
4 non-existent

24 According to Mr. Wright, in his lecture on "Levels of Usage", what does the term "levels of usage" imply?
1. There are six definite levels of language usage which one must observe to be correct.
2. Language on higher levels is better than language on lower levels.
3. We need, for effective communication at all times, familiarity with language at our own particular level.
4. None of these answers is correct.

25. Which one of the following statements would be appropriate for a student attempting to explain orally some scholastic lapses to his dean?
1. "Irregardless of what you may think, Dean Rather, my conduct has been expeditious at all times."
2. "I suppose I've been spending too much time in the Union; I'll have to study more from now on."
3. "So my grades aren't too hot! A man's got to have some fun, don't he?"
4. None of these answers is correct.

26. According to Mr. Wright, the statement, "None of these answers is correct", is most likely on which level of usage?
1. formal English 2. informal English 3. vulgate English 4. None of these answers is correct.

READING, WRITING, SPEAKING, AND LISTENING

In each of the following questions, select the word which most nearly defines the word underlined in each statement.

7 To put it in the unprecise language of the <u>layman</u>, the great Norwegian discovery is that air must always be of some distinct type.
1. irreligious man 2. uneducated man 3. nonprofessional person 4. irresponsible person

8 That air has come from Canada, where it has been quite <u>literally</u> air-conditioned.
1. figuratively 2. actually 3. potentially 4. apparently

9. The introduction of the electron microscope is one of the most <u>potentially</u> important scientific events of the twentieth century.
1. possibly 2. actually 3. reasonably 4. decidedly

10. Motorization and airplane bombing permit a rapid <u>convergence</u> of the offensive.
1. progress 2. aiming 3. mobilization 4. coming together

11. When heavy machine-gun fire was encountered, <u>virtually</u> the entire line had to stop, despite the time schedule.
1. actually 2. apparently 3. practically 4. truly

12. The defense may thrust, <u>feint</u>, dodge, and lure the foe to a trap.
1. withdraw 2. retreat from exhaustion 3. bayonet 4. pretend to attack

13. Gyroscopes are an <u>integral</u> part of the Sperry and Norden bomb sights.
1. entire 2. mathematical 3. connecting 4. essential

4. Mimar Sherry was obsessed with the spinning wheel
1 upset 2 deafened 3 completely occupied 4 blinded

5. We cannot much longer rely for social guidance on the vague and amorphous bodies of lore variously called humanities, literature, etc

amorphous
1 useless 2 imaginative 3 formless 4 empty

6. lore
1 learning 2 fable 3 wisdom 4 fiction

7. The result is a rather puerile performance.
1 weak 2 childish 3 primitive 4 faulty

8. The lethal spirochete appropriately looks something like a cobra poised to strike.
1 destructive 2 deathlike 3 deadly 4 sleep inducing

SPEAKING

According to Brigance, which one of the following rules should you ignore to make yourself heard when giving a public speech?
1. Breathe with the diaphragm.
2. Talk loudly to the front row.
3. Open up the whole system of resonators--throat, mouth, and nose.

According to Brigance, which one of the following rules should you ignore in using charts, maps, and diagrams?
1. Make charts large enough to be seen.
2. Talk to the audience, not to the chart.
3. Include in the chart the whole story, not just a few details.
4. Cover up the chart when you are not discussing it.

The following terms, discussed by Brigance, furnish the key for the next 7 questions: 1. empathy, 2. name-calling, 3. testimony, 4. technical plot, 5. None of these

Which one of the above terms is defined by each of the following 7 questions?

Quoting words of great minds or authorities.

Discussing only part of a situation in pretense that it is the whole.

Feeling ourselves into whatever we perceive.

A two-column speech outline, indicating what you are doing in each point as well as what you are saying.

Use of numbers for inference of general truths.

Discounting a cause or person by applying an unpopular word.

A type of fallacy in which it is argued that because B follows A, it is caused by A.

Brigance discusses the following speech purposes:
1. to interest, 2. to inform, 3. to stimulate, 4. to convince

Which one of the above speech purposes would apply to the situation described in each of the next two questions.

An after-dinner speaker tells a string of funny stories centered around the idea that the male is the weaker sex.

A professor lectures on semantics.

The following terms name different patterns for arranging the main headings for speeches

1. time order, 2. related group order, 3. cause and effect, 4. problem-solution

Which one of the above patterns would be most effective for developing each speech indicated in each of the next four questions?

50. Describe the stock market collapse of 1929 and then explain the forces that led to the crash.

51. Discuss methods of refining petroleum by tracing the development from the earliest attempts down to the present.

52. Develop a speech showing that world federation is the only way to world peace.

53. Give a financial report by dividing it into income and expenditure.

WRITING

54. What kind of writing and speaking does Perrin consider as being a mature use of English?
1. English that conforms to the best rhetorical practice of the Greeks and Romans
2. English that conforms to the scholarly practices of our English classrooms.
3. English that is appropriate to the situation in which we find ourselves.
4. English that is in keeping with the dictates of our own consciences.

Which one of the suggested changes will correct the error in sentence structure, or improve the clarity of meaning, in each of the next seven questions?

55. At the breakfast table, Dorothy told Mary that she had committed a social error
1. Eliminate the word that.
2. Place "at the table" after "error".
3. Underline "she".
4. None of the above.

Father told the doctor that he did not think the war would greatly affect his profession.
1. Substitute "believe" for "think".
2. Eliminate the word "that".
3. Substitute "the medical" for "his".
4. None of the above.

The girls had left their dishes in the kitchen sink, and I was trying to wash them while they were getting ready to go to the party.
1. Substitute "have" for "had"
2. Put a period after "sink" and eliminate the comma and "and".
3. Substitute "dishes" for "them".
4. None of the above

Almost all of the instructors know their students and they are in the habit of calling them by name.
1. Eliminate the word "they"
2. Substitute "most" for "almost".
3. Eliminate the words "of the".
4. Place a comma after "students".

If you were not buying flowers from me last year but would like to have me stop, please print your name and address on the enclosed card and mail it today.

1. Substitute "do so" for "have me stop".
2. Replace the comma with a semicolon.
3. Eliminate the word "please"
4. Place a comma before the last "and".

Every mother should know how to train her children in good health habits as well as how to care for her children when they are ill.

1. Substitute "them" for "her children".
2. Substitute "and" for "as well as".
3. Make two sentences with the words in this one sentence.
4. Place a comma after "mother."

It is the individual who contributes to the sickeness or well being of the group he lives in, within our complex society.

1. Place "within our complex society" after "individual" and enclose the phrase with commas--replace comma after "in" with a period.
2. Place "within our complex society" after "individual" but do not enclose the phrase with commas--replace comma after "in" with a period.
3. Remove the comma after "in".
4. Substitute "which" for "who".

Which one of the following is the principal use of a paragraph?

1. To show completed development of a single idea.
2. To break up a page of print.
3. To show familiarity with written forms.
4. To make reading harder.

Which one of the following statements contains Perrin's advice on paragraph writing?

1. Write each sentence independently.
2. Pause for thought after every word.
3. Write a paper in complete form and break it up into paragraphs later.
4. Make writing of paragraphs continuous.

Which one of the following is a fault of many concluding paragraphs?

1. Emphasizing main ideas.
2. Repeating material already given.
3. Introducing new material.
4. Summarizing.

Which one of the following is the easiest type of paragraph to write?

1. Impressionistic 2. Logical 3. Poetic 4. Chronological

The following terms name punctuation faults and sentence structure forms:

1. fragmentary sentence
2. failure in parallelism
3. comma fault
4. contact clause.

Which one of the above is illustrated in questions 66 through 69

Michigan State College is well known for its friendly spirit, and showing good sportsmanship in football.

American customs and manners differ from Europe's, that was true as far back as 1765

Amer cans al ays on the march, shedding old customs and attitudes and acquiring new ones.

Whil the wr ters are laughing at us and making us realize we are changeable.

The following punctuation comments should be applied to the sentences below:

1. com a misused
2. non restrictive clause correctly punctuated
3. com a correctly used
4. sem colon misused
5. sem colon correctly used

Mr. Mandevil e's attire was mart and festive; his face was not at all festive.

Although his face was full, the eyesockets were hollow and shadowed.

Mandeville, who had called the company together for the final rehearsal, became increasingly irritated when Aubrey Vernon did not appear.

Instead, the door, from the passage, slowly opened allowing Father Brown to enter.

Father Brown quietly closed the door behind him, but, he turned the key in the lock.

The following items describe writing weaknesses:

1. Deadwood needs removing
2. Euphony is lacking
3. Intensives are over-used
4. Correct as it is

Which one of the above weaknesses occurs in each of the sentences in question 75 through 79 ?

There is a more than bare possibility that if Glick could have been in the entire game with Notre Dame that the results would have been different.

The furnace fire, which I had carefully stoked, began to burn briskly.

"Isn't Van Johnson the most devastating actor? He's simply divine!"

The cackling cacophonies of the crackling flames threw the fighers into a frenzy.

The Homecoming Committee, that is, the committee that plans all the activities of the weekend, deserves the unqualified praise of everyone, including the entire student body.

NAME_____
AGE_____
Semesters of high school English_____
Semesters of high school speech_____

QUESTIONAIRE
for
WRITTEN AND SPOKEN ENGLISH

To the Student:

The College is interested in the type of interaction which takes place in the college classroom, so you are being asked to help us identify such interaction by answering the questions below.

This information which you will give us will not be used in this class, but future groupings for more effective teaching and class participation may be somewhat determined on the basis of your answers to the questions.

Instructions:

FIRST - Please fill in the four blanks at the top.

SECOND - Please do not fill in the blanks, following the questions, with the people whose names you happen to know IF there are others you'd rather choose.

THIRD - IF you DO NOT KNOW the names of persons whom you desire to choose, place an X in the parentheses in the spaces provided, then hold up your hand and ask the Instructor to supply the names for you.

FOURTH - Be sure you have filled in all seven (7) blanks for the following questions.

Question 1

Which three persons in this class would you prefer to work with you on a committee?

1- ( )_____ 2- ( )_____

3- ( )_____

Question 2

Which three persons in this class would you choose to represent this class on a College Evaluation Committee?

1- ( )_____ 2- ( )_____

3- ( )_____

Question 3

How many of the people in this class do you feel will be capable of taking the Comprehensive Examination in Written and Spoken English at the end of this quarter?

Ans._____

STUDENT OPINIONNAIRE

Major Phy. Ed. Sex male Class Eng. Grade Point Average 1.5

Directions: It is the desire of your instructor to continuously improve the instructional program. To accomplish this purpose, a systematic poll of student opinion is sometimes helpful.

Carefully consider each question, then write a thoughtful, sincere response. **Draw a circle** around the appropriate rating in each of the "b" items. Do not write your name on this paper—**your responses have no effect on your grade.**

I. a. As you now see it, what is the most important purpose of the course other than receiving credit? Learning the proper english and spelling of

b. How well was this purpose met?..... (Excellently) **(Very Well)** Fairly Well Poorly Very Poorly

---

II. a. What course activity (lecture, lab., demonstration, etc.) contributed most toward the accomplishment of the above purpose? Demonstration

b. How well was this activity carried out?..... (Excellently) **(Very Well)** Fairly Well Poorly Very Poorly

---

III. a. What method of study did you find most necessary to meet the grading requirements of this course? Entire speaking and writing and carrying out the same

b. How do you rate this method in terms of its general value?..... Excellently Very Well **(Fairly Well)** Poorly Very Poorly

---

V. a. What important plan, decision, or course of action are you considering as a partial result of taking this course? Sewing and Cooking.

b. To what extent did the work in this course influence this consideration?..... Almost Entirely To Large Extent To Some Extent **(Little)** Very Little

---

V. a. What is the most important action the instructor should take to improve this course? More speeches

b. In order to keep student interest and effort at a high level, how important is it that the above action be taken?..... Of Slight Importance Fairly Important **(Important)** Quite Important Very Important

---

I. If you have any additional comments to make concerning the course, the instructional technique, or the instructor, please state them below or on the reverse side of this sheet.

The instructor is good but did not learn much from course.

TEACHER EVALUATION SHEET

MICHIGAN STATE COLLEGE

Major Speech, Sex F, Class Frosh., Grade point average 1.

DIRECTIONS: It is the desire of your instructor to achieve the best possible instruction in this course. To help accomplish the purpose this evaluation sheet was devised to obtain a systematic poll of student opinion. Carefully consider each question, then record your judgmen by encircling one of the letters A, B, C, D, E, for each item. A blank space has been provided at the end for adding comments you wis to make.

	A	B	C	D	E
1. WERE IMPORTANT OBJECTIVES MET?	The course is an important contribution to my college education	(B)	Contributes about as much as the average college course		This course doesn't seem worthwhile to me.
2. DOES INSTRUCTOR'S PRESENTATION OF SUBJECT MATTER ENHANCE LEARNING?	(A) Presentation very meaningful and facilitates learning	B	Presentation not unusually good or bad, about average	D	Presentation often confusing: seldom helpful
3. IS INSTRUCTOR'S SPEECH EFFECTIVE?	(A) Instructor's speaking skill concentrates my attention on subject	B	Speech sometimes invites attention on speaker rather than subject	D	Speech usually distracting, concentration very difficult
4. HOW WELL DOES THE INSTRUCTOR WORK WITH STUDENTS?	(A) I feel welcome to seek extra help as often as needed	B	I feel hesitant to ask for extra help	D	I would avoid asking this instructor for extra help unless absolutely necessary
5. DOES THE INSTRUCTOR STIMULATE INDEPENDENT THINKING?	(A) Instructor continually inspires me to extra effort and thought beyond course requirements	B	In general, I do only the usual thinking involved in the assignments	D	I seldom do more than rote memory work and cramming
6. DO GRADING PROCEDURES GIVE VALID RESULTS?	A Instructor's estimate of my over all accomplishment has been quite accurate to date	(B)	Instructor's estimate of my accomplishment is of average accuracy	D	E I feel that the instructor's estimate is quite inaccurate
7. HOW DOES THIS INSTRUCTOR RANK WITH OTHERS YOU HAVE HAD?	(A) One of the best instructors I ever had	B	Satsifactory or about average	D	One of the poorest instructors I have ever had

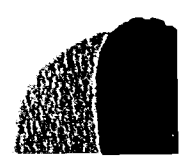
COMMENTS:

favorable)

nfavorable)

APPENDIX C

DISCUSSIONAL TECHNIQUES AND PROCEDURES



DISCUSSIONAL TECHNIQUES AND PROCEDURES

The following is a list of the basic discussional techniques used by the instructor.

1- Discussion 66

2- Circular response discussion

3- Brain storming discussion

4- Individual discussion.

Each of these techniques emphasizes the following:

1- A permissive atmosphere.

2- Provision whereby all students are able, helped, encouraged, if not led, to contribute.

3- No one individual is signaled out by an authoritarian leader to stand alone in his responses.

4- There are no right and wrong answers.

5- Give-and-take, build upon each and accept from all.

6- Stimulated by peers.

7- All ideas and opinions are encouraged.

8- Each individual's ideas and opinions receive some attention.

9- Individual evaluation, selection, and acceptance.

10- Total class involvement at one time.

11- Each is given the opportunity to assume an equal amount of time to express his own ideas.

12- Non-directive teaching techniques.

Procedures for Discussion 66

1- Each group is asked to select from its members a chairman. The chairman then asks the group to select a secretary-spokesman.

2- The leader (or instructor) then poses a question which has been carefully worded so that it is characterized by:

a- Personal elements (you, we, us, etc.).

b- Avoidance of "yes" and "no" answers.

c- Single focus.

d- Involving (motivating, challenging).

e- Selective.

f- Brief (requiring brief answers).

g- Clear.

h- Constructively stated (calling for positive thinking only).

i- Attainable within the time limits.

3- The chairman of each group then gives this question to his group, asks for clarification--if the question has been carefully phrased in accordance with items a- i above, little if any clarification is usually necessary--sees that each group member understands the question.

4- The chairman then asks each group member to spend a few minutes to think silently and record his best answer to the question.

5- The chairman then asks each individual to report this answer to the rest of his group and comment, if he likes,

relative to his reasons for the choice. The written comment is handed to the secretary-spokesman for recording.

6- After each individual, including the chairman and the secretary-spokesman, has presented his answer, the chairman asks the group to evaluate each in light of which two (first choice and second choice) they believe to be the best.

7- The chairman has the group to decide their first choice and second choice from the individual answers and asks the secretary-spokesman to record these choices for an oral report to the entire class (or group).

8- The leader, after having satisfied himself that the final two choices have been made, asks each secretary-spokesman to report his group's decisions, by giving the first choice. If that choice has been reported by a previous secretary-spokesman, the second choice is given.

9- The anonymous individual reports and the group's first and second choice are then handed to the instructor for disposition and use as seems appropriate.

Procedures for Circular Response Discussion

1- An order of individual response is decided upon, such that each person is given a chance to speak and such that each speaks with the same "rules of the game".

2- The group or class is instructed that the following rules will be observed:

a- A person may speak only when it is his turn.

b- A speaker in his turn may speak no longer than one minute each time.

c- A speaker may do either of the following when his turn comes

(1)- Suggest a new answer to the problem or question being discussed.

(2)- Amplify or further clarify his previous answer or comment.

(3)- Discuss a comment made by any other person.

(4)- Suggest a moment of silence to help him concentrate on the problem and comments already given.

(5)- Pass

3- A secretary is elected by the class members. The secretary records on the board each new answer given by the class members. A second secretary may also be elected to make a list of these answers on paper.

4- The leader (or instructor) then poses a question characterized as the question used for Discussion 66.

5- The first speaker is given his chance for response. The order of speaking is then followed, and continued until the majority of the class members have passed.

6- The instructor then uses these answers as seems most appropriate.

Procedures for Brain Storming Discussion

1- Any person is given permission to speak at any time no other is speaking.

2- Only answers to the question (characterized as in Discussion 66) are to be given--no discussion is to be a part of this discussion.

3- The answers should be as short as possible--they need not be given in complete sentences--even a single word is acceptable.

4- Any person may respond as many times as he feels.

5- Any reasonable answer is acceptable--practical application and the like are not to be considered. The purpose is to get the maximum thinking in a minimum of time.

6- A secretary may be elected from the group, to record as many of the answers as possible. Unless shorthand is used, it is difficult for a secretary to obtain them all.

7- When it seems the group has reached its limit of spontaneous response, the leader stops the discussion, and is given the recorded comments to be used as may seem appropriate.

Procedures for Individual Discussion

1- Each person is to spend about three minutes in "debating" with himself about the several answers he can give to the question (characterized as in Discussion 66).

2- Each person is then to spend about two minutes in writing down in the shortest form possible, his two best answers to the question.

3- These individual responses are then given to the leader for disposition as seems most appropriate.