

A METHOD OF PROCEDURE ANALYSIS IN THE TEACHING  
OF FRENCH AS A SECOND LANGUAGE

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## ABSTRACT

This study has compared the procedures of four teachers in the teaching of French to grade seven students using the course "Ecouter et Parler."

In order to gather the data, tape recordings of six consecutive classes were made for each of four teachers. These recordings were analyzed using an instrument devised for this purpose -- the Procedure Analysis Instrument.

The audio-lingual method as applied by the authors of Ecouter et Parler was examined and divided into mutually exclusive categories into which each behavior of a certain type was classified. Additional information about the behaviors was supplied by the use of symbols to refer to English, reading, writing, etc. Each incident was also recorded as being based on a specific content, such as basic dialogue sentence, question and answer practice, pattern practice, conversation, or review material.

It was hypothesized that teacher procedures could not be identified and quantified. The test of this hypothesis was based on the rejection or adoption of the succeeding hypotheses.

It was further hypothesized that no significant differences in the proportion of incidents obtained for each factor would be found and that, consequently, no overall differences in procedure would be observed.

An overall difference in procedure was defined as a significant difference in forty per cent of the factors examined. To

determine the significance of difference between teachers in different categories, a panel of judges was selected. The panel of judges indicated whether they considered the differences in the proportion of incidents in each category to be significant.

It was further hypothesized that there would be no significant differences between teacher practice in the classroom and the theory of *Ecouter et Parler*.

A panel of judges was asked to indicate their idea of the importance of certain factors in language teaching by assigning a percentage to each factor under consideration.

The judges' assessment of the importance of a category was then used to determine whether there were any significant differences between the teacher procedures and the objectives of the course.

A variation of twenty per cent from the mean established by the judges was considered as constituting a significant difference. In addition to considering individual categories, certain procedure patterns were examined and tentative definitions of indices were formulated.

On the basis of the results of the investigation, the four null hypotheses were rejected. It was possible to identify and quantify teacher procedures by means of the procedure analysis instrument. The teachers varied significantly in procedure, and there were significant differences between teacher procedures and the procedures suggested by the judges.

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## CHAPTER I

### INTRODUCTION

Education in recent years has been in the midst of thorough and far-reaching change. This wave of change struck the area of language teaching during World War II. Although this change was the result of practical needs, i.e., the preparation of foreign language speakers for the army, it began a movement which eventually transformed not only the philosophy of language learning, but also the methodology of language teaching.

This state of affairs was reflected in an upsurge in research in verbal learning, linguistics, and psycholinguistics. Based on this research, audio-lingual courses were developed which have received wide acceptance from teachers and researchers as well.

These innovations, however, have created problems for teachers, teacher educators, and supervisors. These innovations represent a break from the traditional method of teaching and require a new set of performance criteria. Beginning teachers and in-service teachers need to be specifically trained according to these criteria.

The performance criteria of the audio-lingual method, however, have not been validated by research. They are based on the observations and experience of teachers and linguists. No systematic description of second-language teaching in the classroom using actual teaching materials has been made. In the cognitive domain, some studies have been reported, which have advanced knowledge of cognitive objectives and methods of attaining these objectives. In the affective

domain many researchers have studied classroom climate, and have isolated effective teacher behaviors. A system, however, for observing second-language classrooms to determine not only psychomotor objectives but also performance criteria to develop these objectives is completely lacking.

### I. STATEMENT OF THE PROBLEM

It was the purpose of this study to develop an observational instrument to investigate the kinds of procedures which are present in French teaching as a second language at the grade seven level. Specifically, answers to three questions were sought:

1. Can procedures of teachers in the classroom be identified and quantified?
2. What differences in procedures, if any, exist among teachers?
3. What differences in procedure, if any, exist between the theory of the course and the teachers' practice in classroom instruction?

### II. HYPOTHESES

In order to facilitate the study of the problem, four null hypotheses were formulated:

1. Teacher procedures in the classroom cannot be identified and quantified.
2. There is no significant difference between the four teachers in the proportion of incidents obtained for each factor in six consecutive class periods.

3. There is no significant difference in overall procedure between teachers in the six consecutive class periods.

4. There is no significant difference between the four teachers' procedures in the classroom and the procedures suggested by the course of study.

### III. LIMITATIONS OF THE STUDY

1. This study has dealt with identifying and quantifying variables of the audio-lingual method. This investigation, however, has dealt only with the beginning stages of an audio-lingual course.

2. The variables studied are those of the psychomotor domain. The emphasis has been on teacher procedure and student activities. Classroom climate has not been taken into consideration. If information is needed about classroom climate, it would be best obtained by using validated means for measuring climate such as Flanders' Interaction Analysis System.

3. In recording teacher and student behavior on the procedure analysis instrument, no attempt was made at scoring the behavior before recording it. The task of the observer was simply to observe and record the behavior as it occurred.

4. No attempt was made in this study to investigate the effectiveness of teachers' procedures in terms of student achievement.

5. Because the data was gathered from tape recordings, an important dimension of classroom procedure was disregarded. No attempt was made to record the teachers' use of visual aids.

#### IV. DEFINITION OF TERMS

Audio-lingual approach - An approach in language teaching is a set of assumptions dealing with the nature of language, and the nature of language learning and teaching. The audio-lingual approach is an approach based on the assumptions that the spoken form of the language must be taught before reading and writing, that it must be based upon a contrastive study of the native language of the student and of the target language which the student is learning, and that language must be overlearned by means of a special type of drill known as the "pattern drill."

Method - A method is an overall plan for the orderly presentation of language material. It must be based upon a selected approach.

Traditional method - The traditional method is the overall plan for orderly presentation of material based on the assumption that grammar - translation exercises are appropriate means of teaching a second language.

Procedure - For the purpose of this study procedure is defined as any strategy on the part of the teacher which will involve the student in an activity which will accomplish an immediate objective of the overall plan.

Incident - In this investigation, an incident is a teacher procedure or a student activity which is distinguishable as a unit. Thus, the modeling of an utterance by the teacher is an incident; the imitation by the student of that utterance is an incident.

## CHAPTER II

### REVIEW OF THE LITERATURE

This chapter will be devoted to a brief investigation of the literature on research in second-language learning and teaching. Since educators are principally interested in methods of instruction and their improvement as well as in improving the performance of teachers in the classroom, this review will then consider research strategy in second-language teaching and examine the research literature on the role of observation in research on teaching in general and its applications in second-language instruction.

A search of the literature on second-language instruction reveals two main categories:

- (1) research on language learning; and
- (2) research on language teaching.

#### I. RESEARCH ON LANGUAGE LEARNING

It is generally agreed that research in teaching methods must be based on scientific knowledge of learning. Wallen and Travers, discussing teaching methods in general, state:

While here and there one can discern some inroad of scientific knowledge as, for example, in the use of controlled vocabularies, most prescribed teaching patterns have been influenced much more by philosophical traditions, cultural traditions, the needs of teachers and of professors of education, and so forth, than they have been influenced by research on learning.<sup>1</sup>

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<sup>1</sup>Norman E. Wallen and Robert W. M. Travers, "Analysis and Investigation of Teaching Methods," Handbook of Research on Teaching, N. L. Gage, editor (Chicago: Rand McNally & Company, 1963), p. 464.

Although this comment was made with reference to teaching in general, it also applies to language teaching. Great strides, however, in developing methods in second-language teaching have been made, especially since the Second World War. Psychologists, linguists, and psycholinguists have been responsible to a great degree for the advancement of knowledge in language learning and in language teaching.

Skinner, Miller, Carroll, Lambert, and other psychologists have advanced theories and conducted experimental research in second-language learning.<sup>2</sup>

Lado states that psychologists have made three major contributions to our understanding of learning which are of interest to the language teacher: (1) language theories; (2) experimental research on learning; and (3) laws of learning.<sup>3</sup>

Concerning learning theories, Lado considers that these psychological theories tend to account only for some part of the learning process which is characteristic of language learning.<sup>4</sup> And he concludes:

Language learning cannot be understood through trial and error, association, gestalt, or overt behavior alone. It requires a more

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<sup>2</sup>B. F. Skinner, Verbal Behavior (New York: Appleton-Century-Crofts, Inc., 1957); George A. Miller, E. Galanter, and Karl Pribram, Plans and the Structure of Behavior (New York: Henry Holt and Co., 1960); John B. Carroll, The Study of Language (Cambridge: Harvard University Press, 1953); and Wallace E. Lambert, "Psychological Approaches to the Study of Language," Foreign Language Teaching, Joseph Michel, editor (New York: The Macmillan Company, 1967), pp. 215-253.

<sup>3</sup>Robert Lado, Language Teaching (New York: McGraw-Hill, Inc., 1964), p. 35.

<sup>4</sup>Ibid.

comprehensive explanation because it involves simultaneously the widest range of human activity.<sup>5</sup>

While some aspects of language learning theory have been tested and validated, Carroll is of the opinion that to conclude that experimental research of the psychologists has a great deal to offer the language teacher would be a hasty conclusion.<sup>6</sup> Paired associates, numbers, mazes, or other types of learning materials have little relevance to second-language learning and still less to language teaching. Mackey adds that learning a language is not a matter of learning isolated words but the mastery and use of a number of complex systems.<sup>7</sup>

According to Lado, the empirical laws of learning apply to a limited part of the process of language learning, and their relevance will have to be demonstrated with language materials under language-learning conditions.<sup>8</sup> Since these laws are stated in general terms, their interpretation for language learning can lead to ambiguities and contradictions.

## II. RESEARCH ON LANGUAGE TEACHING

During the Second World War the problem of teaching languages

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<sup>5</sup>Ibid.

<sup>6</sup>John B. Carroll, "Research on Teaching Foreign Languages," Readings in Foreign Languages for the Elementary School, Stanley Levenson and William Kendrick, editors (Waltham, Massachusetts: Blaisdell Publishing Company, 1967), p. 89.

<sup>7</sup>William Francis Mackey, Language Teaching Analysis (London: Longmans, Green and Co. Ltd., 1965), p. 127.

<sup>8</sup>Lado, op. cit., pp. 36-37.

to servicemen caused the linguists and language teachers to join forces in solving the problem of teaching languages for communication. Subsequently, linguists such as Bloomfield, Harris, Lado, Gleason, Chomsky,<sup>9</sup> and others provided language teachers with partial descriptions of languages with respect to pronunciation, intonation, morphology, syntax, and culture. The relevance of the findings of the linguists to language teaching soon became apparent and methods of language teaching were devised using these principles as a basis. Fries, Lado, Marty, Politzer, Brooks, Valdman and others developed the science now called Applied Linguistics.<sup>10</sup>

Politzer defines Applied Linguistics as:

. . . that part of linguistic science which has a direct bearing on the planning and presentation of teaching material. This means that Applied Linguistics is primarily connected with that branch of linguistic science which deals with the description and analysis of current contemporary languages.<sup>11</sup>

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<sup>9</sup> Leonard Bloomfield, Language (New York: Holt, 1933); L. S. Harris, Methods in Structural Linguistics (Chicago: Chicago University Press, 1951); Robert Lado, Linguistics Across Cultures (Ann Arbor, Michigan: The University of Michigan Press, 1957); H. H. Gleason Jr., An Introduction to Descriptive Linguistics (New York: Holt, Rinehart and Winston, Inc., 1961); and Noam Chomsky, "Review of Skinner's Verbal Behavior," The Psychology of Language, Thought and Instruction, John P. DeCecco, editor (New York: Holt, Rinehart and Winston, Inc., 1967).

<sup>10</sup> Charles C. Fries, Teaching and Learning English as a Foreign Language (Ann Arbor: University of Michigan Press, 1945); Robert Lado, Language Teaching (New York: McGraw-Hill, Inc., 1964); Fernand Marty and Elizabeth Saunders, Active French for the Language Laboratory (Roanoke: Audio-Visual Publications, 1961); Robert L. Politzer, Teaching French: An Introduction to Applied Linguistics (Boston: Ginn and Company, 1960); Nelson Brooks, Language and Language Learning (New York and Burlingame: Harcourt, Brace and Company, 1960); and Albert Valdman, Applied Linguistics - French: A Guide for Teachers (Boston: D. C. Heath and Company, 1961).

<sup>11</sup> Politzer, op. cit., p. 2.



This development along with studies in Contrastive Linguistics (comparing languages in order to identify differences which would cause interference in language learning) brought the linguistic approach to a high level of effectiveness. From these principles of Applied and Contrastive Linguistics evolved the audio-lingual method.

Carroll is of the opinion that new developments in teaching methods have stemmed primarily from advances in linguistic science.<sup>12</sup>

Politzer, however, cautions teachers:

One point should be made clear from the very outset: Linguistics or Applied Linguistics as such has no answer to many of the problems which are still confronting the language teacher; in other words Applied Linguistics will not help us in designing "the method" with which we can achieve fluency in a language after two years of High School work."<sup>13</sup>

Politzer then concludes that the major contribution of Applied Linguistics lies in the systematic comparison of English and French and the application of a teaching methodology which, through systematic drill, attempts to build up the students' knowledge of the structure of the foreign language.<sup>14</sup>

Concerning the last contribution mentioned by Politzer, namely, the application of a teaching methodology, Rivers declares that the theory behind the audiolingual method and its major assumptions about foreign language learning must be examined in the light of psychological theory to determine whether these major assumptions are basic to

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<sup>12</sup>John B. Carroll, "Research on Teaching Foreign Language," Handbook of Research on Teaching, N. L. Gage, editor (Chicago: Rand McNally & Company, 1963).

<sup>13</sup>Politzer, op. cit., p. 2.

<sup>14</sup>Politzer, op. cit., p. 3.

the second-language learning process, or are merely assumptions about a particular method of teaching a second language.<sup>15</sup>

### III. RESEARCH STRATEGY IN SECOND-LANGUAGE TEACHING

Research strategy in second-language teaching can be divided into two main parts: (1) miniature language learning settings and (2) broad comparisons.

Since successful single-variable experiments are rare in language teaching, some research workers have turned to miniature language settings in which the objectives of instruction are limited and the variables more easily controlled. Carroll<sup>16</sup> gives as an example of this type of research the experiment performed by Dunkel in which a short series of lessons in Persian was constructed in alternate forms so that visual and auditory presentation could be compared.<sup>17</sup> The main criticism levelled at these experiments is their lack of relevance to classroom teaching. Carroll, therefore, recommends that useful experiments in second-language teaching should be conducted at least initially by adhering fairly closely to patterns of teaching and types of teaching materials which have already been developed and found successful by second-language teachers.<sup>18</sup>

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<sup>15</sup>Wilga M. Rivers, The Psychologist and the Foreign Language Teacher (Chicago: The University of Chicago Press, 1964), p. 7.

<sup>16</sup>Carroll, op. cit., pp. 76-77.

<sup>17</sup>H. B. Dunkel, Second-Language Learning (Boston: Ginn and Company, 1948), pp. 114-120 and 177-190.

<sup>18</sup>Carroll, op. cit., p. 1064.

### Research Using Broad Comparisons

Ever since the elaboration of the audio-lingual method second-language teachers have felt impelled to compare these courses with previous traditional courses with respect to student achievement in the various objectives of the courses.

Agard and Dunkel, Cheydleur and Schenk, Scherer and Wertheimer conducted large scale experiments which involved broad comparisons.<sup>19</sup> Carroll feels that generally these experiments lack rigorous experimental design.<sup>20</sup> These studies tell us little about the detailed construction of procedures in teaching second languages.

Carroll concludes that

It would be trite to say at this point that "more research is needed," although it is obviously the case. Actually, what is needed even more than research is a profound rethinking of current theories of foreign-language teaching in the light of contemporary advances in psychological and psycholinguistic theory. The audiolingual habit theory which is so prevalent in American foreign language teaching was, perhaps, fifteen years ago in step with the state of psychological thinking at that time, but it is no longer abreast of recent developments. It is ripe for major revision, particularly in the direction of joining with it some of the better elements of the cognitive code-learning theory.<sup>21</sup>

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<sup>19</sup>F. B. Agard and H. B. Dunkel, An Investigation of Second Language Teaching (Boston: Ginn and Company, 1948); F. D. Cheydleur and Ethel A. Schenk, "From the A.S.T.P. Forward: Standardized Test Results in Foreign Languages at the University of Wisconsin 1943-1949," Bulletin of the University of Wisconsin; and George A. C. Scherer and Michael Wertheimer, A Psycholinguistic Experiment in Foreign-Language Teaching (New York: McGraw-Hill Book Company, 1964).

<sup>20</sup>Carroll, op. cit., p. 1069.

<sup>21</sup>John B. Carroll, "Psychology, Research, and Language Teaching," Trends in Language Teaching, Albert Valdman, editor (New York: McGraw-Hill Book Company, 1966), pp. 105-106.

Carroll defines the cognitive code-learning theory as a modified, up-to-date grammar-translation theory.<sup>22</sup>

#### IV. THE ROLE OF OBSERVATION IN RESEARCH ON TEACHING

Research strategy using broad comparisons requires that one class or more be taught by an experimental method and another group by a control method. The dependent variable is a measure of the gains made by students on an appropriate test. Medley and Mitzel believe that if the results of the experiment do not justify rejection of the null hypothesis, there is no way of eliminating the possibility that the failure to find a difference between methods may have been due to the fact that both classes were taught by the same method, despite the fact that teachers were supposed to use different methods.<sup>23</sup>

They go on to state that direct observation should play a crucial part in the most fundamental kind of research on teaching -- the search for effective patterns of classroom behavior -- the type of research most worthy of the name "methods research."<sup>24</sup>

Direct observation has also an important function to play in teacher education. One of the objectives of teacher education is to

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<sup>22</sup>Ibid., p. 102.

<sup>23</sup>Donald M. Medley and Harold E. Mitzel, "Measuring Classroom Behavior by Systematic Observation," Handbook of Research on Teaching, N. L. Gage, editor (Chicago: Rand McNally and Company, 1963), p. 249.

<sup>24</sup>Ibid.

get teachers to behave in certain ways while they teach. It is impossible to find out whether a program has been successful without observing the effect of that program on teachers in the act of teaching. This also applies to teachers who are being retrained through in-service education. Amidon and Hough, writing about techniques for classification and analysis of instructional language of the classroom, state that until a few years ago training and supervision of teachers were not even considered by most educational researchers.<sup>25</sup>

Recent research literature shows that a great deal of experimentation has been done recently in classroom observation. This research relates mainly to two areas: (1) the affective domain and (2) the cognitive domain.

The first and most productive line of research on teaching has been carried out in the affective domain. This line of attack on the problem is exemplified by Flanders' research on classroom interaction.<sup>26</sup> Amidon, Hunter, Hough, and others have conducted experimental research on teaching patterns using Flanders' system or a modification of this system to analyze classroom climate and its effects on students.<sup>27</sup>

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<sup>25</sup>Edmund J. Amidon and John B. Hough, "Preface," Interaction Analysis: Theory, Research, and Application (Reading, Massachusetts: Addison-Wesley Publishing Company, 1967), p. v.

<sup>26</sup>N. A. Flanders, Teacher Influence: Pupil Attitudes and Achievement (Minneapolis: University of Minnesota, 1960).

<sup>27</sup>Edmund Amidon and Elizabeth Hunter, Improving Teaching: The Analysis of Classroom Verbal Interaction (New York: Holt, Rinehart and Winston, Inc., 1966); John B. Hough, "An Observation System for the Analysis of Classroom Instruction," Interaction Analysis: Theory, Research and Application, E. J. Amidon and J. B. Hough, editors (Reading, Massachusetts: Addison-Wesley Publishing Company, 1967).

Interaction analysis has also been applied to the problem of pre-service and in-service training of teachers for the purpose of modifying or shaping the patterns of verbal teaching behavior. Flanders, Moskowitz, Hough, Lohman are responsible for translating interaction analysis theory into practice.<sup>28</sup> Flanders' main concern in the analysis of classroom behavior is in the affective aspects of teaching. In the last five years or so, however, efforts have been made on the cognitive aspects of teaching by such researchers among others, as Smith, Bellack and Hilda Taba.<sup>29</sup> They have, in essence, developed instruments to measure, not climate of the classroom as Flanders did, but the logical, cognitive, intellectual aspects of classroom discourse. Searles in his method of analysis of instruction combines the charting of cognitive as well as affective objectives in instruction.<sup>30</sup>

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<sup>28</sup>Ned A. Flanders, "Teacher Behavior and In-Service Programs," Interaction Analysis: Theory, Research and Application, E. J. Amidon and J. B. Hough, editors (Reading, Massachusetts: Addison-Wesley Publishing Company, 1967); Gertrude Moskowitz, "The Attitudes and Teaching Patterns of Cooperating Teachers and Student Teachers Trained in Interaction Analysis," op. cit., pp. 271-283; John Hough and Richard Ober, "The Effect of Training in Interaction Analysis on the Verbal Teaching Behavior of Pre-Service Teachers," op. cit., pp. 329-346; and Ernest Lohman, Richard Ober, and John Hough, "A Study of the Effect of Pre-Service Training in Interaction Analysis on the Verbal Behavior of Student Teachers," op. cit., pp. 346-350.

<sup>29</sup>B. O. Smith and others, A Tentative Report on the Strategies of Teaching, U. S. Department of Health, Education and Welfare (Urbana: Bureau of Educational Research, University of Illinois, 1964); Arno A. Bellack, Herbert M. Kliebard, Ronald T. Hyman, and Frank L. Smith Jr., The Language of the Classroom (New York: Teachers College Press, 1966); and Hilda Taba, "Teaching Strategy and Learning," California Journal for Instructional Improvement, 1963.

<sup>30</sup>John E. Searles, A System for Instruction (Scranton: International Textbook Company, 1967).

Of the three domains mentioned by Krathwohl in his book on educational objectives, the area most closely related to the beginning stages of language learning is the psychomotor domain.<sup>31</sup> As Krathwohl indicates very few of these objectives can be found in the research literature. Observational research studies based on psychomotor objectives are nonexistent.

One observational study, however, was conducted by Moskowitz to examine the effects of training foreign language teachers in interaction analysis.<sup>32</sup> This study, nevertheless, deals with climate in the classroom and not with psychomotor objectives.

Duhon and Brisley in a recent publication have postulated premises about modern foreign language teaching and about the evaluation of instruction.<sup>33</sup> They have suggested practices in developing and using checklists to indicate factors observed in the classroom. They make no attempt, however, at quantifying the data observed.

Politzer, in a book devoted to the training of teachers in the teaching of French, describes in some detail the essential features of the performance of the good and experienced language teacher.<sup>34</sup> He

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<sup>31</sup>David R. Krathwohl, Benjamin S. Bloom, and Bertram B. Masia, Taxonomy of Educational Objectives. Handbook II: Affective Domain (New York: David McKay Company, Inc., 1956), p. 7.

<sup>32</sup>Gertrude Moskowitz, "The Effects of Training Foreign Language Teachers in Interaction Analysis," Foreign Language Annals, III (March, 1968), pp. 218-235.

<sup>33</sup>Dorothy Duhon and Leonard Brisley, Evaluative Criteria for Modern Foreign Language Teaching (Denver: Colorado State Department of Education, 1964).

<sup>34</sup>Robert L. Politzer, Practice-Centered Teacher Training: French (Stanford: Stanford Center for Research and Development in Teaching, 1966).

states, however, that these criteria must be regarded as hypotheses which must be validated by further research.

This brief review of the research literature in second-language teaching indicates the need for observational research in the classroom using teaching materials under language - learning conditions. It also points out the need for developing an instrument which will assist in the training of pre-service and in-service teachers.



## CHAPTER III

### METHODOLOGY

In Chapter II, the status of research in language learning and language teaching was reviewed. An attempt was made to show the importance of systematic observation in language teaching. The need for developing an observational instrument was also pointed out.

Chapter III describes the rationale and theoretical basis of the study, the development of an observational instrument, and the method of investigation. Then it provides a note on observer training and reliability.

#### I. RATIONALE OF THE STUDY

One of the aims of instructional research must be to endeavor to measure relevant aspects of classroom behavior. The relevance of a specific classroom behavior is determined partly by the nature of the instructional system and partly by the nature of the discipline taught.

In the course of defining instruction, Macdonald mentions:

Some researchers prefer to deal only with a teaching-learning system. Thus, it is agreed that neither teaching nor learning is a sensible concept apart from the other . . . The teaching-learning system, it is argued here, is more aptly called the instructional system . . . Thus teaching is defined as the behavior of the teacher, learning as the change in learner behavior, instruction as the pupil-teacher interaction situation . . . Another way of putting this might be: learning is the desired response, teaching is the art of systematically presenting stimuli, and/or cues; instruction is the total stimulus setting within which systematic stimuli and desired responses occur.<sup>1</sup>

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<sup>1</sup>James B. Macdonald, Theories of Instruction (Washington: Association Supervision and Curriculum Development, 1965), pp. 4-6.

The quality of classroom instruction, then, would depend upon two main factors: what the students do, and what the teacher does. All other environmental factors -- personalities of the teacher and students, program of studies, teaching materials -- in the end contribute to or detract from these two factors.

The nature of the instructional system, however, is not sufficient to determine the relevance of an instructional behavior. One must also take into consideration the nature of the discipline. A teacher or student activity appropriate for teaching and learning a second language may not be so for teaching social studies. The two disciplines have different objectives and therefore will require different activities both on the part of the teacher and on the part of the student. The main objective in second-language instruction is to develop in the student a system of complex habits -- habits of pronunciation and ability to use the structure of the language. The development of these skills will require much practice and review of sounds and structure to the point of automatic response on the part of the student -- a result likely to be frowned upon in social studies. These habits, however, cannot be developed in a vacuum. They must be based on content, on teaching material. Excellent procedures using inadequate teaching materials will produce imperfect results.

A study of classroom behavior, therefore, must first examine the teacher procedures that will provide students with the appropriate learning experiences in second-language learning, and secondly investigate the content taught.

## II. THEORETICAL BASIS

In their study on classroom observation, Medley and Mitzel indicate that there are two approaches in postulating effective teacher behaviors: theory and what they call the shotgun approach.<sup>2</sup> In the latter, a researcher tries out a large number of items to find some that would prove relevant to teacher effectiveness. The writer chose the first approach and elected to use recent developments in language teaching theory based on the findings of psychology, linguistics, and psycholinguistics. The previous chapter indicated the limitations of present knowledge of language theory and practice; but in spite of these limitations and outstanding problems, there exists a body of principles about which there is sufficient consensus to form a theoretical foundation for developing an observational instrument.

An analysis of the literature on recent developments in second-language teaching reveals a remarkable degree of adherence among the leaders in this field to the audio-lingual method. In "Research on Teaching Foreign Languages," Carroll lists four essential characteristics of the method of second-language teaching towards which there seems to be convergence.<sup>3</sup> They are briefly as follows:

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<sup>2</sup>Donald M. Medley and Harold E. Mitzel, "Measuring Classroom Behavior by Systematic Observation," Handbook of Research on Teaching, N. L. Gage, editor (Chicago: Rand McNally and Company, 1963), p. 298.

<sup>3</sup>Carroll, op. cit., pp. 1063-1064.

1. Items are normally presented and learned in their spoken form before they are presented in their written form.

2. Teaching methods rest upon the careful scientific analysis of the contrasts between the learner's language and the target language.

3. Stress is laid on the need for overlearning of language patterns by a special type of drill known as "Pattern practice."

4. There is an insistence on the desirability, or even the necessity of learning to make responses in situations which simulate "real-life" communication situations as closely as possible.

These principles form the basis for procedures in instruction and in the organization of teaching material in an audio-lingual course. They are not sufficient, however, to guide in the preparation of an instrument for classroom observation. The course "Le Francais: Ecouter et Parler" was chosen for this purpose for two reasons.<sup>4</sup> First, it is the program adopted for the Junior High Schools of Manitoba and, consequently, is accessible for research purposes; secondly, the course is based on audio-lingual principles; thirdly, it gives very definite suggestions about procedures to be followed in the teaching of French to beginning students in an audio-lingual course. As in other courses of study, the authors make certain assumptions about the following factors: (1) Which are the relevant activities for student to engage in? (2) Which teacher procedures

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<sup>4</sup>Dominique G. Coté, Sylvia Narins Levy, and Patricia O'Connor, Le Francais: Ecouter et Parler (New York: Holt, Rinehart and Winston, 1962).

will provide these activities? (3) What elements of content will facilitate learning? These assumptions are of two kinds: general and specific. In the next few pages, the writer will examine a number of general assumptions and the specific assumptions of the course. For each one the student activities, the teacher procedures, and the content suggested, will be indicated.

As in other audio-lingual courses, emphasis is placed on the need for the student to perform in the language. Language is behavior and behavior can be learned only by inducing the student to behave. Learning a language entails comprehension, as well as production; consequently teachers are urged to use gradually more French in classroom directions and explanations. In spite of the stress on developing listening and speaking skills, this course is not a conversational course; it teaches the four language skills.

The authors in the introduction to the Teacher's Edition point this out:

Thus students are asked to practise orally only those sentences which they understand meaningfully, read only those sentences which they have practised orally to the point of fluent control, and write only those sentences which they have completely mastered in terms of understanding, speaking and reading.<sup>5</sup>

The teacher in the classroom will be faced with the problem of placing relative emphasis on these four skills. The Teacher's Edition, in its suggestions for classroom teaching procedures, does not give any specific information about this problem except to stress the fact that the emphasis must be on understanding and speaking. In

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<sup>5</sup>Ibid., p. xxix.

a pamphlet, publicizing the first three levels of the course, however, one can find this clarification:

In the first-level course, *Ecouter et Parler*, the emphasis is on understanding and speaking French with 35 - 40 per cent of the time spent on listening, 30 - 50 per cent on speaking, 10 - 20 per cent on reading, and 0 - 15 per cent on writing. . . . Any percentage figures are a mere average of what the authors provided as a reasonable range, within which individual teachers or groups of teachers in cooperation with local supervisors would, of course, vary depending upon individual or system objectives.<sup>6</sup>

In Manitoba the system objectives are communicated to the teachers through pamphlets published by the Curriculum Committees of the Department of Education. In the pamphlet for French (Grades 7, 8 and 9) the following distribution of time is suggested:

Listening Comprehension	40%
Speaking	40%
Reading	10%
Writing	10%

This sequencing of the four language skills assumes that there must be a time lag between the establishing of aural - oral skills and the introduction of reading. The authors recommend that the period of aural - oral practice be extended for three units, postponing the use of the student's book for that period of time. The Curriculum Committee, on the other hand, indicates to to teachers that,

This period will vary in length according to the needs of each class. If the class has had previous training in French and demonstrates adequate oral skills, then the pre-reading period should be shortened accordingly. It could possibly consist of

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<sup>6</sup>The Holt, Rinehart and Winston Aural - Oral French Series  
(New York: Holt, Rinehart and Winston, Inc., ) p. 6.

Unit I only. On the other hand, if the group has had no previous experience with French, the teacher may wish to extend the pre-reading period to two Units. However, the pre-reading period should never be extended unduly.

One of the chief principles of any audio-lingual method is overlearning. To satisfy this condition, *Ecouter et Parler* provides for massive practice, and stress is placed on the need for review. This emphasis on practice and review, however, may lead to monotony with resultant loss of effectiveness. The authors recommend, therefore, that teachers vary their procedures, diversify their approach, by intermingling review with new teaching materials, by using games, and by making use of tapes as a model for students' responses.

The authors of *Ecouter et Parler* indicate that the content of the course is linguistically oriented. The vocabulary is kept to a minimum. Complete utterances are used as the point of departure for students' learning of language structure. The structures of the language are progressively sequenced to favor effective learning.

A brief description of the four forms of organization of content will be given to facilitate the understanding of the following paragraphs. The content of *Ecouter et Parler* appears in four forms: (1) Basic Dialogue Sentences; (2) Question-and-Answer Practices; (3) Pattern Practices; and (4) Conversations.

1. Basic Dialogue Sentences. The first part of each unit consists of a set of twenty Basic Dialogue Sentences and their meanings. The French and English versions of the sentences are arranged in such a way that the student cannot see both at the same time. Learning of the basic sentences must be complete. The Teacher's

Edition suggests total mastery to the point of immediate and accurate response by the students.<sup>7</sup>

2. Question-Answer Practice. This is familiar, practiced material in the Basic Dialogue Sentences, recast in the form of ten pairs of questions and answers. The answers are taken practically word for word from the basic sentences. Sometimes the questions are the same, sometimes slightly different. They begin the student's independence from imitation and immediate echoing, since he has to understand and produce French in response to another French sentence.

3. Pattern Practice. This focuses attention on new variables (cues) while practising the fixed structural elements of the stem until it becomes automatic. Each unit introduces ten patterns. Most of these involve lexical substitutions only. Others are more complex, and involve the student's making a choice between two or three structural forms as required by the cue. Occasionally, in pattern practices new vocabulary is introduced; as a rule, however, they are based on the vocabulary and the structure learned in the basic sentences. The Pattern Practice is the part of the content which facilitates the formation of desired grammatical habits in the students.

4. Conversations. These are based on the dialogue sentences, together with recurrence of grammatical structures and vocabulary from previous units. Since they are just new combinations of well-known words and structures, they offer reading comprehension practice,

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<sup>7</sup>Coté, op. cit., p. xvi.



with a minimum of frustrating puzzle-solving. The conversations are also suitable for oral reading and dramatization; thus, they offer content for a check on pronunciation.

In attempting to establish the theoretical basis for a system of observation, the assumptions of the authors of *Ecouter et Parler* about certain general student activities, teacher procedures, and elements of content conducive to effective learning, have been described. The writer will now examine the authors' specific suggestions about appropriate student and teacher behaviors.

Since the chief aim of second-language instruction is to bring the student to the point of using the second language actively and freely, the course of instruction and the teacher must provide the practice that will enable the student to develop the needed skills. This means, in effect, that the student must be brought from the lowest level of language use to the highest level, i.e., free use of language. The authors of *Ecouter et Parler* recognize five steps in this process to partial mastery in a beginning course: (1) recognition; (2) imitation; (3) repetition; (4) variation; and (5) selection. There is a suggestion in the introduction to the Teacher's Edition that any item in a language -- word, construction, or idiom -- must go through these five stages as it is learned.<sup>8</sup>

Each one of these stages will be examined in turn to discover its characteristics and particular significance in terms of student activities, teacher procedures, and content.

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<sup>8</sup>Ibid., p. xiii.

1. Recognition. There are two aspects of recognition in the learning of any new language utterance:

- A. the identification of the smaller elements of which it consists (sounds or letters, words, constructions);
- B. the identification of its meaning.

After the student has identified the new item as consisting of smaller familiar elements, it has to be associated with a meaning. This association takes place through a variety of ways: from context, from gestures, from pictures, from explanations, or from an English parallel sentence. The teacher procedures suggested for this stage are as follows: first, introduce the French sentence and make its meaning clear, then model it in such a way that the student can recognize the new sounds he hears. To introduce the new sentence the teacher must (1) write the English counterpart of the sentence on the board or have the students locate the English equivalent in their books; (2) announce the number of the sentence; and (3) model the sentence as the students are looking at the English equivalent.

The recognition phase, in this course, occurs during the modeling of the Basic Dialogue Sentences.

2. Imitation. This is the first activity of the student in using the meaningful word, construction, or idiom which has been recognized. It is defined as the learner's immediate echoing of the French utterance which the teacher or tape has just pronounced. The procedure associated with this stage is modeling, either by teacher or tape, for group or individual imitation.

The content related to this stage of second-language learning is the Basic Dialogue Sentences.

3. Repetition. While repetition and imitation are commonly used as synonyms, in this instance, however, repetition is defined as the stage in which the learner's memory is strengthened. The student is no longer immediately echoing a model as an imitation; there is an intermediate utterance between the model and the repetition of the modeled utterance. This intermediate utterance may take the form of: (1) double-echo where the student is required to repeat the utterance twice; (2) the use of "Demandez-moi cela" or "Dites-moi cela," to trigger the response or question previously practiced; (3) the question-and-answer practices previously described. In the last procedure the teacher asks a question, models an answer, asks the question again and expects the student to produce the answer previously modeled.

The content material usually associated with the stage of repetition is (1) basic sentences for the first two procedures; and (2) question-and-answer practice for the last one.

4. Variation. After the learner has begun the formation of habit by imitation and repetition, a program of guided variation leads the student to produce and understand other structures partly similar to and partly different from the utterances he has been studying. This stage of variation is the keystone of the audio-lingual method. It is the principal instrument the teacher makes use of to develop the grammatical habits of his students. The authors of the course are rather insistent on the fact that the teacher should

avoid explanation as much as possible. When the inevitable question "Why?" arises the teacher is advised to

. . . (1) Concentrate on practice rather than explanation at this time, or (2) develop his own special Pattern Practice by bringing in parallels to the sentence in order to illustrate the grammatical principle involved in the question.<sup>9</sup>

The main sources of material for this stage of language learning, in this course, are pattern practices and conversations. Translation as a means of teaching the language has no place in an audio-lingual course.

5. Selection. The first three steps in language learning, i.e., recognition, imitation, and repetition stress habit formation; the last two steps, variation and selection begin the process of generalization. In the stage of selection, the student is now able to choose the particular utterance which is required for a particular meaning, from a wide variety of sentences he has mastered. In a beginning course, this is the stage most closely related to the ultimate objective of language learning -- that of free use of language in a communication situation.

The procedures most often used to practice this step are personal questions, questions on the conversations, and at later stages, on the readings of the review units, and in the topics for report.

These are the five stages of language learning in an audio-lingual course. The teacher procedures and the content for each of these steps have been indicated. These will form the basis for the

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<sup>9</sup> Ibid., p. xxvii.

observational instrument. The procedures suggested for the development of the reading and writing skills will now be examined.

Concerning reading, it may be useful to look at the problem of teaching this skill in two successive stages in this beginning course.

1. The material read in the first stage is the same material the student has practised, overlearned, or memorized in the pre-reading instruction. The procedures suggested for this stage are as follows:

(1) The teacher reads each sentence and has the class echo the pronunciation as they look for the first time at the printed form of what they have been hearing and saying; (2) after some practice of this kind, the student will read French aloud on their own.

The material used will be Basic Dialogue Sentences, Question-and-Answer Practices, and Pattern Practices.

2. The second stage introduces the student to selections written for reading practice. The selections here are the conversations. At this stage the selections employ only the known lexical and grammatical items, which are recombined into fresh content. This content may be used for choral and silent reading in the classroom or as a homework assignment. Immediately following practice in reading, writing is introduced. It consists of copying or transcribing material that has been mastered orally and in reading. Words, basic sentences, and practices may also be assigned for dictation.

In the previous paragraphs, the stages of audio-lingual development, of reading, and of writing have been described. The procedures suggested by the course "Ecouter et Parler" are all based on teacher-student interaction. In order to measure this interaction an observational instrument was devised.

### III. DEVELOPMENT OF THE OBSERVATIONAL INSTRUMENT

For this study, an observational instrument was designed to measure three dimensions of classroom instruction: (1) student activities; (2) teacher procedures; and to a lesser degree (3) content.

Since the first two dimensions are inseparable, they will be discussed concurrently. The instrument consists of eleven categories comprising three major sections: (1) classroom management; (2) teacher procedures; and (3) student responses and questions.

Classroom management was divided into two categories: (1) directions and (2) silence, confusion, or irrelevance. Teacher procedures consist of two groups of categories, those referring to habit-formation and those referring to generalization. The categories referring to habit formation are: (1) recognition; (2) imitation; and (3) repetition; those relating to generalization are: (1) variation and (2) selection. To the latter, it was found necessary to add a third -- information. Student responses are recorded in two different categories; one for group responses and the other for individual responses. The next category belonging to this group

refers to student questions.

For ease in recording, the categories were listed, in the following order, on the Procedure Analysis form.<sup>10</sup> (1) directions; (2) recognition; (3) imitation; (4) repetition; (5) information; (6) variation; (7) selection; (8) individual response; (9) group response; (10) student questions; and (11) irrelevance.

#### Definition of Categories

Category 1, Directions. During class observation, a portion of every classroom instruction was devoted to giving directions, commands, and explanations about classroom routine. These were recorded in category one. Included in this category were statements such as, "Ouvrez vos livres à la page vingt-cinq." "Répétez après moi." "Encore une fois."

Category 2, Recognition. This category included modeling by the teacher for the purpose of allowing the student to identify sounds and meaning. It was also used to record dictation.

Category 3, Imitation. Whenever the teacher modeled an utterance with the intention of involving the student in echoing the sentence, category three was used.

Category 4, Repetition. Category four is used if the teacher challenged the student's memory and used such procedures as: question-and-answer patterns, double-echo, and "Demandez-moi cela." Dites-moi cela."

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<sup>10</sup> Appendix A.

Category 5, Information. Included in this category were the explanations that the teacher gave on grammatical structure, on meaning, and on sounds. This category appeared to be used most often by those teachers who wished to develop in their students an awareness of difference in sounds and the ability to generalize about the structure of the language.

Category 6, Variation. Procedures involving Pattern Practices, were recorded in this category. Also included were the teacher's attempts to develop the student's knowledge of structure through variations using the conversations.

Category 7, Selection. The last category referring to teacher procedures included questions and statements soliciting a rejoinder. This is the most difficult and also the point of highest achievement for the students in this first level course. This step was most often used to review habits of pronunciation and structure already established.

Category 8, Individual Student Responses. In this category, were recorded the responses that students made individually to the different types of stimuli presented by the teacher.

Category 9, Group Student Responses. If the students answered in unison, either as a whole class or by rows, this incident was recorded in category nine.

Category 10, Student Questions. This category included questions asked by the student. Normally in a class at this level, these were questions, in English, asking for clarification about sounds or



structures that were puzzling the students.

Category 11, Silence, Confusion, or Irrelevance. Periods of silence or noise, and time spent in extended explanations that have no obvious relevance to the objectives of the lesson were recorded in this category.

Categories one to seven represent not only teacher talk but also the activities in which the students are occupied at a certain time -- imitation, practising pattern practices, answering questions, etc. They were arranged on the Procedure Analysis form in such a way that the categories bearing the lowest and highest numbers on the whole, represent the lowest level of use, while categories seven and eight include the highest level of use -- an exchange between the teacher and one student.

#### Procedure Analysis Form

To facilitate the task of recording, a procedure analysis form was devised.<sup>11</sup> It bears the identifying information, showing the teacher's name, the school, the date, the unit taught, the grade, the time the observation began and ended. The sheet was divided horizontally into fifty squares in which incidents were recorded as they occurred. Each horizontal line represents a category. To indicate that an incident had occurred in the classroom a vertical stroke was placed in the appropriate line. If, for instance, the teacher was modeling a sentence for imitation, a stroke was placed in a square in line three. The choral response by the students was

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<sup>11</sup>Appendix A.

recorded in the line bearing number nine. Since the model and the student imitation are both on the same content they were recorded in the square occurring in the same row. Below the categories, the lines of squares were used to enter information relating to content, i.e., whether the teacher was teaching a basic dialogue sentence, a question-and-answer drill, a pattern drill, a conversation, or review material. Review material here means content that was taught in previous units. If the imitation item mentioned previously referred to basic dialogue sentence eighteen, the number eighteen was entered in the square of the same row, on the line marked B.D.S.

Experience with recording showed that, on the average, five minutes of teaching time could be recorded on one sheet of the Procedure Analysis form. A forty minute period took approximately eight sheets.

Additional information about the instructional system was required; therefore, this information about the incidents described was added by means of symbols. The symbol D, for instance, was used to indicate an incident that involved development of the reading skill. If in the incident mentioned earlier, the teacher was giving an oral model but this time for the students to repeat while following in their books, the teacher incident was recorded the same way as in the previous example as an oral stimulus, but the student response was recorded under category nine with a D instead of a stroke.

The symbols used for recording further information about the nature of the stimulus or response were as follows:

E - English

N - An incident used to develop listening comprehension -  
recorded in categories eight or nine

D - An incident involving reading

T - An incident involving writing

C - A recorded stimulus

V - A visual stimulus

S - A student stimulus recorded in categories eight or nine.

No symbol was required for indicating use of French in an incident, since everything not done in English was necessarily in French. Similarly, since every incident not involving the listening comprehension, reading, or writing skills must be spoken, no symbol was used to indicate a spoken stimulus or response.

By and large, in this study incidents were recorded. In a limited number of categories, involving prolonged discourse or indistinguishable incidents, such as information, silence, or noise a check mark was used every three seconds instead of a stroke or symbol.

#### Problems in Recording

This system of recording teacher and student behavior in the instructional system was rather simple to use. There were, however, a few procedures which caused some difficulty in recording. The use of directed dialogue, for instance, required the addition of the symbol S to the system. The directed dialogue is a drill in which the teacher directs a student to ask a question of another student. The teacher's

initial request was recorded by a vertical stroke in category seven, as it is a statement requiring a rejoinder. The student's question in response to that command was recorded with an S under category eight and the next student's answer with a stroke also in category eight.

The development of the following diagram, showing the relationship between teacher procedures and student activities in developing the four skills, proved to be of great help in devising and using the recording system.

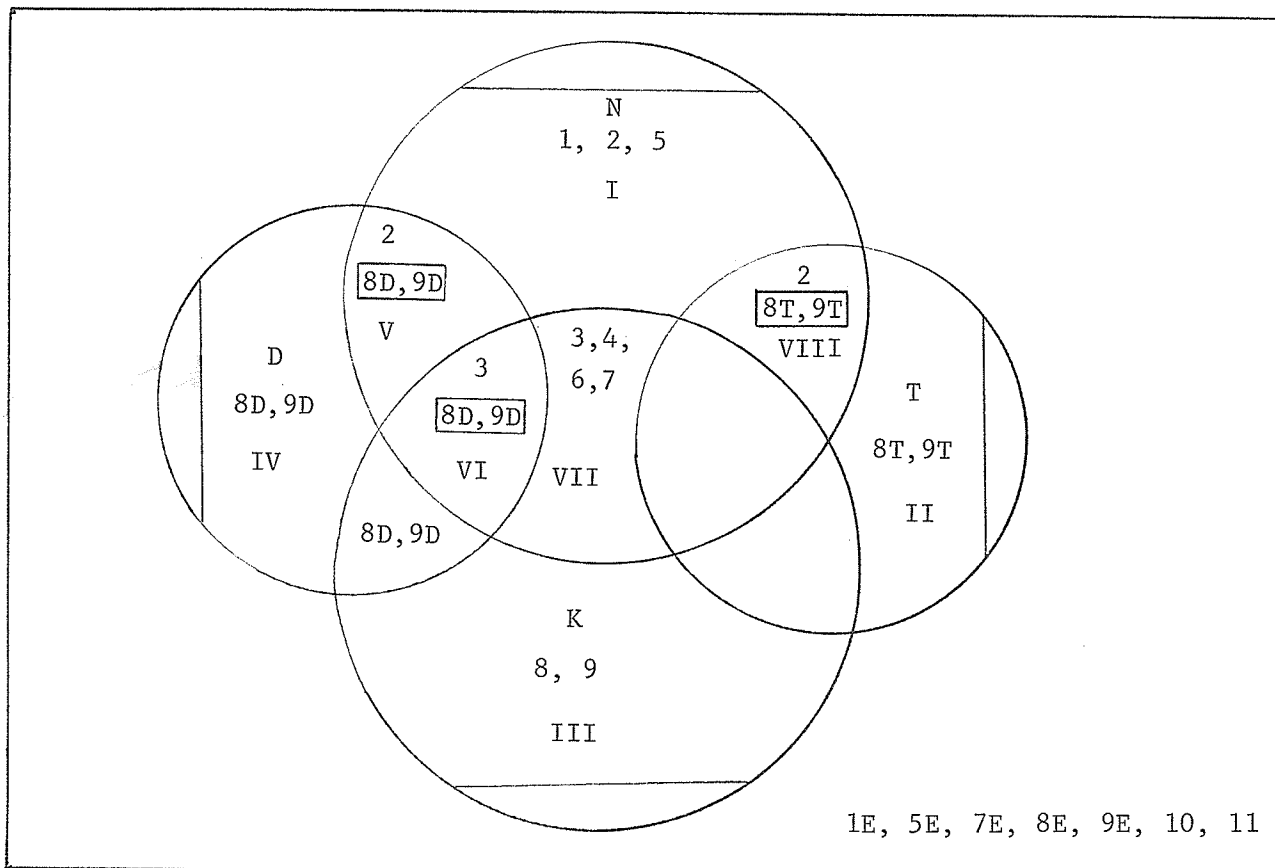


FIGURE 1

RELATIONSHIP OF SKILLS TO CATEGORIES

The roman numerals in the diagram serve to identify the spaces and intersections. The arabic numerals refer to the categories, and the symbols to skills developed, i.e., N refers to listening comprehension, D to reading, K to speaking, and T to writing. The rectangles indicate how a response would be recorded. The large rectangle represents the universe and includes all the incidents in the instructional process. The numbers and symbols outside of the circles represent the categories or sub-categories of incidents which do not contribute to the development of any particular language skill.

Space I includes the categories which are solely related to developing listening comprehension. Space II refers to activities involving only writing, without any intervention by the teacher. Space III represents activities in which students are using speaking skills without being guided by a model or question from the teacher. Such activities as dramatization, oral reports would be placed in this area. Space IV includes student activities involving only the reading skill, such as silent reading. Intersection V, involving both listening and reading, describes the situation where the teacher models an utterance and the students simply follow in their books. In intersection VI is added the dimension of speaking. Here the student would be repeating the teacher's model while reading in his textbook. Intersection VII represents those categories -- imitation, repetition, variation, and selection -- which involve a teacher's model and student spoken answer. Intersection VIII describes the situation in which the student writes down the utterance that the teacher is dictating.

#### IV. METHOD OF INVESTIGATION

The limited scope of this study did not warrant the use of sophisticated criteria for the selection of teachers and classes for the research. Certain conditions, however, were considered. To test the discriminating power of the instrument, four teachers were selected on the basis of similar training. The classes selected were of average ability, not the best nor the poorest classes taught by the teachers concerned. All the classes were grade sevens and all of them, except one, were studying unit five. The other class was beginning unit six.

In order to minimize the interference caused by the presence of an observer in the classroom, the four teachers, selected for this study, tape recorded six consecutive classes. It was assumed that in six consecutive classes it would be possible to detect teacher patterns in procedure.

The tape recordings were to cover the entire class period. The data from the tapes were, then, recorded by the writer on the procedure analysis form.

The quantifying of the data was done by computer. A computer program was devised to provide the total number of incidents, averages, and ratios for each class period and for the six consecutive periods for each of the four teachers.

#### V. OBSERVER TRAINING AND RELIABILITY

The two observers trained for this study were a supervisor of

French in the Winnipeg School Division and the writer. Both observers were acquainted with the audio-lingual method as interpreted by "Ecouter et Parler." Consequently, the training period was short and consisted in agreeing on how to record the behaviors in the different categories and in memorizing the categories and symbols. The Procedure Analysis instrument was then used in classroom observation with both observers present. A tape recording of the classes observed was also made, for the purpose of checking the method of recording of the observers.

The formula used for estimating reliability was Scott's coefficient of reliability.

Scott calls his coefficient "pi" and it is determined by the two formulae below.

$$\overline{II} = \frac{Po - Pe}{1 - Pe}$$

Po is the proportion of agreement and Pe is the proportion of agreement expected by chance which is found by squaring the proportion of tallies in each category and summing these over all categories.

$$Pe = \sum_{i=1}^k Pi^2$$

In formula two there are k categories and Pi is the proportion of tallies falling into each category.  $\overline{II}$ , in formula one, can be expressed in words as the amount that the two observers exceeded chance agreement divided by the amount that perfect agreement exceeds chance. . . . A Scott coefficient of 0.85 or higher is a reasonable level of performance.<sup>12</sup>

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<sup>12</sup> Ned A. Flanders, "The Problems of Observer Training and Reliability," Interaction Analysis, Edmund Amidon and J. Hough, editors (Reading: Addison-Wesley Publishing Company, 1967), pp. 161-163.

After five or six trials in the classroom, as previously described, a coefficient of reliability for the two observers was calculated. The results appear in Table I.

TABLE I  
OBSERVER RELIABILITY I

Category	Observer A	Observer B	% A	% B	% Difference	(Ave.%) <sup>2</sup>
1	61	44	8.4	6.0	2.4	.504
2	79	91	10.9	12.4	1.5	1.322
3	273	274	37.4	37.2	0.2	13.912
4	0	0	0.0	0.0	0.0	0.0
5	3	3	0.4	0.4	0.0	0.0
6	0	0	0.0	0.0	0.0	0.0
7	8	4	1.1	0.6	0.5	0.006
8	101	112	13.8	15.0	1.2	2.073
9	196	202	26.8	27.4	.6	7.344
10	0	0	0.0	0.0	0.0	0.0
11	9	7	1.2	0.9	0.3	0.010
Totals	730	737	100.0	99.9	6.7	25.171

$$\overline{II} = \frac{Po - Pe}{100 - Pe} = \frac{(100 - 6.7) - 25.2}{100 - 25.2} = .91$$

Table II shows the results of a check on reliability taken on a different recording two months later.



TABLE II  
OBSERVER RELIABILITY II

Category	Observer A	Observer B	% A	% B	% Difference	(Ave.%) <sup>2</sup>
1	68	81	17.2	20.8	3.6	3.610
2	17	16	4.3	4.1	0.2	0.176
3	2	0	0.5	0.0	0.5	0.062
4	4	5	1.0	1.3	0.2	0.012
5	8	8	2.0	2.1	0.1	0.040
6	24	23	6.1	5.9	0.2	0.360
7	56	56	14.2	14.4	0.2	2.450
8	200	185	50.5	47.8	2.7	24.108
9	16	14	4.0	3.6	0.4	0.144
10	1	0	0.3	0.0	0.3	0.022
11	0	0	0.0	0.0	0.0	0.0
Totals	396	388	100.1	100.0	8.4	30.984

$$\overline{II} = \frac{Po - Pe}{100 - Pe} = \frac{(100 - 8.4) - 30.9}{100 - 30.9} = .88$$

The recording was preceded by a ten minute warm-up on another tape recording.

After an interval of a week without any practice in recording by either observer a further check on reliability was performed using a different sample. The results appear in Table III.

TABLE III  
OBSERVER RELIABILITY III

Category	Observer A	Observer B	% A	% B	% Difference	(Ave.%) <sup>2</sup>
1	18	18	3.4	3.3	0.1	0.108
2	20	25	3.8	4.6	0.8	0.176
3	166	171	31.5	31.3	0.2	9.859
4	0	0	0.0	0.0	0.0	0.0
5	25	26	4.8	4.7	0.1	0.220
6	32	33	6.1	6.0	0.1	0.360
7	0	0	0.0	0.0	0.0	0.0
8	83	81	15.7	14.8	0.9	2.310
9	183	191	34.7	34.9	0.2	12.110
10	0	0	0.0	0.0	0.0	0.0
11	0	2	0.0	0.4	0.4	0.001
Totals	527	547	100.0	100.0	2.8	25.144

$$\overline{II} = \frac{Po - Pe}{100 - Pe} = \frac{(100 - 2.8) - 25.1}{100 - 25.1} = .96$$

#### Observer Consistency

To determine observer consistency one of the tape recordings from the study was picked at random and recorded once again by the writer after an interval of three weeks. The results of this check on observer consistency appear in Table IV.

TABLE IV  
OBSERVER CONSISTENCY

Category	Observation A	Observation B	% A	% B	% Difference	(Ave.%) <sup>2</sup>
1	29	35	4.2	4.7	0.5	0.193
2	8	6	1.1	0.8	0.3	0.008
3	227	256	32.7	34.5	1.8	11.289
4	2	0	0.3	0.0	0.3	0.001
5	2	4	0.3	0.5	0.2	0.002
6	0	0	0.0	0.0	0.0	0.0
7	71	70	10.2	9.4	0.8	0.960
8	160	164	23.0	22.1	0.9	5.062
9	183	194	26.4	26.2	0.2	6.917
10	0	0	0.0	0.0	0.0	0.0
11	12	13	1.8	1.8	0.0	0.032
Totals	694	742	100.0	100.0	5.0	24.464

$$\overline{\Pi} = \frac{Po - Pe}{100 - Pe} = \frac{(100 - 5.0) - 24.5}{100 - 24.5} = .93$$

## CHAPTER IV

### ANALYSIS AND INTERPRETATION OF DATA

It is the purpose of this chapter to study the data accumulated from the tape recordings of six consecutive class periods from each of four teachers to test four hypotheses.

Since the sample for this study is limited, the data and results will be considered to be indicative of the procedures of teachers in the classroom, rather than completely descriptive with respect to these behaviors. The teachers may not have had equal opportunity to develop each skill and to exhibit each category because of the parts of a unit that each was covering at the time of recording. They were covering, however, approximately the same material.

#### I. OPERATIONAL DEFINITIONS

For the purpose of this study the succeeding operational definitions will be adopted:

1. The percentages for each one of the categories, for student incidents, for teacher talk, recorded stimulus, student talk in English, and teacher talk in English, were calculated on the basis of the total number of incidents occurring in a class period.

2. Teacher questions in English and student responses in English were calculated as percentages of teacher question and student responses respectively.

3. The I/G ratio which shows the relationship between individual to group responses was calculated as follows:

$$\frac{\text{Category 8}}{\text{Category 9}}$$

4. The H/Ge ratio comparing incidents of habit formation to incidents relating to generalization was calculated as:

$$\frac{\text{Categories 2 + 3 + 4}}{\text{Categories 5 + 6 + 7}}$$

5. The R/N ratio indicating the relationship between review and new material was calculated as:

$$\frac{\text{Previous material}}{\text{Basic Dialogue Sentences + Q and A. + P. P + Conv.}}$$

6. Based on the interpretation of the development of skills found in Figure 1, the percentage of time spent on each skill was calculated as follows:

Listening Comprehension

$$\frac{\text{Categories 1 + 2 + 3 + 4 + 5 + 6 + 7 - (1E + 5E + 7E + 10 + 11)} \times 100}{\text{Total number of incidents}}$$

Speaking

$$\frac{\text{Categories 8 + 9 + 8D + 9D - [Category 2 (8D, 9D) + 8T + 9T + 8E + 9E]} \times 100}{\text{Total number of incidents}}$$

Reading

$$\frac{8D + 9D + [\text{Category 2 (8D + 9D) + Category 3 (8D + 9D)}] \times 100}{\text{Total Number of Incidents}}$$

Writing

$$\frac{8T + 9T + \text{Category 2 (8T + 9T)} \times 100}{\text{Total number of incidents}}$$

In some cases it will be possible for the sum of the percentages for all skills to total more than one hundred per cent, since the teacher

in certain procedures may be developing as many as three skills at the same time. In Figure 1,<sup>13</sup> intersection VI, the teacher is modeling an utterance, and the student is repeating it while reading in his textbook.

7. Pacing was calculated as follows:

$$\frac{\text{Total number of incidents}}{\text{Number of minutes of teaching}}$$

8. Based on the assumptions of the audio-lingual method, two indices were calculated as follows:

$$\frac{\text{Index of efficiency}}{100 - (\text{Category 1} + 10 + 11 + \text{T.T.E})} \quad (\text{Pacing})$$

$$\frac{\text{Index of variety}}{(\text{H/Ge ratio}) (\text{R/N ratio}) (\text{R.S.}) (\text{Reading} + \text{Writing})}$$

9. This study was based on the assumption that a significant difference between the four teachers in the proportion of incidents in a category indicated a significant difference in procedure for that category.

10. A significant difference in procedure obtained on forty percent of the factors investigated constituted a significant difference in overall procedure.

## II. TECHNIQUES FOR TESTING THE HYPOTHESES

The adoption of the first null hypothesis, dealing with the feasibility of identifying and quantifying teacher procedures in the classroom, was dependent upon the adoption or rejection of the second, third, and fourth hypotheses.

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<sup>13</sup>Page 36.

The technique used for testing the second and third hypotheses, having to do with the presence or absence of differences among teachers in instructional procedures, was that of selecting a panel of four judges to determine whether the difference in percentage or ratio in each factor was significant. Significance was defined as referring to a difference in procedure great enough as to result in an appreciable difference in student achievement.

The judges were two professors from the Faculty of Education of the University of Manitoba, one French supervisor, and one French teacher.

If the judges disagreed in their decision, a category scored by three judges as significant and by the fourth as not significant was considered significant. If, on the other hand, the judges split evenly in their decision, the factor was listed as not significant.

This technique was used in preference to a statistical test because of the small size of the sample and the need for interpretation of the variations in procedure.

In the fourth hypothesis, where an attempt is made to find significant differences in classroom practice, if any, from the procedures outlined by the course of studies, a panel of five judges was used to quantify in terms of a percentage their idea of the relative importance of the variables considered in this part of the study. The panel of five judges consisted of two professors from the Faculty of Education, one French supervisor, and two teachers, involved in the teaching of French at the grade seven level.

For the purpose of this study a twenty per cent deviation from either mean (teachers' mean and judges' mean) indicated a significant difference between the behavior of teachers recorded from the classroom tapes and between the judges' estimate of the relative importance of each variable. This technique was considered appropriate for this study because of the small sample.

### III. DIFFERENCES IN PROCEDURE

The second and third null hypotheses deal with the presence or absence of differences in procedure among teachers and are stated as follows:

There is no significant difference between the four teachers in the proportion of incidents obtained for each factor on six consecutive class periods.

There is no significant difference between the four teachers in overall procedure in the six consecutive class periods.

The data for these two hypotheses are presented in Table V. Column one shows the factors under consideration (categories, ratios, skills). Column two gives the mean percentage or ratio obtained by teacher A for six consecutive classes in each factor considered. Column three, four, and five give the same information for teachers B, C, and D respectively. Column six lists the means of the percentages or ratios for the four teachers on each factor. Column seven indicates the judges' decision with regard to significance.

The judges agreed completely on seventeen factors. In Table VI,



categories 3, 5, 8, I/G ratio, H/Ge ratio, T.T.E., reading, writing, teacher questions in English, student responses in English, and recorded stimulus were indicated as varying significantly by all judges. Categories 1, 2, 10, and 11, student talk in English, R/N ratio, were marked as not varying significantly by all judges. Categories 4, 6, and 7, teacher talk, student talk, listening comprehension, and speaking were considered as not varying significantly because two or three judges considered them not significant. Category 9 was classified as significant because three of the judges agreed in that verdict. According to the data in Tables V and VI, the judges have found significant differences in the proportion of incidents obtained on twelve factors. These conclusions by the judges lead to the rejection of the second null hypothesis. The four teachers varied significantly in proportion of incidents in twelve of the variables.

Legend for reading all tables

T.Talk - teacher talk  
 T.T.E. - teacher talk in English  
 S.T.E. - student talk in English  
 T.Q.E. - teacher questions in English  
 S.R.E. - student responses in English  
 R.S. - recorded stimulus  
 I/G ratio - individual to group response ratio  
 H/GE ratio - habit formation to generalization ratio  
 R/N ratio - review to new material ratio  
 L.C. - listening comprehension

TABLE V  
COMPARISON OF THE MEANS OF FOUR TEACHERS OBTAINED ON  
TWENTY-FIVE PROCEDURE BEHAVIORS

Behavior Description	A	B	C	D	MEAN	
Category 1	7.50	7.14	0.83	5.11	5.14	n.s.
Category 2	0.66	1.07	4.72	2.01	2.11	n.s.
Category 3	18.38	12.73	26.40	33.26	22.69	s.
Category 4	1.84	1.32	0.59	0.14	0.97	n.s.
Category 5	4.47	11.50	3.38	0.61	4.99	s.
Category 6	5.28	7.56	5.66	2.18	5.17	n.s.
Category 7	5.73	11.44	6.73	5.41	7.32	n.s.
Category 8	9.12	11.66	23.76	17.91	15.61	s.
Category 9	44.97	33.25	27.34	29.59	33.78	s.
Category 10	0.27	0.16	0.00	0.25	0.17	n.s.
Category 11	1.77	2.16	0.59	3.53	2.01	n.s.
ST. Incidents	54.36	45.07	51.10	47.75	49.57	n.s.
T. Talk	43.87	52.76	48.31	48.72	48.41	n.s.
S.T.E.	1.60	3.10	0.04	2.07	1.70	n.s.
T.T.E.	12.56	17.16	0.71	1.63	8.01	s.
T.Q.E.	68.24	36.44	0.58	0.00	26.32	s.
S.R.E.	15.09	25.44	0.58	32.14	14.31	s.
R.S.	9.41	0.00	0.00	2.84	3.08	s.
I/G ratio	0.20	0.35	0.87	0.61	0.50	s.
H/GE ratio	1.35	0.50	2.01	4.32	2.04	s.
R/N ratio	0.11	0.13	0.30	0.11	0.16	n.s.
L.C.	36.32	33.28	46.93	43.31	39.96	n.s.
SP.	45.24	35.09	49.86	42.75	44.73	n.s.
Reading	17.08	10.53	5.55	9.58	10.68	s.
Writing	8.84	8.59	0.07	2.92	5.11	s.
Pacing	17.5	14.3	17.6	18.8	17.0	

TABLE VI

JUDGES' ASSESSMENT OF SIGNIFICANCE OR NON-SIGNIFICANCE  
ON TWENTY-FIVE FACTORS OF LANGUAGE TEACHING

Behavior Recorded	JUDGES			
	I	II	III	IV
Category 1.	n.s.	n.s.	n.s.	n.s.
2.	n.s.	n.s.	n.s.	n.s.
3.	s.	s.	s.	s.
4.	n.s.	s.	n.s.	n.s.
5.	s.	s.	s.	s.
6.	s.	n.s.	n.s.	n.s.
7.	s.	s.	n.s.	n.s.
8.	s.	s.	s.	s.
9.	n.s.	s.	s.	s.
10.	n.s.	n.s.	n.s.	n.s.
11.	n.s.	n.s.	n.s.	n.s.
ST. Incidents	s.	n.s.	s.	n.s.
T. Talk	n.s.	n.s.	s.	n.s.
S.T.E.	n.s.	n.s.	n.s.	n.s.
T.T.E.	s.	s.	s.	s.
T.Q.E.	s.	s.	s.	s.
S.R.E.	s.	s.	s.	s.
R.S.	s.	s.	s.	s.
I/G Ratio	s.	s.	s.	s.
H/GE Ratio	s.	s.	s.	s.
R/N Ratio	n.s.	n.s.	n.s.	n.s.
L.C.	s.	n.s.	s.	n.s.
SP.	s.	n.s.	s.	n.s.
Reading	s.	s.	s.	s.
Writing	s.	s.	s.	s.

In accordance with operational definition number eight, since the teachers varied significantly in proportion of incidents on certain variables, the inference can be made that teachers varied significantly in procedure on those factors. Since the judges have found a significant difference in fifty-two percent of the factors investigated, the third null hypothesis is not supported. Teachers showed a significant difference in overall procedure.

A look at the results of Table V permits one to draw additional inferences about the nature of the differences in procedure between teachers.

#### IV. FACTORS OF EFFICIENCY

The four teachers observed in the study, according to the panel of judges, showed no significant differences in classroom management categories. Category I and II were both indicated as not significant. A combination of factors, however, bearing upon the efficiency of a teacher as defined by the proponents of the audio-lingual method give a different picture. An efficient teacher, according to the latter, will use few directions; his explanations will be clear so that there will be no need for student questions; very little time will be lost in silence, confusion, and irrelevance; most of his time will be spent in developing skills of the target language, consequently, use of English will be at a minimum. Table VII shows a comparison between the four teachers on these four factors.

The mean percentage of incidents spent on these factors is 15.33. The spread from the mean in each case is greater than twenty

TABLE VII  
COMPARISON OF TEACHERS ON FACTORS OF EFFICIENCY

Behavior Description	Teachers				Mean	
	A	B	C	D		
Category 1	7.50	7.14	0.83	5.11	5.14	n.s.
Category 10	0.27	0.16	0.00	0.25	0.17	n.s.
Category 11	1.77	2.16	0.59	3.53	2.01	n.s.
T.T.E.	12.56	17.16	0.71	1.63	8.01	s.
Totals	22.10	26.62	2.13	10.52	15.33	
Index of Efficiency	77.90	73.38	97.87	89.48	84.65	

per cent of the mean, therefore it may be inferred that teachers varied significantly in terms of these factors of efficiency.

Another factor of efficiency that is considered important in the audio-lingual method is the rate at which classroom practice is conducted. Table VIII shows a comparison between teachers with respect to pacing. It can be seen from the data that the teachers do not vary significantly from one another since the deviation from the mean is not greater than twenty per cent for any of the teachers. There is a rough correlation, however, between pacing and the other factors of efficiency. Based on the assumptions of the audio-lingual method, the index of efficiency for each teacher is as follows:

TABLE VIII  
COMPARISON OF THE PACING OF FOUR TEACHERS IN SIX  
CONSECUTIVE CLASSES

	Teachers			
	A	B	C	D
Total Number of Incidents	4069	3095	2542	3623
Total Teaching Time	232	216	144	192
Pacing	17.5	14.3	17.6	18.8

Teacher A - 77.90 (17.5)

Teacher B - 73.38 (14.3)

Teacher C - 97.87 (17.6)

Teacher D - 89.48 (18.8)

#### V. HABIT FORMATION VS. GENERALIZATION

Of the categories relating to habit formation, i.e., categories 2, 3, and 4, only one was found significant by the judges; of the categories relating to generalization (categories 5, 6, and 7) only one category was judged significant. The relationship, however, between the two groups of categories as indicated by the H/Ge ratio shows a marked difference in pattern in teaching. The range from four times more incidents of habit formation than incidents of generalization for teacher D, to half as many for teacher B indicates

a difference in theory and practice which is rather considerable. The difference is not only one of quantity but one of kind. A low H/Ge ratio coupled with a high percentage in category 5 and/or a high proportion in teacher talk in English will normally indicate a teacher with a tendency to teach according to the traditional method. A glance at Table IX reveals that teachers A and B have a tendency to be slightly more traditional than teachers C and D.

TABLE IX  
COMPARISON OF TEACHERS ON HABIT FORMATION AND  
GENERALIZATION

Behavior Recorded	Teachers				Mean	
	A	B	C	D		
H/G.E.	1.35	0.50	2.01	4.32	2.04	s.
Category 5	4.47	11.50	3.38	0.61	4.99	s.
T.T.E.	12.56	17.16	0.71	1.63	8.01	s.

Teachers who spend a high proportion of their time on generalization, and who would have a low H/Ge ratio on this scale of analysis, find that it takes longer to cover a unit of work. One reason, of course, would be that they spend more time in practice of structures, but another reason may be that this type of exercise requires slower pacing than habit formation exercises. The low pacing of teacher C seems to confirm this conclusion.

## VI. STUDENT PERFORMANCE

One of the main audio-lingual assumptions about language teaching is that language is behavior and that in order to learn this behavior the student must be induced to perform. The two factors, student incidents and speaking in Table X reveal that the teachers place a rather even stress on student performance. The judges, in both of the categories, found that the teachers did not vary significantly. The percentages in both of these categories are uniformly

TABLE X  
COMPARISON OF TEACHERS ON STUDENT PERFORMANCE

Behavior Recorded	Teachers				Mean	
	A	B	C	D		
Category 8	9.12	11.66	23.76	17.91	15.61	s.
Category 9	44.97	33.25	27.34	29.59	33.78	s.
ST. Incident	54.36	45.07	51.10	47.75	49.57	n.s.
Speaking	54.24	35.09	49.86	42.75	44.73	n.s.
I/G ratio	0.20	0.35	0.87	0.61	0.50	s.

rather high considering the fact that at the end of grade seven the students have not developed any independence from the teacher and, thus, almost any spoken incident by the student implies a model or stimulus by the teacher. A closer look, however, at categories eight



and nine indicate a marked variation in the distribution of that practice, ranging all the way from an I/G ratio of 0.20 for teacher A to a ratio of 0.87 for teacher C. This stress on individual or group work on the part of the teacher indicates a manifest difference in procedure. Teachers A and B rely heavily on group response; from these results it may be inferred that these teachers may not be checking individual students sufficiently and may be carrying on student choral response after the students have achieved mastery of the utterance that is being practised.

#### VII. USE OF ENGLISH

Some important inferences about teacher procedures may be drawn from the categories relating to use of English. Table XI shows that the variation in the proportion of student talk in English is not significant; the variation, however, in the proportion of teacher talk in English is significant. The next two factors are the ones which indicate an important difference in procedure. Teacher B, with a high percentage both in teacher questions in English and in student responses in English, gives explanations in English, as was pointed out previously in discussing category 5. In the course of explaining a structure to the students, teacher B asks questions in English that are answered by the students in English on matters of structure. Teachers A and D show exactly opposite patterns in the last two factors. They both use English as a means of checking upon meaning, but they do it differently. Teacher A gives the English and the students give the French counterpart; teacher D asks the questions in

TABLE XI  
COMPARISON OF TEACHERS ON USE OF ENGLISH

Behavior Recorded	Teachers				Mean	
	A	B	C	D		
S.T.E.	1.60	3.10	0.04	2.07	1.70	n.s.
T.T.E.	12.56	17.16	0.71	1.63	8.01	s.
T.Q.E.	68.24	36.44	0.58	0.00	26.32	s.
S.R.E.	15.09	25.44	0.58	32.14	14.31	s.
Category 2	0.66	1.07	4.72	2.01	2.11	n.s.

French and the students give the meaning in English. Teacher C relies on classroom situations to verify student understanding or does not check it at all. This last assumption, however, is not substantiated when one looks at category seven, T.T.E., and S.R.E. Teacher C questions the students 6.73% of the time, uses French as the language for questioning, and the students reply in French. Teacher C may not feel the same need for checking on meaning as the other teacher since he has spent more time on recognition in category 2.

#### VIII. DEVELOPING LANGUAGE SKILLS

The teachers varied significantly in only two of the categories in Table XII. The overall picture, however, for the teachers is quite different. The range from only 5.62% spent on reading and writing for

teacher C to 25.92% for teacher A represents quite a considerable difference. Conversely, teacher C spends more time developing the first two skills, listening comprehension and speaking. In an audio-lingual course for beginning students the stress must be on developing

TABLE XII

## COMPARISON OF TEACHERS ON THE DEVELOPMENT OF SKILLS

Behavior Recorded	Teachers				Mean	
	A	B	C	D		
L.C.	36.32	33.28	46.93	43.31	36.96	n.s.
Speaking	45.24	35.09	49.86	42.75	44.73	n.s.
Reading	17.08	10.53	5.55	9.58	10.68	s.
Writing	8.84	8.59	0.07	2.92	5.11	s.

listening comprehension and speaking skills. The range, between teacher B and teacher C, in those two skills is from 68.37% to 96.79%.

## IX. VARIETY

One of the major problems of an audio-lingual course is that after some time monotony sets in. Table XIII shows how the teachers differed in providing for variety. Teacher D has a very high H/Ge ratio. Although a great deal of practice in establishing correct habits of pronunciation is necessary at this level, this heavy stress

TABLE XIII  
COMPARISON OF TEACHERS ON FACTORS OF VARIETY

Behavior Recorded	Teachers				MEAN	
	A	B	C	D		
H/GE	1.35	0.50	2.01	4.32	2.04	s.
R/N	0.11	0.13	0.30	0.11	0.16	n.s.
R.S.	9.41	0.00	0.00	2.84	3.08	s.
Reading	17.08	10.53	5.55	9.58	10.68	s.
Writing	8.84	8.59	0.07	2.92	5.11	s.

on developing habit formation to the exclusion of generalization would tend to make the work monotonous. One way of providing for variety is to include in each class period some material that has been taken in previous units. Teacher C provides more review than the other three teachers, who are quite consistent in their ratios of review to new material. The inclusion, in a class period, of reading and writing practice is a corrective measure for monotony. Teacher C is lower than the others in this respect. Teachers C and D overlook completely the advantage of the tape recorder in providing for variety in their class periods. Although the teachers differ considerably in their use of certain measures to counteract monotony, there is no consistent pattern in this factor.

## X. TEACHER PROCEDURES AND THE COURSE OF STUDIES

The fourth hypothesis of this study is: There is no significant difference between the four teachers' procedures in the classroom and the procedures suggested by the course of study.

Tables XIV and XV show the data for this hypothesis. Table XIV gives the judges' assessment of the importance of some of the steps, relationships, and skills in language teaching. Column one gives the behavior and skill description. The second column gives the percentages to be devoted to each factor assigned by judge I. Columns three, four, five, and six give the same information for judges II, III, IV, and V respectively. Column seven indicates the mean of the percentages assigned by the five judges. Column eight shows the corrected mean. The judges indicated their idea of the importance of each step by assigning to it a percentage out of one hundred. This percentage had to be brought in line with that of the teachers to facilitate the comparison between the two. Since the teachers spent forty-four per cent of their time in teacher talk, excluding category 1, the judges' percentages were reduced to forty-four per cent as well.

Table XV gives a comparison between the means obtained by the teachers in each of the factors listed in column one and the means assigned by the judges. Column four indicates which of the means show a significant difference, i.e., a difference of twenty per cent.

In Table XV eight of the thirteen factors have a significant difference between the teachers' and the judges' mean. Sixty per cent of the factors show significant differences. Therefore, the

TABLE XIV

COMPARISON OF JUDGES ON THIRTEEN FACTORS IN LANGUAGE TEACHING

	Judges					Corrected Mean
	I	II	III	IV	V	
Category 2	15.00	10.00	15.00	15.00	5.00	12.00
Category 3	15.00	10.00	25.00	15.00	25.00	18.00
Category 4	15.00	20.00	10.00	15.00	15.00	15.00
Category 5	8.00	5.00	5.00	10.00	5.00	6.60
Category 6	25.00	25.00	30.00	25.00	20.00	25.00
Category 7	22.00	30.00	15.00	20.00	30.00	23.40
T.T.E.	25.00	20.00	20.00	10.00	10.00	17.00
I/G ratio	3.00	1.00	2.33	.66	1.00	1.32
H/Ge ratio	.82	.67	1.00	.82	.82	.82
L.C.	25.00	40.00	35.00	40.00	30.00	35.00
SP.	50.00	40.00	45.00	40.00	40.00	45.00
Reading	15.00	10.00	10.00	10.00	20.00	10.00
Writing	10.00	10.00	10.00	10.00	10.00	10.00

TABLE XV  
COMPARISON OF JUDGES' AND TEACHERS' MEANS ON THIRTEEN  
FACTORS IN LANGUAGE TEACHING

	Judges	Teachers	Significance
Category 2	5.28	2.11	s.
Category 3	7.92	22.69	s.
Category 4	6.60	0.97	s.
Category 5	2.90	4.99	s.
Category 6	11.00	5.17	s.
Category 7	10.30	7.32	s.
T.T.E.	8.20	8.01	n.s.
I/G ratio	1.32	0.50	s.
H/Ge ratio	.82	2.04	s.
L.C.	35.00	39.96	n.s.
Speaking	45.00	44.73	n.s.
Reading	10.00	10.68	n.s.
Writing	10.00	5.11	s.

fourth hypothesis is not supported.

An examination of the results of Tables XIV and XV allow one to draw further inferences about the disagreement between the judges and the teachers. The first three categories in Table XV reveal that all three categories are significantly different. In Table V (p.50) the

results for categories 2 and 4 show that the teachers are in agreement in spending only a small proportion of their time on these factors. If one can generalize from this limited sample it would appear that teachers by and large do not attach any importance to the stages of recognition and repetition. These generally low percentages in recognition seem to explain the reason for the complaints of some teachers who say that their students repeat sentences without really knowing their meaning. Considering the small proportion of time spent in recognition, this result would not be surprising. Category three shows a complete reversal, with the teachers placing much more emphasis on imitation than the judges. The teachers' mean of 22.69 seems to indicate that the teachers strive for mastery at this stage, while the judges would leave some room for improvement to be taken care of in repetition. It is doubtful, however, whether the judges' estimate of 7.92 per cent for imitation is adequate to establish habits of pronunciation and use of structure at the grade seven level.

The results of categories 5, 6, and 7 show that the teachers spend significantly more time in explanation, but less time in variation and selection than is suggested by the judges. A look at the H/Ge ratio points out the emphasis that the judges place on generalization with a ratio of .82 while the teachers in their classroom procedures tend to use twice as many incidents of habit formation as of generalization.

In Table XIV the judges disagreed significantly among themselves in the I/G ratio, ranging from 3.00 to .66. This range indicates a difference in theory about the value of using individual and



choral response. Only one judge gave a ratio lower than that achieved by one of the teachers. In Table XV the difference in I/G ratio between 1.32 and .50 indicates a significant difference between theory and practice.

#### XI. IDENTIFYING AND QUANTIFYING TEACHER PROCEDURES

The first hypothesis (Teacher procedures in the classroom cannot be identified and quantified.) serves to investigate the possibility of identifying and quantifying teacher procedures. It was mentioned earlier that the adoption or rejection of the first hypothesis rested upon the adoption or rejection of the second, third, and fourth hypotheses. From the data referring to the last three hypotheses it was inferred that teachers differed significantly among themselves in procedure and that they differed from the objectives of the course. In order to come to that conclusion, it was necessary to be able to identify and quantify teacher procedures. The first hypothesis, therefore, is not supported. Teacher procedures were identified and quantified.

A corollary to this conclusion is that the Procedure Analysis instrument was, by and large, satisfactory. There are, however, some changes that could be made to improve its effectiveness.

The decision to record an incident at three second intervals in those categories in which there were no identifiable incidents, such as explanation, seems to be justified by the fact that teachers in their pacing averaged seventeen incidents per minute.

The effectiveness of the instrument would be increased by indicating in category 5 whether the explanations were related to sound, structure, or meaning.

Placing the results of the observation on a matrix, such as the one devised by Flanders, would provide more accurate information about some important factors. It would help to determine the exact number of English questions followed by French answers, French questions followed by English answers, to study teacher procedures in checking on meaning.

## CHAPTER V

### SUMMARY AND CONCLUSIONS

#### I. SUMMARY OF PROCEDURE

This study has compared the procedures of four teachers in the teaching of French to grade seven students using the course *Ecouter et Parler*.

In order to gather the data, tape recordings of six consecutive classes were made for each of four teachers. These recordings were analyzed using an instrument devised for this purpose -- the Procedure Analysis Instrument. The audio-lingual method as applied by the authors of *Ecouter et Parler* was examined and divided into mutually exclusive categories into which each behavior of a certain type was classified. Additional information about the behaviors was supplied by the use of symbols to refer to English, reading, writing, etc. Each incident was also recorded as being based on a specific content, such as basic dialogue sentence, question and answer practice, pattern practice, conversation, or review material.

It was hypothesized that teacher procedures could not be identified and quantified. The test of this hypothesis was based on the rejection or adoption of the succeeding hypotheses.

It was further hypothesized that no significant differences in the proportion of incidents obtained for each factor would be found and that, consequently, no overall differences in procedure would be observed.

An overall difference in procedure was defined as a significant difference in forty per cent of the factors examined. To determine the significance of difference between teachers in different categories, a panel of judges was selected. The panel of judges indicated whether they considered the differences in the proportion of incidents in each category to be significant.

It was further hypothesized that there would be no significant differences between teacher practice in the classroom and the theory of *Ecouter et Parler*.

A panel of judges was asked to indicate their idea of the importance of certain factors in language teaching by assigning a percentage to each factor under consideration.

The judges' assessment of the importance of a category was then used to determine whether there were any significant differences between the teacher procedures and the objectives of the course, *Ecouter et Parler*.

A variation of twenty per cent from the mean established by the judges was considered as constituting a significant difference. In addition to considering individual factors certain procedure patterns were examined and tentative definitions of indices were formulated.

## II. SUMMARY OF FINDINGS

Although the evidence presented cannot be considered as completely descriptive of teacher procedures because of the limited size

of the sample, it provided an indication of the relevance of the following findings.

1. Teachers showed significant differences in twelve of the twenty-five factors investigated.
2. Teachers showed significant variation in procedure when providing for imitation, explanation, student individual and choral responses.
3. Teachers used English in different categories for different purposes: for information and for checking on meaning.
4. The advantages of the use of the tape recorder in class were completely overlooked by half of the teachers.
5. General patterns of procedure were discovered among teachers; some tended to stress habit formation while others placed significantly more emphasis on procedures involving generalization.
6. A significantly different emphasis was placed on reading and writing in the six class periods recorded for each teacher. Taken individually, there were no significant differences found in listening comprehension and in speaking. When the two categories were considered together, however, there was a marked difference between teachers on the time spent on the audio-lingual skills.
7. Teachers spent very little time in modeling for recognition.
8. Repetition as a stage in learning was all but forgotten by the teachers.
9. Far more emphasis was placed on imitation than the judges suggested.

10. Teachers emphasized habit formation while the judges placed more emphasis on generalization.

11. The panel of judges, while not agreeing in principle on an adequate distribution of individual and choral responses, tended to favor individual responses. The teachers used choral responses twice as much as individual responses.

12. The teachers placed significantly less emphasis on reading than the judges.

13. The procedure analysis instrument was an adequate instrument in identifying and quantifying teacher procedures.

### III. GENERAL IMPLICATIONS

1. Although the procedure analysis instrument was judged adequate in identifying and quantifying teacher procedures, it needs to be improved in certain respects. A symbol should be provided for recording silent reading. There was no occasion to use such a symbol in this study, but any extensive analysis of classroom procedure will require the use of such a symbol. In category 5 (information) symbols should be used to differentiate between explanations on sounds and those on structure and meaning. Review in this study is defined as consisting of exercises on material taken in previous units. This may be too restricted a definition and could possibly be extended to include review of current material, i.e., material in the same unit but taken in previous classes.

2. In this study, the procedure analysis instrument was

used to investigate teacher behaviors, the differences in procedure among teachers, and the variations between teacher procedures and those suggested by the programme. Some of the findings indicate the possibility of this instrument being used, after further research, for establishing performance criteria. Until now, performance criteria have been only tentative and descriptive. In some instances, teachers may have been asked to perform according to models which are quite impossible to follow.

3. In category 3 which refers to imitation, is it realistic to expect the teachers, as the judges suggest, to establish habits of pronunciation and structure in only 7.92 per cent of teacher talk? This percentage represents approximately 16 per cent of total teaching time if one takes into consideration the students' responses to the model of the teacher. Is the percentage achieved by the teachers (22.69 per cent of teacher talk or approximately forty-five per cent of total teaching time) a more realistic figure? Or is it somewhere in between?

If the latter percentage, that of the teachers, is adopted, there will be less time available for explanations, for pattern practice, and for questioning. Proponents of the audio-lingual method are in agreement about the fact that pattern practice, or the stage of variation, is the keystone of the audio-lingual method. Teachers who tend to place more emphasis on pattern practice complain that they do not have enough time to cover the programme adequately. Vague statements about the objectives of the course do not seem to provide

an adequate answer to this problem. Only with further research can applicable performance criteria for imitation be established.

4. The results of the comparison between the judges' estimate and teacher practice in category 2 (repetition) show that the teachers spend half as much time on repetition as the judges suggest. If we were to exclude teacher C, the mean for the other three teachers would be less than one quarter of the judges' mean. This result, combined with the high proportion of incidents on imitation seems to indicate that the teachers feel there is little necessity for modeling for recognition without student imitation. One could conclude that they envisage this category not as a stage in learning but as a condition for effective imitation. If this hypothesis is true, recognition would be more accurately recorded, not as a category by itself, but as information (category 5) on sounds or meaning while the category of imitation is used. This conception of the teaching process seems more logical than the previous one. Teachers could be wasting a lot of time modeling utterances which the students have no difficulty in imitating. It is only after receiving some feedback from the students that the teacher knows where to place the emphasis.

5. Category 4 (repetition) in which the teacher attempts to strengthen the learner's memory by placing an utterance between the model given by the teacher and the repetition by the student as in question and answer practice, is a very minimal step. Although all of the teachers had ample opportunity to use this category, they spent less than one per cent of their time in this type of exercise



in comparison to the 6.60 per cent suggested by the judges. The apparent reason is that teachers felt no need to extend practice because students had no particular difficulty with this minimal stage.

There is a need, however, for initial practice in answering questions. Students need to be trained in recognizing types of questions and in formulating appropriate answers to these questions. This would mean that this category would have to be redefined. If it were, it would then become part of generalization rather than habit formation. It could be an introductory step to answering questions in the conversations.

6. In quantifying the data for research purposes, the researcher should place the data on a matrix such as Flanders uses in Interaction Analysis. This would have the effect of bringing out more clearly some of the teacher procedure patterns, especially in the categories where the teacher uses English.

#### IV. IMPLICATIONS FOR RESEARCH

As it was mentioned previously, more research is needed to establish performance criteria. Patterns in teaching procedure should be measured against student achievement to determine which are, in fact, the most effective patterns of teacher behavior in the classroom. Carroll has suggested that the audio-lingual method is ripe for major revision, particularly in the direction of joining with it some of the better elements of the cognitive code-learning

theory.<sup>1</sup> The procedure analysis instrument may provide the means to test such a hypothesis. By trying out this instrument in traditional classes, some conclusions could be made concerning patterns of teachers in a traditional course. Thus, when studies are conducted to make broad comparisons between the two methods, procedure analysis could be used to ascertain whether the teachers are actually using the method they are assumed to use.

#### V. IMPLICATIONS FOR TEACHER TRAINING

The educators most interested in improving the effective patterns of classroom behavior are supervisors and teacher educators. The supervisor's main concern is normally in the training and retraining of in-service teachers; teacher educators, on the other hand, will be mainly interested in training pre-service teachers. The person who should be most directly concerned, however, is the teacher himself. By studying his own patterns of procedure in a systematic, objective manner the teacher may gain further insight into his behavior. As he gains this insight, he may decide that he wants to change his behavior because he is not proceeding the way he thought he was, or he is not achieving what he has now decided he wants to achieve. One of the major prerequisites for behavior changes is the desire, on the part of the person involved, to understand and improve his own behavior. Theoretically, this could be done by reading the Teacher's Edition of *Ecouter et Parler* or some other literature on effective procedure of the audio-lingual method. This method, however, would

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<sup>1</sup>Carroll, op. cit., p. 102.

not provide the teacher with an effective and systematic method of finding out information about how he puts this knowledge into practice in the classroom. Procedure analysis is one way of providing the teacher with a feedback system on his method of proceeding in the classroom.

The recording of the data can be done either by the supervisor or by the teacher educator in direct observation; the teacher himself can do so from a tape recording of the class after a short period of training in recording.

Since the importance of this feedback system is to help the teacher gain an insight in his own classroom behavior, the data that will have been collected must be interpreted to yield this information. Until performance criteria are established, each teacher with the help of his supervisor or teacher educator will have to determine what, in the final analysis, constitutes effective teaching.

The following questions may be helpful in focusing the teacher's attention on some important aspects of teaching procedures:

1. Do I provide enough opportunity for students to perform in the target language?

The answer to this question can be found by looking at categories 8 and 9. By adding these two figures, not including answers in English, and by finding the percentage of this number of incidents to the total number of incidents will indicate the percentage of time provided for student performance. A fair estimate may be that approximately 40 - 45% of the class time should be spent on this activity.

2. What percentage of my class time is spent on procedures directly related to developing language skills?

This can be checked by figuring out the index of efficiency. Using one hundred as the maximum, subtract from this number the percentages found in categories 1, 10, 11, and in Teacher Talk in English.

3. What stage of language learning was emphasized in this period?

The answer to this question can be found by locating the category between 1 and 7 inclusively, with the highest percentage of incidents. If this category shows twenty per cent of the incidents, this will indicate that fifty per cent of the class time was spent on this stage, since, normally, there will be a student response for every teacher stimulus. If the percentage of any single stage exceeds twenty-five per cent, the teacher may infer that he is placing too much stress on one category. There is probably a need, in that case, for the teacher to spend more time and effort in planning his work in order to provide for variety in his procedures, especially if this is the case in a number of consecutive periods.

4. Do I consistently omit certain stages?

If any category consistently shows no incidents or a low proportion of incidents, this will indicate that the teacher needs to provide for this stage. It is not necessary to have incidents in each teacher category for each period, but consistently omitting a category indicates lack of planning, and eventually lack of training,

for the student in some aspects of the course.

5. Do I provide adequate training in the different skills?

The skills of reading and writing are easily calculated.

Since reading and writing are recorded as a D and a T respectively, it is simply a matter of counting the number of D and T incidents and finding the percentage over the total number of incidents.

A simplified way of calculating the time spent on developing speaking skills is to add the number of incidents in categories 8 and 9. Subtract the student responses in English and find the percentage over the total number of incidents.

Listening comprehension can be calculated by taking the total number of incidents in categories 1 to 7 and subtracting categories 10 and 11 and teacher talk in English. This total should then be used to find the percentage of time spent in developing listening comprehension.<sup>2</sup>

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<sup>2</sup>Appendix B

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## APPENDICES

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APPENDIX A

D

S

# PROCEDURE ANALYSIS

UNIT

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Q+A  
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APPENDIX B  
Revised Form for Supervision

D

S

PROCEDURE ANALYSIS  
UNIT

T

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1

2

3

4

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11

B.D.S.

Q+A

P.P.

CON

Rev

Student Incidents -- Cat 8+9--(S.T.E.)--  
Index of efficiency-- 100--(Cat 1+10 + 11 + T.T.E.)--  
Emphasis -- Highest no. of incidents in (1-7)--

No incidents (1-7)--  
I/G ratio--  
H/Ge ratio--

APPENDIX C

COMPARISONS OF THE PERCENTAGES OF FOUR TEACHERS  
IN SIX CLASS PERIODS

TABLE I

COMPARISON OF THE PERCENTAGES IN IMITATION OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	12.16	29.30	17.83	14.25	15.38	20.87	18.38
B	23.22	17.92	12.99	2.72	13.58	5.51	12.73
C	23.04	12.43	35.12	30.83	31.35	22.15	26.40
D	33.69	31.11	36.91	32.71	35.36	29.23	33.26
Mean							22.69

TABLE II

COMPARISON OF THE PERCENTAGES IN DIRECTIONS OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	14.18	6.20	5.83	5.62	4.17	8.54	7.50
B	8.24	6.46	5.27	8.35	3.85	11.02	7.14
C	2.03	2.37	0.00	0.41	0.48	0.22	0.83
D	4.96	5.93	8.22	4.18	3.26	4.44	5.11
Mean							5.14



TABLE III

COMPARISON OF THE PERCENTAGES IN REPETITION OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	1.59	1.27	4.83	0.0	4.17	0.0	1.84
B	4.12	2.92	0.94	0.0	0.0	0.0	1.32
C	0.25	0.0	0.0	0.0	0.0	3.01	.59
D	0.0	0.0	0.50	0.29	0.0	0.0	.14
Mean							.97

TABLE IV

COMPARISON OF THE PERCENTAGES IN RECOGNITION OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	2.75	1.13	0.0	0.0	0.0	0.0	.66
B	2.43	0.83	0.0	2.91	0.0	0.20	1.07
C	2.28	0.89	11.63	5.07	2.85	4.52	4.72
D	1.60	0.93	0.67	1.15	1.40	6.50	2.01
Mean							2.11

TABLE V

COMPARISON OF THE PERCENTAGES IN INFORMATION OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	0.29	0.85	0.83	5.89	19.39	0.70	4.47
B	2.06	11.25	14.88	13.98	17.06	9.59	11.50
C	5.32	10.36	3.02	1.83	0.48	1.29	3.38
D	1.60	0.37	1.34	0.29	0.16	0.0	0.61
Mean							4.99

TABLE VI

COMPARISON OF THE PERCENTAGES IN VARIATION OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	7.09	3.38	9.50	0.0	13.62	0.0	5.28
B	0.56	8.12	11.86	7.18	9.36	8.37	7.56
C	0.0	0.0	0.23	9.74	5.46	15.48	5.66
D	1.42	8.33	0.0	0.0	2.02	2.22	2.18
Mean							5.17

TABLE VII  
COMPARISON OF THE PERCENTAGES IN SELECTION OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	4.20	3.52	4.50	15.75	3.53	2.10	5.73
B	6.55	10.21	10.55	15.53	15.41	10.20	11.44
C	21.01	25.44	0.0	0.0	0.0	0.43	6.73
D	6.74	3.70	1.34	10.23	6.99	2.39	5.41
Mean							7.32

TABLE VIII  
COMPARISON OF THE PERCENTAGES IN STUDENT INDIVIDUAL RESPONSES  
OF FOUR TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	4.63	12.25	3.83	27.12	2.56	2.10	9.12
B	5.81	8.96	16.20	13.40	14.31	11.02	11.66
C	19.24	36.69	16.51	14.81	36.10	23.23	23.76
D	14.72	12.22	0.0	23.05	24.22	16.92	17.91
Mean							15.61

TABLE IX

COMPARISON OF THE PERCENTAGES IN STUDENT GROUP RESPONSES OF  
FOUR TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	51.66	40.56	50.83	30.41	33.17	63.17	44.97
B	46.63	32.50	26.18	31.84	21.83	41.22	33.25
C	26.84	11.83	33.49	36.11	21.62	29.25	27.34
D	29.96	32.04	33.22	26.37	23.45	33.85	29.59
Mean							33.78

TABLE X

COMPARISON OF THE PERCENTAGES IN STUDENT QUESTIONS OF FOUR  
TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	0.0	0.14	0.33	0.27	0.64	0.28	0.27
B	0.0	0.21	0.38	0.19	0.0	0.20	0.16
C	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D	0.71	0.56	0.17	0.0	0.0	0.17	0.25
Mean							0.17

TABLE XI

COMPARISON OF THE PERCENTAGES IN SILENCE OF FOUR TEACHERS  
IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	1.45	1.41	1.67	0.68	3.37	2.24	1.77
B	0.37	0.63	0.75	3.88	4.59	2.65	2.16
C	0.0	0.0	0.0	1.22	1.66	0.43	0.59
D	4.61	4.81	3.36	1.73	2.95	4.27	3.53
Mean							2.01

TABLE XII

COMPARISON OF THE PERCENTAGES IN STUDENT INCIDENTS OF FOUR  
TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	56.30	52.96	55.00	57.81	36.38	65.55	54.36
B	52.43	41.67	42.75	45.44	36.15	52.45	45.07
C	46.08	48.52	50.00	50.91	57.72	52.47	51.10
D	45.39	44.81	47.65	49.42	47.67	50.94	47.75
Mean							49.57

TABLE XIII

COMPARISON OF THE PERCENTAGES IN TEACHER TALK OF FOUR  
TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	42.26	45.63	43.33	41.51	60.26	32.21	43.87
B	47.19	57.71	56.50	50.68	59.27	44.90	52.76
C	53.92	51.48	50.00	47.87	40.62	47.10	48.31
D	50.00	50.37	48.99	48.85	49.38	44.79	48.72
Mean							48.41

TABLE XIV

COMPARISON OF THE PERCENTAGES IN STUDENT TALK IN ENGLISH OF  
FOUR TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	2.32	0.85	1.33	0.41	2.72	2.10	1.60
B	0.94	3.12	5.84	4.85	1.83	2.04	3.10
C	0.0	0.30	0.0	0.0	0.0	0.0	0.04
D	4.43	3.52	1.34	0.86	1.55	1.20	2.07
Mean							1.70

TABLE XV

COMPARISON OF THE PERCENTAGES IN TEACHER TALK IN ENGLISH OF  
FOUR TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	6.66	7.75	5.83	21.92	25.64	7.70	12.56
B	4.31	18.12	21.66	23.88	22.20	12.65	17.16
C	2.03	1.48	0.93	0.20	0.0	0.0	0.71
D	2.30	2.22	2.01	1.01	0.62	1.88	1.63
Mean							8.01

TABLE XVI

COMPARISON OF THE RATIO OF INDIVIDUAL TO GROUP RESPONSES  
OF FOUR TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	0.09	0.30	0.08	0.89	0.08	0.03	0.20
B	0.12	0.28	0.62	0.42	0.66	0.27	0.35
C	0.72	3.10	0.49	0.41	1.67	0.79	0.87
D	0.49	0.38	0.43	0.87	1.03	0.50	0.61
Mean							0.50

TABLE XVII

COMPARISON OF THE RATIO OF HABIT FORMATION TO GENERALIZATION  
OF FOUR TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	1.42	4.09	1.53	0.66	0.54	7.45	1.35
B	3.24	0.73	0.37	0.15	0.32	0.20	0.50
C	0.97	0.37	14.36	3.11	5.76	1.72	2.01
D	3.62	2.58	14.19	3.25	4.03	7.74	4.32
Mean							2.04

TABLE XVIII

COMPARISON OF THE RATIO OF REVIEW TO NEW MATERIAL OF FOUR  
TEACHERS IN SIX CLASS PERIODS

Teacher	Classes						Total
	1	2	3	4	5	6	
A	0.0	0.0	0.0	1.2446	.0084	0.0	0.1134
B	0.1200	0.0258	0.0135	0.0	0.0722	0.9157	0.1261
C	1.9259		0.0	0.0	0.0	0.0	0.3046
D	0.2871	0.1981	0.0	0.1053	0.0794	0.0526	0.1092
Mean							0.1633



TABLE XIX  
COMPARISON OF THE PACING OF FOUR TEACHERS IN SIX CONSECUTIVE  
CLASS PERIODS

Teachers	Classes						Mean
	1	2	3	4	5	6	
A	16.45	17.75	16.21	18.71	17.33	18.78	17.53
B	16.68	15.00	13.97	13.55	14.34	12.89	14.40
C	15.19	16.90	17.20	17.60	20.04	19.37	17.71
D	19.44	16.36	18.06	20.41	20.77	18.28	18.88

## APPENDIX D

## JUDGES' ASSESSMENT OF SIGNIFICANCE

The symbols A, B, C, D represent the four teachers involved in the study. The numerals 1 - 6 represent the six consecutive class periods. The figures entered under 1 to 6 for each teacher are percentages of time (or of number of incidents) spent on a given category of items. The figures in the column indicated by TOTAL are an average of the percentages of the six classes. The figure in the lowest right hand corner represents the mean of means (averages) for the six classes and the four teachers.

Please indicate which deviations from the mean you consider significant, i.e., as constituting an appreciable difference in procedure and student achievement.

		Sig.	N.Sig.
Category I	- % of incidents in classroom directions		
Category II	- % of incidents of modeling for recognition		
Category III	- % of incidents of modeling for imitation		
Category IV	- % of incidents of modeling for repetition		
Category V	- % of incidents of information		
Category VI	- % of incidents of variation		
Category VII	- % of incidents of selection (questions)		
Category VIII	- % of incidents of students' individual responses		
Category IX	- % of incidents of students' group responses		
Category X	- % of incidents of students' questions		
Category XI	- % of incidents of noise, silence, irrelevance		
I/G ratio	- ratio of <u>individual responses</u> group responses		
H/GE ratio	- ratio of Categories <u>2, 3, 4</u> 5, 6, 7		
T.Talk	- % of incidents in Teacher Talk		
S.Talk	- % of incidents in Student Talk		
T.T.E.	- % of incidents of Teacher Talk in English		
S.T.E.	- % of incidents of Student Talk in English		
R/N ratio	- ratio of <u>Review material</u> New material		
List. Comp.	- % of incidents used to develop Listening Comprehension		
Speaking	- % of incidents used to develop speaking skills		
D-Incidents	- % of incidents used to dev. reading skills		
T-Incidents	- % of incidents used to dev. writing skills		
T.Q.E.	- % of teacher questions in English		
S.R.E.	- % of student answers in English		

## APPENDIX E

## JUDGES' ESTIMATE ON ECOUTER ET PARLER

1. Would you indicate your idea of the importance of each step by assigning roughly the percentage of time that should be spent on each step. This applies to the last part of Grade 7.

Recognition  
Imitation  
Repetition  
Selection  
Information

2. What percentage of time should be spent at the end of Grade 7 in developing skill?

Listening \_\_\_\_\_ Speaking \_\_\_\_\_ Reading \_\_\_\_\_ Writing \_\_\_\_\_

3. What percentage of time would you expect the teacher to spend speaking?

French \_\_\_\_\_ English \_\_\_\_\_

4. With respect to the total number of student responses, what percentage would you expect to be individual responses \_\_\_\_\_ group (whole class, row) responses \_\_\_\_\_?