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The Ohio State University, Ph.D., 1972
Education, theory and practice

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DIRECTED DIALOGUE AND PATTERN DRILL IN FIRST AND
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A COMPARISON OF TWO TREATMENTS

DISSERTATION
Presented in Partial Fulfillment of the Requirements
for the Degree Doctor of Philosophy in the
Graduate School of The Ohio State
University

By
Sidney Norman Zelson, A.B., A.M.

The Ohio State University
1972

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The omission of special mention of members of my family has been at their request: they have expressed their preference, instead, for a substantial gift.
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The Problem

Since the advent of the "New Key" and the wider use of audiolingual programs at all levels, the pattern drill has occupied an important place in the language class, in the language laboratory, in methodology books, in texts, and even in readers and materials dealing with culture and civilization. There have been entire books written concerning it, as well as articles, monographs, papers and workshops which have aimed at improvement in construction and execution of this type of exercise. Various book companies sell taped drills to accompany their materials and numerous other commercial enterprises sell supplementary tapes, quick-change drills, and the like.

Most language methods classes devote a substantial portion of their time to preparation and presentation of pattern drills. Many language teachers spend a certain part of their class period, regularly, in the performance of such exercises. Practice with dialog and pattern drill comprises the greater part of laboratory programs, for the first two levels at least.
There seems to be little doubt that students can, and do, learn to give drill responses correctly, quickly, and effortlessly. They perceive the stimulus, they imitate, they repeat, they are able to make variations in their response. If they are not able to do it immediately, they hear the correct response on the tape or from their instructor, which can help them the next time.

The experiences of numerous language teachers suggest the possibility that students can, in fact, respond correctly to the stimuli without knowing what they are saying, without thinking about it, and without understanding the function of the structure that they are using. Many audio-lingual theorists have conceded this, but they have maintained that the structures will be practiced and internalized. The assumption is that the student will carry them over, or transfer them to his use of language beyond the manipulative stage and into the area of actual communication. However, there is no hard data to support its validity. Many, in fact, question it.

The role, then, of the pattern drill is not completely understood. It may quite possibly vary with the nature of the learning task. One may say quite literally that the function of the pattern drill "is in the eyes of the beholder."
Foreign language teachers perceive themselves on a methodological continuum, from a behavioristic theory-oriented approach to a cognitive theory-oriented one: from a habit-formation approach to a problem-solving one. The drill, what it is, what it should do, what it actually does, becomes central to this issue.

In a situation involving the teaching-learning of a feature of a second language, these oral exercises would seem to have much face validity. If one is to learn a rule-governed activity, such as language, there would seem to be a considerable number and variety of tasks. One approach is for the student to learn to verbalize a grammar rule. However well he may be able to state it, he must understand all the concepts involved, that is to say, the components of it. Once he has a grasp of all of these, he needs to understand their relationships in the sentence or sentences that summarize the operation of the language feature. The next step is to apply it, and to do so using all of the subsumed concepts correctly. The fact that the student has learned to verbalize the abstraction, the "grammar rule," the first step suggested in this approach, does not guarantee its comprehension and certainly not its application. A pattern drill provides a way to structure the learning episode so that the learner is, in fact, applying the abstraction and practicing it in a variety of similar situations.
The degree of effectiveness of the exercise, assuming that it is not an end in itself, depends upon how well the student is able to transfer to a new situation the particular structure that he has used. There is reason to believe that the learner is frequently not able to apply this "drill language" that he has manipulated when a new "problem" is thrust upon him, for "to the cognitive theorist," explains Grittner (1969), "language learning is problem solving. And conversation skill is achieved by speeding up the problem-solving process, not by by-passing it."1

A number of foreign language educators suggest different ways of bridging the gap between "drill language" and "real language." Some have implied or suggested that "real language" from the beginning may be more useful in the teaching of syntax; others have studied the pattern drill in various frames of reference. Researchers have addressed themselves to the role of explanation at various points in the exercise; to sequencing of different types; to a comparison of contextualized practice and pattern drill; to the role of the source language in pattern practice. It is necessary to discuss the drill in the light of the findings of these investigators and to consider some implications of other studies dealing with comparisons of cognitive and habit-formation approaches to language learning.
It may be useful also to comment on researchers' reports of language laboratory effectiveness. Another area of importance, to be taken up in the next chapter, will include some recent views on learning that seem pertinent to this particular aspect of second language acquisition.

While studies have frequently dealt with explanation of syntax, and with its teaching, they have generally not been concerned with semantic elements of the drill. Ausubel (1964) rejects the possibility of transferring the critical element in a pattern drill without an awareness of the syntactic and semantic function of each word. Numerous writers suggest the need for the student to be alerted to the meaning of what he is saying. The question seems to be how rather than whether.

Lim (1969) advocates the use of translation as a language learning procedure. She feels that the use of translation to convey the meaning of a sentence may be more advantageous than practice with pictures. Her discussion, which will be treated more fully in the "Review of the Literature," takes up various uses of the source language in second language teaching. This whole idea is opposed and defended, in both cases by convincing arguments that lack the support of significant amounts of scientific evidence.
The purpose of this study is to investigate a use of the source language as a possible means of closing the gap which exists between manipulation of the target language in a drill situation and its further application to other contexts.

Objectives

1. The objective of this study is to examine the effects on achievement in the four language skills when Spanish pattern drills and directed dialogs are preceded by an English version of the exercise. The purpose is to assure the students' awareness of a semantic equivalent before they perform in the target language. The investigator will also compare the numbers of students who withdraw from the course (but not from school) in the experimental group and the control group.

2. The independent variable is the execution of the pattern drill in English, the only difference in treatment between the two groups.

3. The dependent variables are to be achievement in reading, writing, listening, and speaking, as measured by the Pimsleur Spanish Proficiency Test, Forms A and C, and attrition rates in the experimental and control groups.

4. Due to the nature of the project, it will not be possible to randomly select either the subjects or the teachers. Two intact classes, at the same level, of each
of seven teachers will be used.

5. It would be desirable also to determine the effects of the experimental procedure on direct association; on interference from the first language; on motivation and attitude; and, in more depth, on attrition. However, they will not fall within the scope of this study.

Hypotheses

The intention of the investigator is to observe the following: (1) differences in mean achievement between experimental and control classes; (2) differences in mean achievement levels between each control class and its paired experimental class; (3) interaction of the experimental treatment with language aptitude; (4) effects of treatment on the four language skills, or on the productive and receptive skills; (5) possible differential effects of the treatment on Level One and Level Two classes; (6) comparative attrition rates in experimental and control classes, overall. The following null hypotheses will be tested:

a. There will be no significant difference in achievement in listening, speaking, reading, or writing, between the Control Group and the Experimental Group of Level I.

b. There will be no significant difference in achievement in listening, speaking, reading,
or writing, between the Control Group and the Experimental Group of Level II.

c. There will be no difference in student attrition rate among first year classes between the Control Group and the Experimental Group.

d. There will be no difference in student attrition rate among second year classes between the Control Group and the Experimental Group.

e. There will be no significant interaction between language aptitude and treatment affecting achievement in listening, reading, writing, or speaking skills.

f. There will be no significant interaction between treatment and level affecting achievement in listening, reading, writing and speaking skills.
FOOTNOTES

CHAPTER II

REVIEW OF RELATED LITERATURE

It is useful to begin a discussion of the pattern drill and its function by surveying some of the views toward it that have been expressed by prominent foreign language educators since the growth of the audio-lingual movement. It will be apparent that these views are largely oriented toward the Bloomfieldian school of linguistics and behaviorist psychological theory, both of which have prevailed in the language-teaching reform movement of the late 1950's and the 1960's.

Brooks (1960) has stated that "pattern practice capitalizes on the mind's capacity to perceive identity of structure . . . to produce a control of language structure without the time and effort required for grammatical explanations."¹ Politzer (1961) also had stressed automatic response; in fact, he attributes the failure of some highly intelligent students to become proficient in a foreign language to their unwillingness to perform automatically and to their insistence on complete intellectualization of all the details involved in their performance. Feldman (1969) writes that the drill "becomes an inductive learning
experience in which the student, after having practiced, memorized, and habituated the basic sentence ... learns how to manipulate the same structure in analogous situations." Lado (1964) has also supported the opinion that language acquisition and use is habit formation. He suggests, as does Politzer, that the learner should be given changes often that draw his attention away from the problem, to further structure the habit response. Birkmaier (1960) has also commented on the need for drilling toward automatic response.

Grittner (1969) has emphasized the need for automaticity and fluency but recognizes the need for the learner to be fully cognizant of what he has said. Cornfield (1966) explains that the student, "alerted to look for an element, in a pattern, is very likely to find it and remember it." She feels that the drill helps the student "assimilate the rule through usage and function," and that it teaches for transfer of knowledge. Rivers (1968) has pointed out the importance of overlearning, both in dialogue and in pattern practice, but stresses the need to move into the area of communication, to use the structures in meaningful situational context, since in the manipulative stages the learners "have only practiced uttering sound combinations without thinking of meaning or appropriate context." It may be that the
so-called internalization of structures, as discussed by earlier proponents of audio-lingual approaches, may not take place beyond the manipulative stages, if even that far. Under these circumstances, the only type of transfer that could be expected is that of identical elements. To put it in more practical terms, the student who has learned to perform a particular drill automatically has learned to perform only that drill or a very similar one and possibly to respond in a very similar, if not identical context, provided he knows what that context is.

Several principles of audio-lingual teaching have been questioned. Rock (1957), Clark et al (1960), and Murdock and Babich (1961) found that repetition did not enhance recall; in fact, Wertheimer and Gillis (1958) and Lambert and Jakobovits (1960) found that continued repetition had the effect of weakening the meaning of the repeated element. Taba (1962) rejects the value of practice without understanding the underlying principles. Chomsky (1968) attacks the behaviorist foundations that form the base of audio-lingual methods. He identifies linguistics as "the branch of cognitive psychology that deals both with the universal properties of language as parts of human intelligence and with the specific ways in which humans develop particular grammars." His discussions cast serious doubts upon the validity of Skinner's
views of verbal behavior. Smith (1968) found, in his study, that the S-R model was inadequate to describe language learning and indicated that "language is better typified as the acquisition of 'rules'." Indeed, cognitive theorists would find unacceptable many tenets of audio-lingualism. It seems much more useful to consider a learning task, or a complex of learning tasks such as the acquisition of a second language, from the point of view of the learner. Gagne suggests (1970) that a subject matter does not have an integrity or reality of its own but only in the component human competencies and the subsequent attainments of the learner.

Cognitive psychology is concerned with the role of the mind in the processing of information acquired. Its adherents look at learning as "acquisition, organization, and storage of knowledge in such a way that it becomes an active part of the individual's cognitive structure." They refuse to apply the results of experiments with animal behavior, at least to a significant degree, to form principles of human learning. Pavlov himself maintained that there was a second signaling system in man, that his theories of classical conditioning were not useful in consideration of higher types of human learning or of the speech functions in man. (Bruner 1965, Rivers 1964)

In studying second language acquisition and usage, it is important to recognize the multiplicity of types
and levels of learning tasks. The activity in which students respond to a stimulus they have been taught with an utterance they have practiced is quite far removed from that in which they hear or see a new message for which they must construct their own response. They may learn an element as part of a phrase or sentence, as an item for which they may know the closest native language equivalent, or it may represent a concept; e.g. the choices of en or a, en or de, por or para, saber or conocer would be just a few examples in Spanish. The learning of paradigms, plural endings, lexical items that overlap in different places in the source and target languages, contractions, the use of the subjunctive in adjective clauses, the choice of the preterit or imperfect, ser or estar, and the ordering of pronouns are not equivalent tasks. Many of these involve intellectual decisions for which there is prerequisite knowledge. Bull (1965) writes that when a student learns a rule of usage he needs to know "(1) how many items there are to choose from; (2) which items combine with which; (3) the possible meanings of each item; and (4) what cues or signals tell how to make the proper choices and combinations." He will need to know whether the rule deals with fixed or arbitrary conventions of the language or with several possible ways of expressing the particular thought, all of which will be equally suitable, or one of which will
be more suitable than the other. However, even in a situation where the learner may use structures that require rote learning only, he must still perform on a higher level to decide which elements of the language he will use of all those that he has learned. According to Rivers (1968), "linguistic scientists influenced by transformationalist theory have repeatedly pointed out that language behavior... is rule-governed behavior in which higher level choices bring lower level adjustments into play." 12

The pattern drill may or may not have merit among foreign language learning activities, wherever the instructor chooses to place himself on the continuum, from advocacy of a habit-formation approach, to belief in an eclectic one, to adherence to cognitive code-learning theory, to support of the grammar-translation method. In recent years dissatisfaction has been expressed with this oral exercise, particularly in the teaching of syntax. The superiority of pattern practice over other means of teaching rules of usage has not been proven. Indirectly, results of effectiveness studies of the language laboratory may cause us to question the value of the drill though the assumption must be made, first, that a sizable part of the language laboratory program consists of drill activities.

The Pennsylvania Study (Smith 1969) failed to show discernible effects of the language laboratory upon listening
and speaking skills. Ackerman (1966) reported higher achievement only in listening skills for the laboratory group. Altamura (1967) reported that laboratory trained students did not outperform the other group in his study. DuFrane (1969) reported significantly higher scores for the laboratory trained classes, but the final measures were administered under different conditions: the groups that showed higher levels of achievement were tested in the language laboratory while the other groups were tested in the classrooms. Thus, bias may or may not have been introduced. In a survey of almost 3000 senior foreign language majors from approximately 200 colleges and universities, Carroll (1967) found no evidence that laboratories had enhanced language achievement, either at high school or college level. It would be a serious error to make a final judgment, on this basis, as to the worth of the pattern drill, but it seems appropriate to note such findings as the above.

A survey of the opinions of a large sample of influential language teachers in North America showed a strong bias toward a thoroughly audio-lingual approach. Hayes, Lambert, and Tucker (1967) report that the value of oral drills was rated at a mean of 6.53 of a possible 7 by 364 teachers who had been NDEA Institute instructors. The types of drills are broken down to some degree in the same report. Most of them received ratings of very close to the
first figure given, and none received as low a rating as 6. Obviously, it is, by definition, a biased group, but it does reflect the thinking of many leaders of the profession in the middle 1960's.

The drill has often been discussed in the journals of the past several years. Besides opinion and preference, one may read very useful and thoughtful considerations of various aspects of its use. For some time, Frey (1968) points out, many members of the foreign language field have been oriented to two theories of language learning at the same time: the habit-formation theory and the cognitive code-learning theory. While he discusses it as an incongruity, as does Carroll, it need not be. If one accepts the idea of different orders or levels of learning tasks in second language acquisition, as indeed there seem to be, he may find a multiple approach completely reasonable. Frey explains that there is no consensus on the part of users of the drill regarding its exact function. He indicates it is useful for teaching morphology and seems to have transfer. He questions the merit of translation drills, as do many in the profession, as indicated by the above-mentioned survey. Though the semantic and verbal content should be familiar, specific messages may be novel, suggests Frey and numerous other foreign language educators. He reminds us that drill is not real language, just as the
language classroom is an artificial situation. Students often need to utter untrue statements that have little if any natural context, albeit in correct grammatical units. The Jarvis study, to be discussed later, deals with a comparison of drill with communicative activities in the teaching of French.

It is not an uncommon practice to give an explanation before, after, or during drill activities. Frey indicates that the order is relatively unimportant and that its success depends on the instructor. Some experimental studies have been concerned with sequencing practice and explanation, though the explanation has apparently dealt with syntax only.

There may be merit in trying to establish "meaningful linguistic [and psychological] hierarchies . . . to be used as guidelines in setting up drills."\(^\text{12}\) It may be, however, that pattern practice is only useful for phonology, morphology, or those features of the language that make an easily manipulated closed system.

Faulston (1970) suggests a drill hierarchy of a sort. She recommends that there be an "orderly progress up the hierarchy to communication," which she feels, as does Carroll, is problem-solving activity. The lowest type is mechanical, in which there is complete control of the response. The student need not understand or pay attention to
what he is saying, and, yet, may perform correctly. Repetition or substitution exercises are examples of such a type. The meaningful type, the next step, would also be controlled, though there may be more than one correct response. The student must understand structurally and semantically the elements of the drill at this level. Question-answer exercises of many types are in this classification, as are drills in which one change would require one or more additional changes. The communicative drill is the next level, and it is an open-ended exercise; some might not even consider it a drill. Paulston feels that it is because it is still within the realm of cue and response. It may or may not involve a creative use of the language, as per each individual case. In her scheme, the next step is communication.

It is difficult to overlook the need for cognition in this plan. Specifically how, when, and where is it achieved?

Politzer (1965) discusses the importance of "transfer of training" as part of the language learning process. Whether it is the transfer of Thorndike or the transposition of the Gestaltists is not at issue at this point precisely: what is, is that it must take place. Since we do not learn every possible utterance of our own language or the second language, we need to "transfer" known elements to form new
messages. Palmer refers to the former as primary matter; the term secondary matter he applies to those units that are built or "derived by the pupil from primary matter." Politzer suggests that once the student has the primary matter he can go from the primary to the secondary realm through the medium of his native language or he can choose a construction in the foreign language as his "base of operation." He can then make a new sentence either by substituting in the primary sentence or he can generate a new sentence by transformation. The author conjectures that good language learners tend to use the latter procedures of substitution and transformation, since the other technique will take longer, hamper fluency, and result in more errors where the native and target languages do not correspond. He concedes that many good students have in mind the lexical equivalent of the base sentence through the medium of their native language, and suggests that when the successful language student says that he is translating, he is actually following the above procedure. Explicit is the need of the student for grammatical understanding. The importance of the awareness of semantic elements is not treated. It is assumed that drill vocabulary will be familiar; thus, throughout the literature it is rarely discussed beyond that guideline. However, one may wonder if a lexical item that "should" be familiar is actually recognized
and comprehended by the average student in his performing of an oral drill.¹⁴

Politzer points out a limitation of this language teaching device: "If the problem involved is one of concept or meaning, pattern practice does not contribute to its solution. [Superficial clues can be put into the frame, but they can be quite misleading and create a type of dependence.] If the pedagogical problem is capable of a purely formal or mechanical linguistic solution, pattern practice will be a very viable one."¹⁵ Examples in Spanish might be, for the former, the choice of the indicative or subjunctive in an adjective clause and, for the latter, the order of indirect object pronoun, direct object pronoun, and a conjugated verb. One might suggest, as two solutions for the former case, the use of source language to target language translation drills or contextualized drills, practices that are, in fact, often helpful in dealing with such problems.

The author explains a procedure for the student to use, a methodology for substitution and transformation. One may ask the student to generate an utterance that involves the use of familiar patterns with new vocabulary. It may even be a combination of two or more patterns. If the student is unable to do it on his own he may be given practice. In other words, a strategy of problem-solving is suggested.
Mlikotin (1967) reports on foreign language teaching methods in the Soviet Union. "The essentials of the 'new' Soviet method could be put forth in the formula 'conscious automation', . . . a progression through the conscious command of the language to the unconscious, or from the knowledge to the habit."\(^{16}\) Another very applicable part of this report follows: "The oral side of the Soviet method rests on patterns. Before the student starts drilling a pattern in the language laboratory he must be fully aware of its lexical and grammatical implications. In other words he should not drill the patterns unconsciously."\(^{17}\) As soon as the student has learned the set of patterns in question, he need not work more with its grammatical aspect but may then make up new messages by himself. One cannot help but wonder how successful this technique is. How much difference is there between the Soviet student and ours; his educational environment and ours?

This approach, in any case, would seem quite acceptable to many a cognitive theorist in the FL field.

When Rivers (1964) discusses the pattern drill and the need for meaningfulness, she makes it a point to explain that the term refers to understanding the composition of the utterance and the relationship of the various elements to each other. It does not refer to knowledge of the semantic
meaning, which she has felt, could cause interference from the source language. Ausubel (1964), on the other hand, maintains that both the syntactic and semantic elements must be within the student's awareness. He states that "the principal transferable element in pattern practice is precise knowledge of the syntactic function of each word and its semantic contribution to total phrase meaning." He believes that without that knowledge "the grammatical patterns can be emitted perfectly in a familiar and structurally limited context" or that "simple substitutions, transformations, and elaborations can be made," but that the learner will be unable to put new words in a new context into the pattern or to use the same words and syntactic elements in a new pattern.

Wolfe (1967) questions the worth of the drill, where the student is forced to lie. He feels that only by talking factually will students and teachers use undistorted language. Scarborough (1969) considers the contextualized drill interesting but no better than the usual pattern drill, as it is still strictly controlled and artificial. To him "a realistic view of language competence as the acquisition of rules for sentence formation" means that the student must produce something personal and unpredictable. Until that time the learner has not offered proof of having acquired a productive rule. One might suggest that while
this is the aim of the instruction, it may be useful, even necessary to take smaller steps to reach such a goal. Raz (1971) urges the use of pattern practice, with subsequent opportunity for the student to use the structures. She suggests a series of steps: presentation, initial practice, generalization with relaxation of control, and application in a meaningful framework, with the aid of visuals, situational contexts, or personalized questions. This organization is quite frequent in the literature. Raz cautions that if the drills are too easy the student will perform without attention to meaning. Wheeler (1971) writes that grammatical patterns and lexical items must be practiced, but that pattern drills and sentence variations of audio-lingual materials do not lead to free expression. He, like many others, refers to two levels of speaking: manipulation and the selection of language to express personal meaning. Drills alone are insufficient. These concerns are discussed also by Garner and Schutz (1969) and by Rainsburg, (1969) who recommends that we put meaning into the drill. "While we drill formal elements, the structures, we must also concern ourselves with the semantic aspects." Belasco (1966) writes of the need for the student to know what he is saying, though in a slightly different context, in that he has addressed himself to meaning on a more conceptual level. He sees the necessity
of the learner's semantic as well as grammatical interpretation.

One cannot fail to notice the growing interest in cognitive learning theory in general and in foreign language learning in particular. An increasing number of foreign language educators have moved to a point of view where they feel that the student should be made aware of what he is doing, that grammar should be taught deductively, that the role of manipulation needs to be played down, and that the student ought to be led more quickly into meaningful communication. It should be noted that meaningful refers here to semantic meaning also.

Donaldson (1971) reports on a series of experiments by Speilberger in which the latter found "performance gains on a verbal conditioning test . . . limited only to subjects who were aware of the information supplied by the reinforcing stimulus." There was little evidence, in the studies, of learning without awareness. This work is one that seriously challenges the idea of "internalization" that has been proposed and supported by the strongest advocates of audio-lingualism. Donaldson has the view that meaning should always play a central role in practice and that the "arbitrary ban on translation" should be rescinded.

Brown (1972) is encouraged by recent efforts by some of the foreign language profession to give meaning priority
over structure, semantics over syntax, situational context over mechanistic drill. He points out the inefficiency of rote learning, the difficulty in long-term retention of material learned in that way, and the very small part in human learning that he feels that it plays.

Chastain (1971) sets forth a number of guidelines of cognitive theory of foreign language teaching. One of the most important is that learning should be meaningful, in every sense of the word. The students should understand what they say and what they do. They should know the meaning by part and by whole of any sentence or phrase that they study. "Meaning never should be subordinated to other considerations. Form without meaning is not language... The students should always be able to attach meaning to the words and forms they are using."^{23}

A recurring theme in the literature of foreign language education in recent years is that "the more meaningful the material to be learned, the greater the facility in learning and retention."^{24} It has been echoed from many directions, but frequently the problem is that the word meaningful is not meaningful.

Efforts have been made in the past several years to better understand the pattern drill. Torrey (1965) compared the teaching of grammar by rule and example and by pattern drill. The groups in her study were taught Russian
vocabulary items and were shown English sentences that they were to learn to say in Russian. The control group then received grammar lessons with rules, examples, and alternate vocabulary. Students of that group did not practice the full sentences. The Drill Group performed drill-like activities which included sentence construction, supported by translation aids and corrective feedback. The Drill Group did not practice as per usual audio-lingual procedure.

On the criterion measures that followed the practice sessions, the Drill Group outperformed the other Treatment Group. Carroll (1966) points out a number of factors that seemed to put the Drill Group at an advantage, particularly in the practice in sentence construction. He states that the group that has practiced in sentence construction should be expected to do it more proficiently than the group that has not.

McKinnon's study (1965), reported by Carroll (1966), was an experiment with types of practice and methods of presentation of sentences in a New Guinea dialect. The groups of children were taught to competence in the necessary vocabulary as in the Torrey study. The variables in practice were (1) pattern practice (repetition) only, where the child was told to imitate and to try to think what was happening in the sentence; (2) practice with a pictorial representation; and (3) exercises in which the child looked at the
picture, said the sentence, and listened to the correct version. The comparisons in presentation were (1) inductive vs. deductive and (2) a regular vs. an irregular program. In the former there was only one word changed from one sentence to the next but in the latter all the words were changed each time, keeping the same structure.

Results on the final measures showed the second type of practice more effective than the first and the third more effective than the second. In other words, the support given by the pictures helped the Type 2 practice and the picture and active practice seemed to contribute to the superior results in Type 3. The deductive presentation was superior to the inductive and there was no significant difference between the regular and irregular programs.

Politzer (1968) investigated the effects of sequencing drill and explanation. His four treatments were (1) explanation before drill; (2) introductory drill, explanation, more drill; (3) drill and explanation; and (4) drill with additional practice and no explanation. The subjects were the students of four first year Spanish classes and four first year French classes. Six grammatical topics were given to each of the two language groups. The sets were of comparable difficulty from one language to the other.

After each sequence, as per method of treatment, the criterion measure consisted of eight sentences to be translated to the target language or four of the latter and four
transformation items. Subjects were given the MLAT, to be used as a covariate if necessary.

Before the scores of the post-tests were adjusted, the combined data showed Treatments 1 and 2 more effective (early explanation). However, after adjustment for language aptitude, significant differences disappeared in all but two examples of T1 and T2, which gave better results.

Common practice though it may be, one may question the merit of using aptitude scores as covariates if the correlation of such scores to the post-test scores is not sufficiently high. A correlation of as high as .50 is, after all, only 25% efficient, and in most instances correlations of aptitude scores and post-tests in foreign language studies have been substantially lower. In a subsequent study of the pattern drill, Jenkins did not use the aptitude score as covariate, as it showed a correlation of .24 to gain scores on the post-test. The figure showed a definite relationship, undoubtedly significant considering the size of his group, but maybe less than useful for measurement purposes.

Jenkins (1969) also studied sequencing of drill and explanation but with a somewhat different type of problem. His investigation dealt with the effects of position and use of the explanation, in simple non-grammatical terminology, in the teaching of the pattern, Noun + ser(estar) + Adjective. In one treatment group the explanation pre-
ceded drill; in the second treatment it followed; in the third it was preceded and followed by drill; and in the fourth there was no explanation. Instead, the students were given additional practice and shown stick figure drawings with illustrations of correct choices, in an effort to help them develop feeling for correct form. The fourth and sixth grade children were given the EMLAT and a pre-test.

The highest gain was shown for $T_1$ (explanation + drill), though the second and third were also markedly superior to $T_4$ (no explanation).

While the Politzer study dealt with structures and syntax, this one was a conceptual problem. However, in both cases the explanation seemed to be of help, though the interpretation would depend on the weight given to the aptitude battery. It seems reasonable to assume that the intermediate grade students did not grasp a concept by induction as well as they did with explanation. It is possible, of course, that the stick figure illustrations were unclear, but there is no reason to believe that they were less clear than the usual classroom materials.

Cordes (1967) carried on a series of experiments with drills, but from somewhat different points of view. Working with a sample of 30 Level One high school Spanish classes, he investigated the effects of three types of drill lessons
and 15 sequences among low, middle, and high aptitude students. The three types of lessons were (1) drill only; (2) drill + explanation; (3) drill + extra drill. The sequences were various orders of explanation (if applicable), repetition and substitution exercises with three patterns, of which they were to learn variations and English meanings. The criterion measure was a reading-writing test of 20 items over the three patterns they learned. Repetition and substitution exercises were taped, with explanation in (2). The model sentences were given and translated, followed by the three-phase drill.

The sequences were block arrangements (Pattern 1, Pattern 2, Pattern 3) or broken sets of various combinations (e.g. part of Pattern 1 - part of Pattern 2 - part of Pattern 3 - remainder of Pattern 1 - remainder of Pattern 2 - remainder of Pattern 3).

Pre-tests were given and used to adjust scores on post-tests. The MLAT was used to separate the students into low, middle, and high aptitude groups to determine the differential effects of lesson type and sequence on the learning of students of varying abilities. Though much of what one may gather depends on the interpretation of the data, the results suggest the following:

(1) The explanation was superfluous for the high aptitude students, but helped the middle group considerably. (The middle group included
those students $2/3$ S.D. from the mean, or almost the middle 50%, assuming a normal distribution). It seemed not to help the low group as much as extra drill.

(2) The best students were unaffected by treatment.

(3) If the sequence was good, the explanation made little difference.

(4) In poorer sequences, longer drill lowered scores.

(5) Repetition drill before substitution is a desirable order.

It should be emphasized that these were relatively low level learning tasks: simple manipulation, recognition, and recall were sufficient to answer all test items. The test consisted of five multiple choice questions English-Spanish translation; five Spanish-English translation items; five items in which the students were to arrange groups of words in proper order to form short sentences; and five items in which the students were to pick the best English translation for the underlined word. Understanding was, nonetheless, necessary in the determination of a correct response.

The best sequence for all groups together was the block presentation. However, certain broken arrangements gave significantly better results, especially among the higher aptitude students. It is difficult to say whether the unusual arrangements improved motivation, drew closer
attention, helped information processing, or some of all three in various combinations. One would be tempted to say that some of the unorthodox arrangements may have helped comprehension and/or recall somewhat, since many of the broken arrangements consistently gave poor results. The two successful but unusual sequences had, in common, re-entry of the three patterns at the end of the lesson.

The investigator suggested that the classroom teacher need not feel bound to finish all of one pattern before going on to another; there may be alternative sequences that, through one means or another, may enhance learning. Implicit is the assumption of the worth of the pattern drill.

Morrey (1970) used an instrument to evaluate teachers' drilling sequences. In a study involving 304 students, he found that those in classes of teachers with high scores on his observation scale performed the best in written tests over the structures in question, though not on oral tests. The students were pre-tested with the MLAT and a proficiency measure.

Jarvis (1970) conducted a study comparing the effects of contextualized language practice and pattern drill in an elementary college French program. Seven teaching assistants, each working with a drill class and a class that used language as a communicative activity, participated in the
experiment. Pre-tests of aptitude and post-tests of attitude and proficiency were given, the proficiency scores adjusted as necessary with MLAT scores as covariate.

Heretofore, numerous discussions have stressed the need for communicative activity, for language practice beyond repetition, manipulation, and artificial utterances. Students who had practiced constructing sentences, students who had to perform activities at a higher cognitive level, and students who were aided in understanding what they were doing seemed better able to perform on the criterion measure, where they had to recall, transfer, or transpose what they had acquired.

In this study the results indicated that the contextualized practice classes were able to express themselves more fluently and grammatically, in writing and in speaking, in both structured and unstructured tasks. Adjusted means on the receptive skill measures generally favored the contextualized groups, though those differences were not significant. Differences between C groups and Drill Groups were more pronounced among high aptitude students: they were often quite small among the lower ability students. The drill may have been of more help to them relatively than to the students of higher aptitude or they may have found the class activities of the C groups too difficult. The latter classes had many more decisions to make with each utterance.
It would seem to follow that students who have practice in problem-solving in classroom activities, provided they can do them, perform at a higher level on tests, where they will also have to solve problems.

The attitude measures also favored the C groups over the D groups, particularly in their reactions to their French class. If there is greater motivation in the realization that one can actually express himself in the language, the C group's performance may be related to that factor. At the same time it is extremely difficult to establish cause and effect in such a case, if not impossible.

At the end of the study five of the seven instructors stated their preference to use both drill and contextualized practice activities, depending on the particular objectives of the lesson or part of the lesson. This is understandable, and is probably the feeling of most foreign language teachers. The types were separated, of course, by the necessity of the experimental situation.

Oller (1969) completed a study in which he found that the effect of meaningful sequence enhance learning of a set of Spanish sentences. He hypothesized that practicing patterns from previously learned dialogs or stories would be effective means of "establishing communicative import."

Oller constructed four sentences that were logically connected and four that were not. Both lessons were taught
to two groups of students, using listening, breakdown and repetition, directed dialog, and question-answer drill. Each test item required the student to respond with one of the Spanish utterances to a stimulus situation described in English. The standards of evaluation were (1) the number of recognizable Spanish phones in correct sequence; (2) the number of intelligible words; (3) the number of intelligible sentences. Significant differences in all cases with both groups favored the logically connected sentence sequence.

Some foreign language educators favor using dialog sentences or sentences from the reading selection as basic frames for pattern drills, for the reason suggested by the above investigator. Others feel that it is too restrictive of choice of pattern; they also maintain that if potential for drill is the primary consideration for selection of a dialogue sentence, it will be too difficult to use natural exchanges, since native speakers may not use good pattern drill frames when they talk to each other.

The outcome of the experiment would seem to support the first view, where the instructor is more assured of the learners' practicing in a familiar (and meaningful) context. However, it may be useful at this point to compare the two sentence sets. It is true that they are very close in number of phones, number of syllables, number of words, and
number of morphemes. It should be noted, though, that the nature of the tasks could have biased the results in some ways.

<table>
<thead>
<tr>
<th>Set A</th>
<th>Set B</th>
</tr>
</thead>
<tbody>
<tr>
<td>¿Cómo estás?</td>
<td>¿Qué es esto?</td>
</tr>
<tr>
<td>Estoy bien.</td>
<td>Voy después.</td>
</tr>
<tr>
<td>¿Y usted?</td>
<td>¿Quién es?</td>
</tr>
<tr>
<td>Muy bien</td>
<td>Pues, voy.</td>
</tr>
</tbody>
</table>

In the practice with Set A, one utterance could very logically have been used to elicit another, and may have been, both in the question-answer drill and in the directed dialog. This is obviously not the case with Set B. In the practice with Set A, no outside sentences need have been brought into the picture, so that the learners actually had more exposure, perhaps, than would have been possible with Set B, where other sentences were necessarily used, in both kinds of exercises beyond repetition. The sentences that would elicit Set B in the practice sessions would have a far higher information loading than those for Set A. Due to the greater redundancy of Set A sentences, an omission of a phone or syllable in Set B sentences could have been more noticeable. At further consideration, it would have been quite difficult to avoid using utterances within Set A in the practice sessions. It might have been those factors discussed above that caused the superior performance: less
difficulty on the one hand and greater exposure on the other, rather than the logic of the sequence, which could have been at work also.

Oller and Obrecht (1968) made a comparison of two drill treatments. In one procedure the group was presented pattern drill sentences for repetition, listening, and manipulation. They were informed of meaning only once. The other group was constantly made aware of meaning and was led into communicative activity. The group was given question-answer drill, directed dialog, and a set of drawings of the objects referred to in the Spanish sentences. Both groups heard and said the Spanish sentences the same number of times. The 20 students of first level French who were in the experiment were matched on sex, verbal scores, all B or better, and grade level.

The students' responses to questions for each lesson were recorded and scored. The criteria used in evaluation were accuracy (number of intelligible sentences, number of intelligible words, and number of phones in sequence) and latency of response, which refers to the delay between the last sound of the stimulus situation to the first Spanish response of the student. Significant differences (.02, .10, and .02, respectively) favored the "communicative activity" group on accuracy measures; on the latency measure the difference was in the same direction but barely failed to be significant at .10.
The authors suggest that translation has merit as a means of establishing context for beginning language students. Nevertheless it is difficult to know precisely what part translation played and how much the other differences in treatment (question-answer, directed dialog, and drawings) may have contributed to the results.

The investigators are very quick to point out the artificiality of the experiment. They also comment on the seeming lack of necessity of proving the obvious. They do bring to our attention an important aspect of the study; that awareness of the student of what he is doing is critical, even for a set of tasks that call for a rather low level of cognitive activity.

Areas of controversy in foreign language teaching-learning include, among others, (1) ways and means of narrowing the gap between manipulation and communication (one might suggest, as one alternative, the formation of cognitive structures); (2) the teaching of meaning and the use of English in the classroom; (3) the place of cognitive processes; (4) the use of the pattern drill; (5) facilitating transfer (whatever kind it might be) in second-language learning; (6) methods of enhancing immediate retrieval of needed semantic and syntactical elements; and (7) applying meaningful learning and practice principles to second-language learning. (Jakobovits 1968, Chastain 1971, Lange
It is readily apparent that many of these overlap.

Ausubel's discussion of the role of semantic meaning in the drill has already been taken up. Calvert (1963) pointed out the importance she perceived in "fixing firmly the meaning of the drill pattern sentences before the many repetitions of the exercise "so that the [Peace Corps] trainee's memory tended to retain the association between meaning and sound." She alluded to the need for a quick translation of an occasional item by a particular student, noting that they "can become very apt performing the mechanical transformations of a drill without being aware of what they are doing or why."25

Hall (1966) comments on the usefulness of substitution, then correlation exercises. He makes the recommendation that "the learner should always be given the meaning of what he has just said in accordance with the required substitution; if the meaning is not kept in mind all the time (and checked on by being given out loud), the repetition may become parroting without understanding of what is being said."26

His illustration shows the instructor's stimulus in French, followed by students' repetition and translation to English. The patterned response drill that follows the preliminary items is done in a similar fashion. The cue is
given, the student makes the required change as he responds, immediately adding the English translation. Such a procedure would, doubtless, be unacceptable to a great majority of today's foreign language instructors, even those who subscribe to cognitive theory, one might venture to predict, even though we do not know how effective it may be.

Kirstein (1972) makes a strong case for the judicious use of translation in language instruction. One of the most common arguments against it is that it will block the learner's path toward coordinate bilingualism. This point is debatable, if applied to sparing use of such an aid. Another argument is that translation is a special skill, to be taught at advanced levels. No doubt many types of translation are in that category, but translation for referential support, for understanding the meaning, may not be. A third point is that it will plant the idea in the learner's mind that the two languages correspond. However, the procedure can also be utilized to show that the languages fail to correspond, and precisely where and how.

Kirstein asserts that students do, in fact, translate, with help or without it. Carroll (1964) is of the opinion that students adopt such a strategy quite often. They do it correctly sometimes, just as they make correct
analogies sometimes. Darbelnet (1963) states his doubts that students think in the second language from simply being forbidden to speak their native language. He believes that the first language continues to rule their thought and expression, and that it is folly to think otherwise.28

Lim (1969) has expressed interest in the use of the first language in second-language learning. Besides its possibilities in testing, which are often exploited, and its primary role in a grammar-translation approach to language instruction, she sees considerable potential in second-language teaching-learning activities.

The source language may be used to supply the meanings of pattern drill sentences. The instructor may show them while the sentences are being said in the target language. The translation may be given periodically. The instructor may check on the students' understanding of a sentence by asking for a native language equivalent (in idiomatic language). The instructor may give the cue for a substitution exercise in the source language.

Lim sets forth some differing views toward translation in the late nineteenth and early twentieth centuries. Sweet was generally in favor of its use, as was Palmer, provided that it was not carried to extremes. Allen saw a certain usefulness in translation in structure drill. Jespersen opposed the practice. Others suggested that it
be avoided at all costs, that it was unsatisfactory because languages differed so from one another; still others offered a plethora of similar admonitions. During World War II and afterward, and especially in the late 1950's and early 1960's, in the height of the "language-teaching reform movement," the leadership of the profession inveighed against such activity, except in very prescribed circumstances. Many language teachers simply declined to use the translation drills that were included in lessons in audio-lingual texts for the first and second levels.

Lim treats the concern that translation aggravates the problem of interlingual interference, a claim that she maintains has not been proven. She reports findings to the contrary, in fact. She carried on an experiment to determine the effects of using pictures and translation in the teaching of patterns of Malay sentences to third grade children. Differences in scores were significant only in number of errors classified as caused by interference. The differences, favoring the translation treatment, were interpreted as indicating that translation did not result in greater amounts of interference; instead, it seemed to be more advantageous as referential support, and at the same time it facilitated source language-target language translation.
Dodson (1967) compared the acquisition and retention of foreign language sentences and meaning in three treatment groups. While they imitated foreign language sentences, one group was shown pictures, actions, objects, and qualities to clarify meanings; the second group was shown pictures and given the native language equivalent initially; the third group was given the native language translation and no additional help. The experiment was carried out with three groups of primary school children with one year of study of the language and three groups of secondary school students with no previous study. In both cases the second treatment gave the best results.

Lim recommends the further investigation of the use of native language translations to show meaning, rather than visual referential support. It appears faster, less ambiguous, and no more likely to cause interference. She reaffirms Allen's statement (1948) that "it has yet to be demonstrated incontrovertibly that a Direct Method Student makes this kind of error (due to interlingual interference) less frequently than students who use their own language freely in the early stage of learning a foreign language."  

The objectives of the previous discussions have been (1) to describe the role of the pattern drill in the audio-lingual paradigm and to set forth some modifications in thought toward language learning, shaped possibly by
findings and interpretations in the area of cognitive psychology; (2) to suggest research that has seriously challenged former beliefs about learning; (3) to consider aspects and implications of cognitive theory and recent views of a number of linguistic scientists that may have application to language teaching; (4) to offer views and illustrations of several tasks involved in the learning of a second language; (5) to survey the literature in order to present a current range of beliefs about the pattern drill and to examine a number of efforts to test those beliefs; and (6) to consider the use of the source language in second-language learning.

As set forth or implied in the preceding chapter, the pattern drill as a device for teaching morphology and syntax seems to have much validity as a cognitive exercise, though its value in a habit-formation approach to language teaching may have a limited usefulness.

The present study proposes to use an adaptation of the pattern drill and test it empirically in first and second year high school Spanish classes. The adaptation will go slightly beyond Lim's suggestions, in that the cues will be given in English and the students will give the drill responses in English, after which the exercise will be performed in Spanish. The English is to act as an "advance organizer" (Ausubel, 1968), establish learning set, assure
that the students will not be unaware of the meaning of their utterances, and, possibly, help to alert them to contrastive structures in the two languages. Hopefully, the experiment will provide knowledge that may prove helpful in trying to answer questions that have recurred through the past several years in the literature of the Foreign Language Education field.
FOOTNOTES


5 Ibid., p. 54.


9 Chastain, p. 88.

10 "Pavlov, whose early account of the learning process was based entirely on a notion of stimulus control of behavior through the conditioning mechanism, recognized his account as insufficient" to deal with higher forms of learning. To supplement the account he introduced the idea of the "second signaling system" with central importance placed on symbolic systems such as language in mediating and giving shape to mental life." Luria has stated that


12 Rivers, p. 76.


17 Ibid.


19 Ibid.


23. Chastain, pp. 94-96.


26. Ibid.


CHAPTER III

PROCEDURES

1. The population was first and second year Spanish students in a high school audio-lingual program. The sample consisted of 14 intact classes of approximately 350 ninth through twelfth grade Spanish students in junior and senior high schools in Upper Arlington and in Reynoldsburg, Ohio. The four schools involved are in an upper middle-class socio-economic area.

2. The non-equivalent control group design was used in the seven simultaneous experiments.

3. The study involved seven teachers, selected by the writer, each with one experimental class and one control class at the same level. Eight first year classes and six Level Two classes participated. The experimental treatment for each pair was randomly assigned.

4. A detailed procedures manual was prepared for and discussed with the participating teachers prior to the beginning of classes in September.

5. All students were given, as pre-tests, the Pimsleur Language Aptitude Battery and Form A of the Pimsleur Spanish Proficiency Test. The pre-test scores were used to
eliminate those with prior knowledge of Spanish, and to adjust post-test mean scores appropriately. The post-tests were the Pimsleur Spanish Proficiency Test, Form A for Level One and Form C for Level Two. The experimenter asked the participating teachers to inform their students that the post-test scores would constitute part of their final grade. All Reading, Writing, and Listening Tests and the Aptitude Battery were administered in the language classroom. The Speaking Tests were administered and recorded in the Listening Center at Cunz Hall at The Ohio State University.

6. The experimental procedure was as follows: The first three times a pattern drill was used, and the first two times a directed dialog was used in a particular unit, the exercise, with all cues and responses, was to be executed by the class in English. English expressions were to be idiomatic and approximately equivalent to the Spanish exercise that was to follow. When English structure differed from the Spanish, the most natural English was to be used, rather than an artificial structure. The instructors were to explain to the class, initially and periodically, that the English utterances were not necessarily translations, but, rather, what an English speaker would say to convey the same idea. The English exercise takes less than a minute, with ten cues and responses in a paired-sentence drill; other types take considerably less time.
7. Each teacher adhered as closely as possible to the same lesson plan for the two classes involved. Each used the same materials, techniques, assignments, and tests for his two classes, using the experimental treatment in one. It was planned for classes to spend ten minutes of each period in drill or directed dialog activities, though the figure was modified on occasion by the instructor.

8. Teachers were asked to keep simple records of time spent in drill activities, type of pattern drill, and the model sentence, one cue and one response. They were to make entries each day in a notebook supplied to them for the purpose.

9. The experiment began in September, the pre-tests were administered soon afterward, and the post-tests were administered in May.

10. Control of variables
   A. Internal validity: Design 10 (Campbell and Stanley, 1963) controls for all sources of invalidity except statistical regression and interaction of selection and maturation. Since group means were to be compared, rather than individual scores, there is no reason to believe that the former was a serious threat. As both classes of each teacher came from the same student body and were not self-selected the latter was not considered
a problem. It was possible that a remedial class or an accelerated class meeting one period would pull a large proportion of poor or good students out of one of the groups. However, this became apparent on a part of the Language Aptitude Battery and on the pre-test in proficiency, in the case of Level Two groups and was controlled by ANCOVA. The more similarity shown on the pre-tests between the two groups in each pair, the more effectively the design is said to control for extraneous variables. (Campbell and Stanley 1963).

B. External validity: Interaction of testing and treatment was not considered a problem: neither the aptitude battery nor the proficiency test changes or sensitizes the examinee. Furthermore, Level Two students had never seen their post-test, Form C, as their pre-test was Form A; Level One students had seen their post-test previous to the final measure but it was at a time when they had no knowledge of Spanish. Were it not for the above, there could have been a pre-test post-test interaction which could have jeopardized the internal validity of the experiment also. There may have been a reactive arrangement, but the teachers were instructed to tell both groups that they were in an
experimental study in the event that any students gave indications of awareness of that fact. (Politzer and Weiss, 1970). Interaction of selection and treatment was not considered to be a threat to validity, as that interaction, which was to be observed as interaction between aptitude and treatment, was one of the objectives of this study.

11. Instrumentation: The Pimsleur Language Aptitude Battery has shown a reliability of .76 (median) and a validity of over .70 correlating it to measures of the productive skills; its validity has been shown as somewhat less with the receptive skill measures. The Pimsleur Spanish Proficiency Test, Forms A and C, have shown a high reliability and a moderate to high validity coefficient when compared to a composite of students' final grades and teacher ratings of their proficiency in the various language skills (.47-.59). Inter-scorer reliability has been .94-.99. (Test manual)

12. Data Analysis

A. The numbers of student dropouts, by level and by group, were tabulated and compared by means of a Chi-square test.

B. Mean achievement scores in Listening, Reading, Writing, and Speaking post-tests, by level and by treatment group, were compared by Analysis of Variance.
C. Interaction of level and treatment was determined by Analysis of Variance.

D. Mean achievement scores in Listening, Reading, Writing, and Speaking post-tests, by level, class, and treatment group, were compared by Analysis of Covariance.

E. Interaction of aptitude and treatment was determined by factorial Analysis of Variance.
CHAPTER IV

RESULTS

It is useful to note certain relationships which appeared among a number of pre-measures and post-measures, the consistency of such findings, both within the study and with findings from other studies, and the extent to which they seem to support, or contradict current thinking in the field. Though the evidence is not conclusive, examination reveals several trends that might be discussed.

Grade-point average, one of the component scores of the Language Aptitude Battery, showed a moderate-slight correlation to proficiency pre-test scores in all but Listening, which appeared much less related. In both instances, pre-test and post-test, an association was readily visible between GPA and proficiency in all skills, with the above exception. Graphic skills test performance was more related to GPA than performance in Speaking and Listening. Previous academic success was more effective than the total aptitude score in predicting the final grade, as it was, also, in predicting post-test scores in all productive skills but pronunciation. It was almost as successful in predicting reading score.
Interest score was associated with pre and post measures of productive skills (.30-.39) but not with tests of receptive skills. A correlation coefficient of .117 was indicated for its relationship with Final Grade. A modification of the Interest scale might bring about a somewhat higher correlation with achievement. To some its categories may seem quite unevenly spaced. They do not occupy well defined positions and may vary with different students or even with same individual from one time to another. The first and second responses, from Low to High, are quite close together in meaning. The third and fourth are also close, though not as much so as the first two. (Fig. 1) However, they are actually scored as 0, 2, 4, 6, and 8, which suggests that each interval is equal and constant.

\[\begin{array}{c}
\text{rather uninterested} & \text{mildly interested} \\
\text{more or less rather interested} & \text{strongly interested} \\
\text{indifferent interested}
\end{array}\]

Fig. 1: Graphic Scale of Responses on LAB Part II

Thus, a change in the terminology or in the type of scale may possibly minimize a potential source for error.

The sub-test of English vocabulary showed a higher correlation (usually considerably higher) than the section,
Language Analysis, to 17 of 20 measures and combinations of measures of proficiency and to Final Grade as well. The two showed negligible association with Speaking scores. Furthermore, after comparing correlations of Vocabulary score to other variables and Vocabulary-Language Analysis combination score to other variables, one would cautiously suggest that the Language Analysis sub-test actually has detracted from that combination and from the entire aptitude battery; even more so, since it has been counted twice in the total score. Upon examination of correlations of the tests of sound-symbol correspondence and of auditory discrimination to the other variables, one reaches a similar conclusion, favoring the test of sound-symbol correspondence. In this study there can be little doubt that the aptitude battery would have had a higher predictive validity if scores for the sub-tests Language Analysis and Auditory Discrimination were eliminated altogether, in spite of their apparent applicability. The problem, if there is one, may have been due to the novelty of the tasks they present to the student and the manner in which the student responds to such situations.

Total LAB scores were more related to the post-measures of receptive skills than to those of productive skills, which was a reverse arrangement of that reported in the test manual. The correlation of aptitude score to the
combination of post Listening, Reading, and Writing was computed at .46 and its coefficient with Final Grade (for the year) was .51.

The only pre-measures that seemed at all useful in predicting Speaking skill achievement were Interest (.37) and the pre-test in Speaking (.72). The other pre-tests of the individual skills correlated at .54, .37, and .67 to Reading, Listening, and Writing post-tests respectively. Listening, Reading, and Writing pre-test scores combined showed a high association to the corresponding post-test combination (.79) and to the final grade (.59). It was the best predictor, for second year students, of the year's grade. This finding would support those who maintain that the best predictor of future foreign language achievement is past achievement.

The concurrent validity of the post-test combination of Listening, Reading, and Writing was computed at .63. If the Speaking score is added, the correlation to Final Grade is .51. This could suggest several possibilities, among them (1) speaking skills were not an important factor in determination of final grade; (2) Speaking test performance may be affected more by personality factors than by language competence, particularly in the lower ranges; (3) Speaking tests are less valid and reliable measures; and (4) a bias may have been injected into this aspect of
the study, since those who took this test were self-selected in 12 of the 14 classes. Each of the four seem likely in this experiment.

It should be pointed out that the above-mentioned comparisons of pre and post measures are only applicable to second year Spanish students involved in the study: among the first year students the sub-tests of receptive skills showed chance results and in those of productive skills, with the exception of pronunciation, (which was not a concern in this study) scores were extremely close to zero. In cases where they were not, the student concerned was eliminated from consideration in the study on the basis of previous training.

Pre-test Summary

The Pimsleur Language Aptitude Battery was administered to all students who participated in the study. The Pimsleur Spanish Proficiency Test, Form A, was also given. However, test results among the first year groups justified its being used only to eliminate from consideration those who gave evidence, on the tests of productive skills, of having had previous knowledge. It was decided, at that point, to use only the total aptitude score as a covariate for the first level. Mean scores of the remaining group were extremely close to twenty-five per cent on the tests of receptive skills: in other words, they may well have
Table 1: Correlation Matrix

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**AMTOWN - CORRELATION WITH ITEM DELETION - REVISED JANUARY 30, 1970**

**HEALTH SCIENCES COMPUTING FACILITY, UCLA**

**PROBLEM CODE: EZLSON**

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**NUMBER OF CASES:** 301

**NUMBER OF TRANSGENERATION CARDS:** 0

**NUMBER OF VARIABLE FORMAT CARDS:** 1

**TRANSGENERATION (IF ANY) OCCURS BEFORE ITEM DELETION**

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**MEANS AND STANDARD DEVIATIONS**

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**STANDARD DEVIATIONS**

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</table>
been due to chance. There exists the possibility that such a decision introduced an error into the study, though perhaps not as great an error as that which might have been introduced by using guess measures such as the first year pre-test of proficiency.

For the second year groups the sum of the Listening, Reading, and Writing pre-test scores was used as the covariate. It had a higher correlation with all post-measures than any other pre-measure taken. In most cases the coefficient of correlation was two to four times as high; it was, in every case, substantially higher than any other. The Speaking Test score was not included in this combination for several reasons, but the strongest factor was that many students who did not take the pre-test of speaking would have been immediately eliminated from the subsequent analysis of covariance. Speaking scores gave little evidence of being related to other measures than their counterpart, the other test of speaking skills, and with interest score on the aptitude battery. In further support of the use of the combined score of Reading, Listening, and Writing, one may offer the fact that this figure had a higher correlation to each post-measure, be it of listening, speaking, reading, or writing, than any other, including the pre-test score in the particular skill.
Table 2: Language Aptitude All Groups

<table>
<thead>
<tr>
<th></th>
<th>Teacher</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>T1</td>
<td>68.1</td>
<td>71.1</td>
<td>79</td>
<td>72.6</td>
<td>78.6</td>
<td>73.7</td>
</tr>
<tr>
<td></td>
<td>T2</td>
<td>76.3</td>
<td>69.8</td>
<td>71.9</td>
<td>72.4</td>
<td>73.3</td>
<td>74.1</td>
</tr>
</tbody>
</table>

It may be observed that although there is some variability in aptitude scores, from one teacher to the next, or from one class to the next, over all means are quite close within each level. Actually, Language Aptitude means were slightly higher among the Control classes at both levels.

Table 3: Level II LRW Pre-Test Scores

<table>
<thead>
<tr>
<th></th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>50.1</td>
<td>47.1</td>
<td>43</td>
</tr>
<tr>
<td>T2</td>
<td>45.4</td>
<td>50.9</td>
<td>45.3</td>
</tr>
</tbody>
</table>

The means of the two treatment groups are very close on this measure also, though, as in Table 2, differences from one class to another or from one teacher to another may be noted.

The above data was used to adjust means on the post-measures of Reading, Writing, Listening, and Speaking, as shown by the tables and discussions that follow.
Table 4: Means of Reading Post-test Scores

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>ANALYSIS OF VARIANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td>12.5</td>
<td>12.0</td>
<td>Group F = .061</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Level F = 15.15 **</td>
</tr>
<tr>
<td>Level II</td>
<td>14.1</td>
<td>14.8</td>
<td>Group x Level F = 1.07</td>
</tr>
</tbody>
</table>

N = 279

It may be observed that the only significant difference was that which appeared between levels, which has no importance in this study. The difference between treatments at Level II very slightly favored the Experimental Groups while the reverse was true at Level I. What appears as slight interaction between level and treatment is shown in Teacher Three and Teacher Four cells in Table 5 as they are compared with Teacher One and Teacher Two cells.

The following null hypotheses were accepted as tenable:

(1) There will be no significant difference in reading achievement between treatment groups at Level I.

(2) There will be no significant difference in reading achievement between treatment groups at Level II.

(3) There will be no significant interaction between level and treatment.
Table 5: Adjusted Mean Scores on Reading Post-test, by Class, Treatment, and Level

<table>
<thead>
<tr>
<th>Level I Teacher</th>
<th>Level II Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>T1</td>
</tr>
<tr>
<td>T2</td>
<td>10.7</td>
</tr>
<tr>
<td>N = 155</td>
<td></td>
</tr>
</tbody>
</table>

(Means as adjusted)

Analysis of Covariance

Teacher F = 10.116**
Group F = 1.824
Group X Teacher F = 3.147**

Teacher F = 8.873**
Group F = 1.56
Group X Teacher F = .574

At both levels, differences between groups approached significance, favoring Control Group (T₁) in the first year and the Experimental Group (T₂) in the second year classes. At Level I there was a significant interaction between teacher and group. At the second level the difference favored the experimental treatment but did not achieve significance.

The analysis of Level I groups indicated that the experimental treatment adversely affected the high aptitude group, a trend that was usually evident. Where differences favored the high aptitude experimental group, they were very slight indeed. This was true for Level II also but to a lesser degree.
Table 6: Mean Scores on Reading Post-test, by Level, Treatment, and Aptitude Group

<table>
<thead>
<tr>
<th></th>
<th>Level I Treatment Group</th>
<th>Level II Treatment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T₁</td>
<td>T₂</td>
</tr>
<tr>
<td>Aptitude</td>
<td>H</td>
<td>15.7</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>10.4</td>
</tr>
<tr>
<td>N</td>
<td>155</td>
<td></td>
</tr>
</tbody>
</table>

Group F = .636
Aptitude F = 16.098**
Group X Aptitude F = 4.763**
Group X Aptitude F = .409
Aptitude F = .793

The Level II lower and middle aptitude experimental group students demonstrated a somewhat higher degree of achievement. There was a slight interaction between aptitude and treatment but it did not approach significance.

The following null hypotheses were accepted as tenable:

(1) There will be no significant interaction between aptitude and treatment in Level I groups.
(2) There will be no significant interaction between aptitude and treatment in Level II groups.

As with the Reading Test data, no significant differences appeared that have any import in the study. The same pattern appeared as in the previous case: a slightly lower
Table 7: Mean Scores in Writing Post-test, by Level and Treatment

<table>
<thead>
<tr>
<th>Group</th>
<th>Analysis of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td>Group F = .01</td>
</tr>
<tr>
<td>Level II</td>
<td>Level F = ** 72.726</td>
</tr>
<tr>
<td>GroupX Level</td>
<td>GroupX Level F = .06</td>
</tr>
</tbody>
</table>

mean for the Level I Experimental Group and a slightly higher one for the Level II Experimental Group. The source of the lower means for the Experimental Groups can be localized, again, in the Teacher Three and Teacher Four cells in Table 8.

The following null hypotheses were accepted as tenable:

1. There will be no significant difference in writing achievement between treatment groups at Level I.
2. There will be no significant difference in writing achievement between treatment groups at Level II.
3. There will be no significant interaction between level and treatment.
Table 8: Adjusted Mean Scores on Writing Posttest, by Class, Treatment, and Level

<table>
<thead>
<tr>
<th>Level I Teacher</th>
<th>Level II Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4</td>
<td>5 6 7</td>
</tr>
<tr>
<td>T1 24.6 26.0 27.0 36.5</td>
<td>T1 19.0 16.5 16.3</td>
</tr>
<tr>
<td>T2 24.5 29.0 22.9 30.3</td>
<td>T2 18.1 17.9 16.7</td>
</tr>
</tbody>
</table>

N = 162 (Means as adjusted)  
N = 119 (Means as adjusted)

Analysis of Covariance

Teacher F = 7.9**  
Group F = .689  
Teacher X Group F = 2.202

Teacher F = 1.59  
Group F = .059  
Teacher X Group F = .348

Though there were observable differences between an individual teacher's Control Group and Experimental Group, they did not achieve significance overall, having canceled each other out to some extent. An interaction is visible between teacher and treatment, as in Table 5, but it can be traced to the same four cells of Level I.

At both levels the high aptitude experimental treatment students performed less well. Only in the second level groups did interaction between aptitude and treatment approach significance.

The following null hypotheses were accepted as tenable:
Table 9: Mean Scores on Writing Post-test, by Level, Treatment, and Aptitude Group

<table>
<thead>
<tr>
<th></th>
<th>Level I Treatment Group</th>
<th>Level II Treatment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aptitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>T1</td>
<td>T2</td>
</tr>
<tr>
<td>H</td>
<td>37.1</td>
<td>35.3</td>
</tr>
<tr>
<td>M</td>
<td>26.5</td>
<td>27</td>
</tr>
<tr>
<td>L</td>
<td>22.6</td>
<td>21.7</td>
</tr>
<tr>
<td>N</td>
<td>162</td>
<td>122</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aptitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>H</td>
<td>T1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18.3</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>20.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>19.3</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>11.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Group F</td>
<td>0.169</td>
</tr>
<tr>
<td></td>
<td>25.927**</td>
<td>11.458**</td>
</tr>
<tr>
<td></td>
<td>Group X Aptitude F</td>
<td>0.169</td>
</tr>
<tr>
<td></td>
<td>Group X Aptitude F</td>
<td>2.113</td>
</tr>
</tbody>
</table>

(1) There will be no significant interaction between aptitude and treatment in Level I groups.

(2) There will be no significant interaction between aptitude and treatment in Level II groups.

Results favored the second level low aptitude students who received the experimental treatment; the pattern was repeated in the other factorial analyses of variance particularly for the productive skill measures.

Results were very slightly higher in the Experimental Group, more so in the second level, but differences nowhere approached significance.
Table 10: Mean Scores on Listening Post-test, by Level and Treatment

<table>
<thead>
<tr>
<th>Level</th>
<th>Group T1</th>
<th>Group T2</th>
<th>Analysis of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td>18.2</td>
<td>18.4</td>
<td>Group F = .686</td>
</tr>
<tr>
<td>Level II</td>
<td>20.5</td>
<td>21.3</td>
<td>Level F = 25.86**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Group X Level F = .462</td>
</tr>
<tr>
<td></td>
<td>N = 276</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following null hypotheses were accepted as tenable:

(1) There will be no significant difference in achievement in listening skills between treatment groups at Level I.

(2) There will be no significant difference in achievement in listening skills between treatment groups at Level II.

(3) There will be no significant interaction between level and treatment.

Table 11 is an expansion of Table 10, showing sources of the slight differences that appeared.

As before, significant differences appeared only between aptitude groups. At Level I, high aptitude Control Group students demonstrated greater achievement, as per the previously established pattern. At Level II, the experimental groups show slightly higher means in all aptitude
Table 11: Adjusted Mean Scores onListeningPost-test, by Class, Treatment, and Level

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Teacher</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>T1</td>
</tr>
<tr>
<td>1 18.2</td>
<td>5 21.6</td>
</tr>
<tr>
<td>2 18.8</td>
<td>6 20.5</td>
</tr>
<tr>
<td>3 15.9</td>
<td></td>
</tr>
<tr>
<td>4 18.9</td>
<td>7 19.6</td>
</tr>
<tr>
<td>Group T2</td>
<td>Group T2</td>
</tr>
<tr>
<td>17.6 18.3 18.5 18.6</td>
<td>21.9 21.1 21</td>
</tr>
<tr>
<td>N = 159</td>
<td>N = 115</td>
</tr>
<tr>
<td>(Means as adjusted)</td>
<td>(Means as adjusted)</td>
</tr>
</tbody>
</table>

Analysis of Variance

Teacher F = .813
Group F = .0
Teacher X Group F = 1.135

Table 12: Mean Scores on Listening Post-test, by Level, Treatment, and Aptitude Group

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment Group</td>
<td>Treatment Group</td>
</tr>
<tr>
<td>T1</td>
<td>T2</td>
</tr>
<tr>
<td>H</td>
<td>21.4</td>
</tr>
<tr>
<td>M</td>
<td>17.3</td>
</tr>
<tr>
<td>L</td>
<td>16.6</td>
</tr>
<tr>
<td>N = 159</td>
<td>N = 115</td>
</tr>
</tbody>
</table>

Aptitude F = 16.709**
Aptitude F = 12.369**
Group X Aptitude F = .570
Group X Aptitude F = .042
categories. The low aptitude students followed their pattern of slightly higher means.

The following null hypotheses were accepted as tenable:

(1) There will be no significant interaction between aptitude and treatment in Level I groups.

(2) There will be no significant interaction between aptitude and treatment in Level II groups.

Table 13: Mean Scores on Speaking Post-test, by Level and Treatment

<table>
<thead>
<tr>
<th></th>
<th>T1</th>
<th>T2</th>
<th>Analysis of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level I</td>
<td>57.0</td>
<td>58.9</td>
<td>Group F = .740</td>
</tr>
<tr>
<td>Level II</td>
<td>46.2</td>
<td>47.5</td>
<td>Level F = 52.473**</td>
</tr>
<tr>
<td></td>
<td>N = 188</td>
<td></td>
<td>Group X Level F = .845</td>
</tr>
</tbody>
</table>

There was no noticeable interaction between level and treatment, nor any significant difference other than that between first and second year groups. The results slightly favored the Experimental Group at both levels.

The following null hypotheses were accepted as tenable:

(1) There will be no significant difference in achievement in speaking skills between treatment groups at Level I.
(2) There will be no significant difference in achievement in speaking skills between treatment groups at Level II.

(3) There will be no significant interaction between level and treatment.

Table 14: Adjusted Mean Scores on Speaking Test, by Class, Treatment, and Level

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3a 4</td>
<td>5b 6b 7</td>
</tr>
<tr>
<td>Group</td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>52.7 60.5 7.1 63.4</td>
<td>T1</td>
</tr>
<tr>
<td></td>
<td>(5) (15)</td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td>56.3 60.9 7.4 57.8</td>
<td>T2</td>
</tr>
<tr>
<td></td>
<td>(10) (12)</td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Covariance

Teacher F = 4.41**
Group F = .009
Teacher X Group F = 1.60
Teacher X Group F = 1.734

a Data Analysis includes only those cells of teachers One, Two and Four for Level I. Classes of Teacher Three took only the subtest of fluency.

b Scores in cells 5-T; 5-T2; 6-T1; 6-T2 represent small samples of the indicated classes (numbers of students in parentheses). Thus, that section of Table 14 has a limited usefulness.

As in several other cases, the only significant differences appeared between teachers. At Level I, differences
generally favored the experimental treatment, with the exception of the classes of Teacher Four, whose Control Group consistently outperformed its paired Experimental Group. The only full class comparison that could be made was that of Teacher Seven's Control Group and its paired Experimental Group. It followed the previously established pattern, in which the latter showed a higher mean than the former.

Table 15: Mean Scores on Speaking Post-test, by Level, Treatment and Aptitude Group

<table>
<thead>
<tr>
<th>Level I Treatment Group</th>
<th>Level II Treatment Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1</td>
<td>T2</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>H</td>
<td>62.4</td>
</tr>
<tr>
<td>M</td>
<td>59.6</td>
</tr>
<tr>
<td>L</td>
<td>53</td>
</tr>
<tr>
<td>N = 93</td>
<td>N = 92</td>
</tr>
</tbody>
</table>

Group F = .379                    Group F = .316
Aptitude F = 7.221**              Aptitude F = 6.749**
Group X Aptitude F = .038        Group X Aptitude F = .303

The low aptitude group undergoing the experimental treatment in second level classes showed somewhat higher scores, as they had on all other measures, to greater or lesser degrees. However, interaction between aptitude and
treatment was not significant at either level and the null hypotheses were accepted as tenable.

Another area of concern of the study was the attrition rate at each level. Tabulation was made of the numbers that dropped out of Spanish, first or second year class, but not out of school. They were considered by treatment and by level. Figures were very close, in the second level group, from one treatment to another. Therefore, no test was made and the null hypothesis was accepted as tenable. However, there was a much higher rate of attrition in first level classes among the Control Groups. The Chi-square test showed significance at .10. The null hypothesis was accepted as tenable, for the first year group also.

Table 16: Attrition in First Year Spanish, by Treatment Group

<table>
<thead>
<tr>
<th></th>
<th>$T_1$</th>
<th>$T_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dropped Out</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>Stayed in Class</td>
<td>85</td>
<td>85</td>
</tr>
</tbody>
</table>

$x^2 = 3.34$ (1 d.f.) $p < .10$

While the pattern of attrition may be noted, and slight trends may be observed, the analysis of the data justifies few, if any, conclusive statements. Perhaps the safest assumptions one may make are that (1) the experimental
procedure did not help the High Aptitude group; (2) the likelihood of its enhancing achievement increased as aptitude decreased; and (3) Low Aptitude students in beginning classes showed a lower mortality.

These and other possibilities will be treated at greater length in the discussions that follow.
CHAPTER V

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

The investigator was fortunate in having contact with a number of public school teachers who had interest and the type of training that would orient them to the project. The first seven contacted were quite receptive to participating in the experiment. The investigator had selected 10-15 teachers in three school districts with whom to discuss the study, in hopes of finding three for each level. By the 15th of July most of the first seven had agreed to participate in the experiment.

Teacher A has an M.A. in Foreign Language Education, several years of experience, and has traveled in Spanish-speaking countries. Teachers B and C have similar qualifications. D and E are pursuing a graduate program in foreign language education and, as the others, are very well prepared in the language itself. Teacher F is a native speaker, well qualified in English as well as Spanish and was highly recommended. Teacher G was a first year teacher whose work in student teaching was of sufficient quality and whose personal and professional qualifications were such that the investigator had no reservations whatsoever about asking her to be in the experiment.
The investigator felt that, as a group, they were most competent and highly qualified, so much so, in fact, that he may not have prepared them adequately in some instances.

The appropriate administrative officials were contacted in July and early August. The theoretical base, objectives and procedures were explained to them, the support that was needed at the school to carry out the project, the necessity of transporting the students to the Listening Center after school hours, and the extent to which the experiment would disrupt normal school or class routine and impose upon the classroom teacher. The experimenter made every effort, in planning the procedures, to provide a minimum of such inconveniences. He was equally concerned with designing the treatment so that the teacher would have to alter only to a very slight degree his teaching style. The principals and the superintendent that were contacted received a description of the study, (Appendix A) which was given to the teachers also.

Permission was obtained at the schools almost immediately. One principal was unable to allow the students to be transported to the Listening Center, due to particular policies and legal ramifications within the district. He consented later in the year for the students to be taken to the Listening Center at Ohio State University for the post-test in Speaking. By then, an arrangement had been
made to administer that test in the building, a plan that was more workable than any other could have been, given the distance from the university and the schedule of the particular building.

The Listening Center staff, secretaries and technicians, helped with scheduling, preparing tapes, with their suggestions, and in the actual administration of the tests. The cooperation of the Transportation Department of Ohio State University was also indispensable.

Prior to the inception of the study, the investigator spent no more than a few hours in orientation of any teacher. This was probably insufficient in some cases; this impression became stronger in the progress of the experiment. More definite steps would have been taken but for reasons that will become more apparent in the course of these discussions. The writer had hoped to make the manual sufficiently clear and inclusive so that the participating teachers would have guidelines to make judgments consistent with the objectives of the experiment. He had also hoped to be explicit enough as to procedures so that a well-informed teacher could do little more than read about them without needing to undergo a training session, or a series of training sessions.

In retrospect, it could be said that it might have been helpful to the investigator and to the teachers to have
a series of meetings as a group to discuss various parts of the Procedures Manual, to call attention to some aspects of it and of the study, to examine the several types of drill, drill sequence, and task analysis. It is also likely that the writer overestimated some of the teachers' enthusiasm for the project. Possibly, enthusiasm for it diminished in the course of the year, though the study placed very few, if any, additional demands on them.

Several of these topics were brought up during the year, but not as effectively as they could have been at the beginning of the year and in a less threatening situation.

From the observations of the writer and the comments of the teachers, it appears that the classroom procedures were suitable. The ten-minute figure for English and Spanish drills was satisfactory, according to the teachers, who observed that it did not dominate the hour, while it was sufficient to drill the structures to the extent that they wished. (The full English treatment was unnecessary for repetition exercises, as had been expected.) Several teachers reported, at the same time, that the ten-minute period for drilling was frequently not feasible, due to quizzes, special activities, reviews for tests, and lack of time.

The writer would question the usefulness of pre-tests of proficiency for first year groups. Instead he
would eliminate (from the data analysis) scores of those students who have had a predetermined amount of training. There may be some value in pretesting in that the post-test will not be such a novel experience, but it does not provide much useful information. The means of the pre-tests of the receptive skills were quite close to each other, and Control and Experimental Groups alike scored at the chance level. Those students who gave evidence on tests of productive skills that they had previous experience were eliminated from further consideration in the study. Part One of the Listening Test and the subtest of pronunciation were not used to disqualify them, however. In all parts of the Writing Test and on two parts of the Speaking Test, total scores exceeded ten only rarely. On that basis the decision was made not to consider the pre-test scores further for the first year classes. It is difficult to justify the expense, the time necessary to take the tests, and the time and effort needed to score them.

Numerous high school students seemed to react somewhat negatively to the number of tests and especially, understandably, the after-school trips for the Speaking Tests. Undoubtedly, it was an imposition on them and on their teachers. Their participation was not obligatory; they were told at the beginning that they were to take
two standardized tests and an aptitude battery, and that they would not be required to go to the Listening Center. The junior high school students had a considerably higher attendance there both in September and in May. Sixty-eight per cent of the junior high school group took the Speaking post-measure at Ohio State University and 52 per cent of the high school group made the trip. Two high school classes took the test in Speaking skills in their building, as had been originally planned. One speaking measure, the fluency subtest, was given at a high school to two of the classes from which there had been an extremely small representation. Attendance was lowered for two other groups probably due to chance occurrences. One teacher, who was ill during the previous week, had a commitment for the evening, which, perhaps, had its effects on student participation, as she did not ride the bus with the group. Another of the teachers was sick the day of the test.

The investigator would change the procedures very little, if at all, in a replication, if there were merit in repeating the study. It seems desirable to use a standardized test as the criterion measure, though one may prefer to add a validated test of fluency that would include questions other than those already on that part of the speaking measure. The main reason for this is that a teacher who frequently gives his students question-answer
exercises using such cues as How old are you? How many brothers do you have? What is the weather? What time do you get up? What day is today? and other such items may give his students a considerable advantage on that part of the Pimsleur tests. In the normal course of the year, at both the first and the second level, a teacher may well ask five of the eight questions that comprise the fluency subtest.

Any precise estimate or appraisal of the teachers' adherence to the procedures would be speculative. However, from their comments and from the writer's observations, it seems very unlikely that more than three of the seven approached the stipulated ten minutes each day, or even five, as an average. The investigator distributed notebooks to them (see Appendix) early in the study. The main reasons for such action were (1) to remind the teachers daily of the project and (2) to gather information that might prove useful in interpretation of the results. One teacher had 28 entries in the notebook for the entire year, entries that were explicit at the beginning but that became more vague quite soon. Another notebook started with clear entries but is not helpful after the first month's work. The reader cannot determine precisely what was done or how much of it. A third notebook had 50 entries for the year, but not more than 15
were useful in ascertaining what the exercise was. A fourth had enough information to establish which structures were drilled, and when, but usually not how. A fifth was lost, a sixth was "torn up and/or eaten by the dog," and the seventh was not turned in, though it was requested several times.

One of the teachers referred, on several occasions, to the excessive amount of time taken from class by the testing program. Three of the seven seemed quite defensive where certain aspects of the study were concerned. The investigator felt that even those three were trying to be open and cooperative, but, at the same time were not convinced of the need for tight controls or for accurate record-keeping. They mentioned, also, that it was inconvenient to keep up their notebooks daily, what with their high class load and large numbers of students.

Two teachers felt that the English drills were causing inattention and discipline problems. The writer suggested that using more complex drills would challenge the students; that, in fact, they might be able to handle slightly more difficult exercises than they could without the English. One of the teachers reported that the problem was alleviated by such a step. The other did not test it. By and large, the group of teachers very rarely used drill other than question-answer practice from
dialogues, transformation exercises (one tense to another), substitution, and person-number substitution. The investigator saw only three of those four. One teacher said that she only used drills for verbs, that her class was not "drill-centered." The teacher in question resisted efforts of the writer to suggest or explain other types of drills that were applicable to the structures the class was working with at the time.

As it would appear, teachers were not equally receptive to the procedure. One felt that it created a dependence in the student on the English support. This may have been true. Another possibility also exists: the Control Group accepted the idea that they would not understand everything and simply did not ask questions, as is often the case, with students and teachers alike. The fact that the teacher is one who moves the class through its activities at a rapid pace may give further credence to the argument. Furthermore, the Experimental Group was one of higher academic ability and may have wanted to know what they were saying and hearing. The English referential support may even have served as a reminder. The teacher commented that she felt quite awkward using the procedure, that it was in conflict with her style of teaching and with her audio-lingual training. Yet she is extremely conscientious and wanted very much to follow with the
objectives of the study to which she had made the commitment.

Another instructor went so far as to make apologies to the class for the English drills. The students complained, on occasion, that they were being treated "like babies" in being given the English. The investigator suggested, as he had previously, that if such a comment arose, the instructors could say that the reason for the English exercise was to assure that the students knew what they would be saying during the following Spanish exercise. The teacher often went considerably beyond the procedures prescribed. However good her intentions were, it may have contaminated her part of the study. From the investigator's observations, the instructor's entries in her notebook, and through her comments, it was ascertained that she had also failed to follow through well with the project.

A third teacher was seldom available for serious discussion. Tests were scheduled, or appointments with parents, other teachers, or students had already been planned when the writer called ahead to set a time for visiting her school and observing her class. When he was in the building, slide exhibitions, movies, and lessons in reading or culture were the order of the day. She was considered to have participated minimally. Her notebook was among the missing, also.
The other four adhered considerably more closely to the prescribed treatment. This impression is supported by students' comments, teachers' comments, notebook entries, and observations of the writer. However, even these instructors did not find it feasible, as a group, to spend close to the specified period on the experimental treatment, at least not as a general rule. The writer noted that these instructors, also, used very limited numbers and types of exercises, which would have its effects. (It is often noted by experienced and inexperienced teachers that students resist pattern drills quite soon in their language study. This may well be one of the reasons.)

One instructor used dialogue practice, with English as a preparatory exercise. Since excellent visuals also constituted an important component of the activity, it is doubtful that the English cues and responses added very much. Results, in fact, suggest that they detracted from the class' performance. Drills in the class were often vocabulary-oriented, verb drills with changes in the subject, or relatively simple transformation exercises. It should be further explained that the particular instructor plans very carefully to insure, to as great a degree as possible, complete understanding of each activity. He checks and rechecks, in several ways, so that it is often quite apparent when a student has learned by rote or whether he does, in fact, comprehend what he is doing.
The fifth teacher observed the procedures as planned, though here, also, repetition, substitution, and person-number substitution comprised the overwhelming proportion of drill activities. The same could be said, to a greater or lesser degree, for the two others.

The writer must assume responsibility for having presumed too much from the teachers involved: the time they had or could use to develop drills, their interpretation of the Procedures Manual, their facility in writing a variety of drills, their flexibility, their openness, and their commitment to the project, the last factor being the most important, perhaps. There is little doubt that a number of the instructors gave evidence of these attributes, though some did not.

The investigator's visits to the various classes have been summarized indirectly in the previous discussions. While almost all of the instructors tried to be most cooperative, a few seemed to feel quite threatened. Frequently, the investigator felt that if he pressed certain points they would drop the project altogether and much potentially useful information would be lost.

However, the discussion of the failure of the teachers, as a group, to use drills of various types and levels of complexity should not be interpreted as an explanation of the results. If the procedure was to bring about
desirable effects, it should have, provided it was used a reasonable part of the time, in spite of the usual low level of the oral exercises. Of course, there is reason to believe that it was not used for nearly the ten-minute-a-day figure that was proposed.

On a comparative basis, with respect to norms reported for the proficiency tests, the first year groups performed at a higher level than the second year groups. It is necessary, however, to consider that the goals and course of study of these particular second year classes may not have been the same as those of the groups used for standardization. For Listening, Speaking, and Writing, the means of the first year group would be placed in the fortieth, fifty-third, and fifty-second percentiles, respectively. Corresponding positions for the second year group were the thirty-third, thirtieth, and twenty-fourth percentile. The first year group's mean score on the Speaking Test was 57.9, somewhat above the middle of the Fair category; the second year group's mean was 46, which lies near the low point of the Fair category. The mean aptitude score of the first year group is in the fifty-ninth percentile while that of the other level is at the fifty-sixth percentile.

Having been acquainted for some time with the program from which four of the second year classes came, the
writer is aware that several of the teachers have found the text unsatisfactory. Subsequently, the group has compiled much of its own materials for the course of study. It is extremely difficult to construct a well integrated second year course, even for as well qualified a staff as that of the school involved. Furthermore, the time necessary to build a course could be used much more effectively working with a text already written. Often teachers find themselves with an unsatisfactory textbook that they can do nothing about for a certain period of time, due to regulations about how long they must keep a book.

Two other second year classes used the later sections of a first level audio-lingual text. In a previous study the particular series has appeared to place students at a disadvantage on a standardized test (Smith 1970), though it was in other languages than Spanish. The fact that the groups were in a first level text would put them at an even greater disadvantage in taking a second year proficiency test. However, the nature of the study necessitated their taking the second year test.

It is apparent that the attrition rate was considerably lower in the Experimental Group than in the first year Control Group. The Chi-square test (p<.08) actually showed that there was a much smaller chance of
such a result, as there was also a similar chance of the same test favoring the Control Group. It seems that fewer Low Aptitude students dropped out of the Experimental classes. The mean aptitude battery score of the group of dropouts was 63.2, substantially below that of the first year group (71.4). Attrition figures in the second year group were so similar that the Chi-square test was not made.

The intercorrelations that have appeared may suggest a number of possibilities to explore. The most immediate is to use the aptitude battery, eliminating the subtests of language analysis and auditory discrimination, modify the Interest scale to a numerical one of some kind, and investigate the resulting score's predictive validity.

It seems important to note the high correlation of the covariate used for the second year groups to each of the final skill measures. As previously reported, it exceeded even the correlation of pre-Speaking to post-Speaking, pre-Reading to post-Reading, pre-Listening to post-Listening, and pre-Writing to post-Writing. This may lend support to those who feel that there develops a certain language competence, which manifests itself, as the student learns and practices, in each of the four skills. Some foreign language educators indicate a belief that each skill has its integrity and that there is little transfer
from one to another. The two ideas may not be mutually exclusive: the argument may be more one of degree. Transfer may even vary from one individual to another. There could be more transfer within skill categories. It then becomes a question of which are the most meaningful or useful combinations: the graphic skills and the oral-aural or the receptive skills and the productive.

Overall, and at each level, the Experimental Group seems extremely well matched with the Control Group, if the information gained from the pre-measures has any validity. Several teachers expressed opinions, however, that one of their classes or another was a much better group. Teacher One immediately commented that the Experimental class seemed much stronger. Teacher Three's observation suggested a wider spread than that shown by the aptitude scores. Teacher Four reported at the outset that the Control class appeared to be a better group. The aptitude scores were compared, as were the means for Grade Point Average: the two classes were surprisingly close in both. The only thing that could be said about the two groups was that they were, from all indications, more homogeneous than the other classes. Teacher Five reported that the Experimental class was a stronger group, academically, though there was at least a five per cent spread between the two, on each of the pre-test batteries, with the higher means representing the Control class. Teacher
Six felt that the Experimental class was the more capable and cooperative, though some of the less cooperative students from the Control class soon dropped out. Teacher Seven commented that the Experimental class was stronger academically and more docile. On both pre-measures that group had a slightly higher mean. Post-test results favored the same group by a slight margin, though post-test mean scores were adjusted in the data analysis.

The patterns that emerged in the class-to-class comparisons are not consistent, as a rule. However, there are certain observations that may be made.

Teacher Four test data showed substantially higher scores for the control class on all but the measure of listening skills. As previously explained, Teacher Four used the treatment more with dialogue practice and drilled vocabulary and verbs, rather than syntactic structures. Since excellent and well-used visuals accompanied most activities of the lessons, it may be that the experimental procedure added little if anything to the students' understanding. They may have been given a second type of referential support, one which they simply did not need.

Teacher Seven's Experimental class performed at a higher level on the four skill post-measures, although the difference on the Writing Test was extremely slight.

It was felt that Teachers Two, Three, Four, and Seven departed less from the specified procedures than the
others. It cannot be said, however, that the two groups obtained distinctly different sets of results.

The analysis by aptitude and treatment provided information little more conclusive than that dealing with class-by-treatment-by-level analysis. Though they rarely reached very appreciable amounts, differences are observable in a few recurring patterns. The High Aptitude group seemed not to do as well with the experimental treatment. Level I data seldom showed more than a very slight difference between treatment groups. It would, of necessity, reflect the better performance of Teacher Four's Control class and the sometimes better performance of Teacher Three's Control class, which generally cancelled out whatever desirable effects the treatment might have seemed to have among the other groups.

At the second level, the Low Aptitude students in the Experimental Group showed higher mean scores on all skills, with smaller differences in Reading and Listening. At the two levels the Low Aptitude students gave a better performance under the experimental treatment six of eight times; the Middle Aptitude students showed better performance with the experimental procedure five of eight times; while the High Aptitude Experimental students scored higher on the post-tests only two of eight times. It should be emphasized, at this point, that in several cases the
differences are very small and do not warrant any conclusive statements.

To further illustrate the difference in results between the two levels, it is helpful to compare the Listening + Reading + Writing post-test combinations, by aptitude and treatment.

<table>
<thead>
<tr>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1 74.3</td>
<td>T1 61^H</td>
</tr>
<tr>
<td>T2 71.4</td>
<td>T2 58.5</td>
</tr>
<tr>
<td>H 57.3</td>
<td>M 55.7</td>
</tr>
<tr>
<td>M 50.9</td>
<td>M 42.6</td>
</tr>
<tr>
<td>L 50.8</td>
<td>L 47.8</td>
</tr>
</tbody>
</table>

Fig. 2 Effects of Aptitude, Level, and Treatment on the Combined Score of the Listening, Reading, and Writing Post-test

The writer would have expected the Level II pattern in the first year group also, but this was not the case. It may have been, were the students of Teacher Four excluded, but of course they could not be, as they were part of the study.

It is not evident that the type of test caused a certain pattern of performance among the Experimental classes or among the Control classes. It did not seem to make much
difference, with any degree of regularity, whether the skills were graphic or oral-aural, or receptive or productive. It did not matter, on the whole, whether the subtests contained structured or unstructured items.

The realities of classroom research are said to be such that one may not expect very strict adherence to prescribed procedures, however clear and specific the investigator deems them to be. Nevertheless, it seems reasonable to seek a closer approximation, one that may yield more precise information. The investigator is inclined to make a series of recommendations, involving further experimentation and concerning the training of language teachers, which is crucial to this issue.

The writer suggests that the approach to methodological training of language teachers should be theoretical as well as practical, in spite of the number of studies that recommend minimizing the theoretical in such courses. It may be desirable for the trainee to be exposed to aspects of cognitive theory as well as of behaviorism, especially where verbal behavior is concerned. Some teachers have accepted without question all the tenets of "audio-lingualism," and find unacceptable any practice that is incompatible with them. Teacher trainees should be acquainted with the literature that challenges that type of approach, or at least be aware that such literature
exists. Even well-informed, well-trained and "involved" teachers seem unaware of recent views toward language learning and verbal behavior.

It seems entirely likely that many techniques used in oral-aural methods are extremely helpful in the accomplishment of certain second-language learning tasks. However, student teachers and teachers alike seem to put together a sequence of activities without concern for what the learner is able to do with the particular structure in a novel situation, or, for that matter, in any but a very limited use of the structure. Teachers need encouragement and training in task analysis and in decision-making, and in the subsequent ordering of activities. They need to focus their attention on what the learner must be able to do in order to master the first task before moving on to the next, and what he needs to do with the next before he is ready to move toward the higher one that follows. Perhaps with that orientation, the instructor may be more inclined to think of the learner's accomplishment rather than his own performance. Such an approach need not be behavioristic, though there seems to be some merit in the specificity of the behaviorist.

It may be that if the teacher thought more in terms of the learner, what the prerequisites are for the student's limited use of the structure, or whatever, and for a wider
use of it, the activities, possibly the drills that might help the learner move toward those goals, he might be better able to break away from one particular methodology which, in fact, seems to look upon all language learning tasks as of a single type.

The teachers who participate in classroom research need to be impressed with the need for careful adherence to procedure, for accurate record-keeping, for experimental rigor, for frank discussion of areas where they may have question, and for an openness to objective consideration of their own teaching. This, in turn, calls for a flexibility and security that is not common in any group, teachers included. (It should be added, at this juncture, that several of the instructors that participated in the study gave evidence of fulfilling at least a large majority of these requirements.) Projects of "action research" might be helpful also in changing the point of view of a teacher to one of a careful and objective observer.

In consideration of the above points, a replication of the study may be useful, but with training sessions, as suggested earlier in the chapter, and with the modifications in pre-testing and in use of the aptitude battery, subject to further consideration. Tests of direct association may be in order. Spanish structures that do not correspond with their English approximate equivalents are
another possible area to examine, for effects of interlingual interference. Another variation in design would test the effects of using or withholding grammatical explanation and using or withholding English versions of the drill.

An additional possibility might involve the testing of the procedure among students that need remedial work. From information gained in the study, one may cautiously suggest that the experimental treatment of the pattern drill can be a useful practice with weaker foreign language students. There is no evidence to go beyond that recommendation.

However, its value in teaching syntax has yet to be tested, from every indication. For that reason as well, the writer would hope for a replication of this experiment, provided that the researcher took steps that minimized certain factors that may have detracted from this study.

This investigator would wish, at the same time, that his findings, or, to express it more accurately, his observations, inconclusive though they are, might be challenged or supported.
Appendix A: Description of Project Furnished to Teachers and Administrators, July 1971
EXPERIMENTAL PROJECT

A COMPARISON OF TWO PATTERN DRILL TREATMENTS

Thesis

There has been much controversy in the field of Foreign Language Education over the relative effectiveness of the audio-lingual approaches and the more cognitive ones. Psychologists, linguists, and foreign language educators have debated over many aspects of the subject.

Two devices very commonly used in language classes to teach and/or practice various structures and expressions are the directed dialog and the pattern drill. The usefulness of the pattern drill has been questioned in recent years. Results of several studies give reason to seriously question the value of language laboratory programs, of which the pattern drill is often a central element. It is a fact, also, that students can learn to manipulate, to perform a drill well, and yet, not be able to transfer their "knowledge" to a new context.

The underlying assumption of this study is that practice without understanding, practice without awareness of what one is doing will not prepare the learner to apply the linguistic structure in a new context, though it may in a very similar one. This assumption runs counter to what behaviorists seem to maintain and, possibly, to what structural linguists will say. The latter two would suggest that the structures become internalized with practice and the learner will come to use them correctly as a habit. The aforementioned assumption is supported, however, by investigators in the field of psycholinguistics and by psychologists who are more oriented to 'Gestalt' theory.

The experiment is specifically aimed at investigating as to whether making the pattern drill more meaningful, with the use of a special treatment, will, in fact, enhance student achievement in listening comprehension, speaking, reading comprehension, and writing skills in first and second year Spanish classes.
Students and Teachers Involved

12 to 16 classes and six to eight teachers in local junior and senior high schools are to take part in the experiment.

Methods and Techniques

Each teacher participating will be working with two classes at the same level, either first or second year Spanish. The experimental classes will perform pattern drills but they will be using English cues and responses before doing each drill in the target language. The control group classes will perform the oral exercises as per common procedure. Directed dialogs will be handled the same way with experimental and control groups respectively. Teachers will stay as close to the same lesson plan as possible for both classes in all other phases of instruction: the same techniques, materials, text, tests, and assignments. The project is to last one academic year: September 1971 to June 1972.

Evaluation and Comments

Students are to be given a language aptitude battery and a Spanish proficiency test at the beginning of the study, to establish equivalence of the experimental group to its paired control group. If the groups are not equivalent the scores will be used as covariates in the analysis of posttest scores (the Spanish proficiency test to be administered at the end of the experiment).

There will actually be six to eight separate experiments going on simultaneously, but they will all have the same design, objectives, procedures, evaluation and data analysis. The writer is particularly interested in whether the experimental groups will outperform their respective control groups, and, if so, in what skills and in what components of those skills will there be a greater difference. Will the experimental treatment affect performance at first and second levels differentially? Will there be an interaction between language aptitude and the experimental treatment?

Since recording facilities are needed for each student to complete the 16 minute Speaking Test, it is hoped that arrangements can be made to transport them, in September and at the end of the project, to the language laboratory.
facilities at Cunz Hall at The Ohio State University. It is most desirable to have the data from the scores for the Speaking Test, as the writer believes that the greatest difference may show up there. The remainder of the tests can be administered in the individual classrooms.

But why bother in the first place? If the pattern drill seems not to contribute to the student's language acquisition, but only to his ability to go through the motions in a classroom, to only give the appearance of using a structure, why not abandon it? There is a very strong argument for investigating it further. As the evidence grows, in favor of a cognitive approach, it becomes apparent that the student needs, at some point along the way, to learn to apply abstractions, such as those to which we often refer as grammatical rules. The ability to verbalize an abstraction, or to talk about it, does not guarantee proficiency in its practical application. A pattern drill is a way of structuring a situation so that the person performing is applying the rule in question. This study, then, is directed at finding a way to bridge the gap between mere manipulation of a linguistic structure and correct use of it in real communication, which is, after all, the purpose of language.
Appendix B: Experimental Project: A Comparison of Two Pattern Drill and Directed Dialog Treatments

Prepared by
Sidney N. J. Zelson
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September 1971
EXPERIMENTAL PROJECT
A COMPARISON OF TWO PATTERN DRILL TREATMENTS

MANUAL

This material is designed to help you to help us learn as much as possible from the experiment we are undertaking. Hopefully it will aid you to implement the experimental procedure in as uniform a manner as possible, within the constraints of reality and will due consideration of each teacher's individuality. I hope to explain each part clearly enough so that, when you do have to use your own judgment, you will have some guidelines already set up.

As the procedure to be investigated is lined to the pattern drill and the directed dialog to such an extent, it would follow that the two activities should constitute a regular part of the class, ten minutes or more, on a daily basis. A variety of types of drills will be suggested in this manual, though the list is certainly not intended to exclude other types of pattern drills with which you may be familiar or with directed dialog techniques that you may prefer.

Experimental Design and Controls

Often we try things in our classes to see what will happen. There are times when we believe that one special treatment or another has caused a desired change in our results. Frequently we are correct in our conclusion, subjective though it may be. However, we may also be incorrect. It is possible that some other factor produced the result, or that we have not measured the results objectively. Maybe we can't say for sure where the students were when we started. There is also the possibility that the measurement device we used is invalid, for one reason or another.

The treatment we are trying out, or the materials, or the different ingredients we are introducing to the situation, or to the experiment, is often referred to as the independent variable. The effects, or sets of effects that we expect to measure, are the dependent variables. We hope that when we manipulate the independent variable in an experiment and come out with certain results, (the dependent variables) we can be confident that our manipulations are
what produced the results and not any other outside factors (extraneous variables). The experimenter tries to control for these extraneous variables by a number of procedures, knowing, full well, at the same time, that he cannot do it completely, especially in a classroom situation where there are so many variables operating and interacting. Nevertheless, with a suitable design and by means of several other techniques and devices he can approach reasonably effective controls, even working with intact classes in a normal public school situation.

Let us imagine a hypothetical case, one in which a first grade teacher is having very little success in her reading program. She has made progress with one third of the class and she decides to try some other technique. It is unsuccessful, and she moves on to something else, with similar results, she feels. March arrives, then April, and she asks advice from the reading supervisor. As she begins to implement some of the ideas she got, she sees progress, a slight amount at first, growing, and by the end of May 3/4 of the class or more are reading at least at grade level. Is she justified in thinking that now she has the key?

Maybe and maybe not! It is possible, first, that many of the children were quite immature in the fall and that it took until April for them to reach a sufficient level of readiness to where they could progress at a greater rate. Maturation, then, can be an extraneous variable. On the other hand, maybe those other techniques that she tried, combined with the last, contributed to the children's increased achievement. This is referred to as a multiple treatment effect and would mean that the teacher could not say that the last technique itself would produce similar results in another first grade class of similar makeup. The first variable mentioned in our hypothetical case, maturation, would be a threat to the internal validity of the above, if it were an experiment: that is, it produced the result, probably, and not the new treatment.

In another situation, a psychologist puts his white rats in a maze and lets them find their way out. Most of them do and get their pellet of food. Three or four hours later he gives them shock treatments. Some time afterward he puts them in the maze, they find their way out and get their pellet of food. He then takes another groups of rats and puts them in the maze. They find their way out, get their reward, and are given shock treatments almost immediately afterward. This second group of rats are put in the maze a few hours later, but very few find their way out in
the expected time. This scientist is very interested in information processing in the brain. He feels that he has just obtained a piece of evidence to support his hypothesis, that information-processing goes on in the brain after an event; that the rats in the first group could find their way the second time because their "learning" was not interrupted by the shock treatments, while those in the second group could not because the process was interrupted by the electric shock treatments. Is he justified in making this claim?

We really don't know. Maybe they failed to come out of the maze in the expected time not because of their interrupted information-processing but because they received a negative reinforcement and didn't want another shock treatment, pellet of food or not.

Teacher A and Teacher B want to test a new method to an older one. Teacher A uses the old and B uses the new procedure. Teacher B's class outperforms the other group. Is the new method better, assuming the classes are of moderate size for a high school? Maybe, but we are not closer to an answer than before the experiment. There may be a difference in teacher competence, a difference in prior achievement of the two classes, in aptitude, in general intelligence, and in the personality of the individual class, as a whole. Corrections may be made for all of these but the last.

Now we'll eliminate a variable. Picking classes at random, Teacher A experiments with a new questioning technique in his fifth hour English class, using his older technique in the third hour group. It turns out that the fifth hour class outperforms the other class in analyzing a number of short stories that have been assigned. Assuming his conclusions are valid, can we say that the new method, the independent variable, produced the result? It is again possible. As for his "randomization," here it is, of course, meaningless. One quickly sees the groups may not have been equivalent. Maybe, in fact, there was a business math class meeting the fifth hour that pulled out many weak students that might have been with that group.

There is evidence to show that a group often performs better for no other reason than the members' awareness of being in an experiment. If the experimental group includes only volunteers, another threat to internal validity is introduced; and the same may be said as to its generalizability to other groups.
Statistical Analysis

The measured results of an experiment are examined and tested by means of a number of statistical procedures. The mean of one group is often compared to the mean of another. The possibility of a certain event's occurring by chance are computed mathematically. Suppose that the experimenter finds there is a difference of three points in the mean scores of the two groups. He applies appropriate tests and finds the difference significant at .05. This tells him that there are only five chances in 100 that this happened by accident. Depending on the numbers involved, the distribution and spread of their scores, it may not take many points' difference to show significant results, even in the wrong direction, when there should not be. A complex of factors can "muddy the data," keeping significant results from showing up. The error may be in measurement, or in many other components of the experiment. Considering all its aspects, all one can do is the best that he can, adhering to the procedures as closely as possible and exercising his best judgment when unforeseen events take place.

As explained in the summary of the project, which you have been given, we will be comparing each teacher's experimental group to its paired control group, taught by the same teacher.

I am hoping that we are controlling for a good many of the extraneous variables that could threaten internal validity of the experiment and its generalizability to other first and second year classes. The design seems to control for at least eight of the nine listed by Campbell and Stanley in Experimental and Quasi-experimental Designs for Research as menacing internal validity and two, at least, of the three applicable here that might jeopardize external validity. Of course there may be aspects that I haven't considered, and students, being people, may perform in a way not predictable.

Introductory Comments to Students

I would think it a good idea to mention casually to students in the two classes involved in the experiment, and maybe to others you are teaching at that level that you are interested in finding out how to make a foreign language easier for them to learn. I believe that I would
also say that in order to find out how you are doing as well as how they are doing, you plan to test a few of the groups, that you don't have enough for everybody. You hope to find out how much Spanish they remember from last year (second year groups) or how much they have picked up one way or another. You also hope to find out if there is one part of the course that you may want to spend more time on than another. (I will try to have the Language Aptitude Battery graded and the results back to you as soon as I can get the 300+ corrected. I'm not sure I would tell students the results except in relative terms, such as "You did better on this part than on the other," if anything at all.)

As for the proficiency tests this month, I should like to offer the following suggestions to make them as non-threatening an experience as possible: Remind them that they have never studied Spanish before and naturally there should be a great many things they should not know; that at the same time, nevertheless, they might be surprised at how much they can guess from some of the words that look a little like English and from some things they may have even gotten from TV or somewhere else along the way. If it is a second year group they might be reminded that they have been away from it all summer and may have forgotten quite a bit, etc. Just encourage them to do the best they can. Assure them that they will not be used to grade them, that you couldn't do it even if you wanted as they are being sent out for grading and won't be ready for some time. (And I promise you, they won't!) It would be helpful if you mentioned that there is a Speaking test for which your school doesn't have facilities, that transportation is being arranged for them to Ohio State to take the test in the language laboratories there. (The particular test is to be given September 21, 22, or 23, after school, so they cannot be required to go, as I understand, though I hope all, or almost all will be able to go. I will prepare a letter to go home for their parents to sign. I am open to any suggestions as to what to put in the letter, as I am to anything in this "manual.") The schedule will be arranged very soon (when I have more information as to numbers of students in each participating class). I have decided to give only Form A as the pretest (first level); the second year class will only have studied one year and doing it this way will give me more range, being less difficult. Also, it will be easier to work with in putting students in the lab, easier to grade, and will make the Form C posttest results more valid, as the students will not have seen it before. That would not be such a concern with Form A, the first level, as the first year students
would not remember nearly as much (the material being so strange to them the first time).

You might even use the experimental procedure in another class or two to see its effects and to practice, at the same time so as to feel more at ease with it.

**Explanation of Procedure to Students**

It might be useful to say something on this order from time to time, as well as in the beginning, in order to try to discourage word-for-word translation:

"Before we practice the patterns and expressions in Spanish, we'll do them in English. Please keep in mind that very often they will not be close translations. The English responses you'll give to my English cues might be quite different in structure, that is, the way the words are put together, from the Spanish that we'll use, but we will be conveying the same ideas in both languages.

"Let me give you some examples to show how we and Spanish speakers put sentences together quite differently to express similar thoughts. I'll give you a word-for-word translation of what a Spanish speaker would say in several situations and let us see if you can tell us what we'd say in English to put across the same idea:

"I have hunger."
"He has six years."
"I am here since it makes three months."
"To us is pleasing the hamburger."
"No we speak well the English."
"How himself he calls?"
"He calls himself Antonio Perez."
"Is interesting the class?"
"They have just of to arrive."
ad infinitum.

"These probably sound funny to us. We are accustomed to English sentence structure. If we were Spanish speakers that just knew a few words of English, though, they would not sound nearly as funny. The important thing people can see from something like this is that when we learn another language we have to accept its 'building blocks' and not think we can use ours. Maybe put together they can do the same thing, but the individual blocks are shaped quite differently from our English 'blocks' generally."
EXPERIMENTAL PROCEDURES

Directed Dialog

When you use a directed dialog you will do it in English first. A few of the many possibilities are suggested below.

Chain drill: the teacher asks a question of a student, who answers it. The teacher then asks the student to ask the same question of his neighbor, modeling the question if necessary. That student, in turn, asks the same thing of his neighbor, who answers it and continues the chain, the teacher giving the model if necessary. The teacher may change part of the sentence, once the class is accustomed to substitution exercises or he may break the chain by telling the student to "ask me that." He would then start another chain in another part of the class or with another sentence. If the student uses the tú form with him he may have the student ask him, then another student, then him, a similar question.

Another way of doing the exercise may be to ask the question of the student, as before, but ask the student to deny the implied accusation and accuse someone else (using the él or ella form of the verb), who will in turn say that another is guilty. This technique can, of course be combined with the first. Students could be given the practice with any verb that fits in, masculine forms and feminine of adjectives, singulars, plurals, etc. For example:

Teacher: Bob, do you talk too much? Tell me that you don't but Connie does.
Bob: I don't talk too much but Connie does.
Connie: I don't talk too much. Mary does.
Mary: I don't talk too much. Jim does.
Jim: I don't talk too much, but Jennie talks too much.
   (this is what the students would be saying when it came time to do it in Spanish)
Jennie: I don't talk too much. Tom, you talk too much.
Tom: No, I don't, but Frank talks too much.
Teacher: Frank, ask me if I talk too much.
Frank: Mr. (Miss, Mrs.) ____, do you talk too much?
Teacher: Yes, I think so.

Teacher: Mary, are you lazy? Tell me that you aren't but Bob is.
Mary: No, I'm not lazy but Bob is.
Bob: No, I'm not lazy but Connie is.
Connie: No, I'm not lazy but Jim's lazy.
etc.

Teacher: (Calls on any student) Tell me that you have paper.
S: I have paper.
Teacher: Tell me that Tom has paper.
S: Tom has paper.
T: Are you sure? As him if he does.
S: Tom, do you have paper?
Tom: Yes.
T: (to any student) Tell me that you and Mary have enough paper.
S: Mary and I have enough paper.
T: (to student) Ask me if I have enough money.
S: Do you have enough money?
T: Certainly not!
T: (to any student) Tell me that your parents have four cars.
S: My parents have four cars.
T: Tell me that Bob and Jim eat too much.
S: Bob and Jim eat too much.
T: Are you sure? Ask them.
S: B. and J., do you eat too much?
T: (point or indicate one of them who is to answer)

As you can see, the last two are much more teacher centered, though they do have an advantage in that you can have greater control over the exercise, thus you are better able to see that a wider variety of forms are used, of the ones that you particularly want.

Pattern Drills - General Procedure

When you do the pattern drills in Spanish, please make them three-phase; that is, cue, student response, correct response, next cue, student response, correct response, next cue, etc. (If you are using a repetition exercise, do it in
English unless you have used the drill with the same items three times before; then in Spanish) NOTE: DIRECTIONS IN PARENTHESES ARE FOR EXPERIMENTAL GROUPS ONLY.

As a further precautionary measure, to try to insure uniformity of treatment of your groups, I would like to ask you to use the format and procedure for a pattern drill that is suggested below:

(This example would be dealing with the use of the infinitive after voy a since often students want to conjugate the verb that follows. A substitution exercise, with the infinitive as cue might be useful in highlighting that point; possibly more so than changing the subject of the verb at this stage.)

Teacher: Escuchen, no repitan. Yo digo salir. Vds. dicen **Voy a salir con Ana** (2) Repitan **Voy a salir con Ana**.

Students: Voy a salir con Ana.

T: Yo digo comer. Vds. dicen **Voy a comer con Ana** (2) Repitan **Voy a comer con Ana**.

S: Voy a comer con Ana.


Voy a salir con Ana. **salir**

S: Voy a salir con Ana.

T: Voy a salir con Ana. **comer**

S: Voy a comer con Ana.

T: Voy a comer con Ana. **estudiar**

S: Voy a estudiar con Ana.

T: Voy a estudiar con Ana. **trabajar**

S: Voy a trabajar con Ana.

T: Voy a trabajar con Ana. **bailar**

S: Voy a bailar con Ana.

T: Voy a bailar con Ana. **leer**

S: Voy a leer con Ana.

T: Voy a leer con Ana. **viajar**

S: Voy a viajar con Ana.

T: Voy a viajar con Ana. **entrar**

S: Voy a entrar con Ana.

T: Voy a entrar con Ana. **tomar**, etc. etc.

In the experimental group, you would, as outlined above, go through the English version before doing it in Spanish. You would use the experimental procedure the first three times you used that pattern and that set of items. Here is the English treatment of the above:

T: Listen, but don't repeat yet. I will say to go out. Repeat **I'm going to go out with Ana.**
T: Repeat I'm going to go out with Ana.
S: I'm going to go out with Ana.
T: If I say to eat, you'll say I'm going to eat with Ana. (2)
Repeat I'm going to eat with Ana.
S: I'm going to eat with Ana.
T: Ready? Begin to eat
S: I'm going to eat with Ana.
T: I'm going to eat with Ana. to go out
S: I'm going to go out with Ana.
T: I'm going to go out with Ana. to study
S: I'm going to study with Ana.
T: I'm going to study with Ana. to work
S: I'm going to work with Ana.
T: to dance
S: I'm going to dance with Ana.
T: to read
S: I'm going to read with Ana.
T: other cues, such as to travel, to go in, to drink.

You will probably find that it is unnecessary to use three-phase treatment after the first or second item in English. You may want to modify it then, as shown above.

Here is another example of a treatment of a structure: a change in Spanish where we just add words at the end in English.

T: Listen but don't repeat yet. I'm going to ask you if Paco speaks a language and you will tell me that he speaks it very well. I'll say Paco speaks Spanish, doesn't he? and you will say Yes, Paco speaks Spanish very well. (2) Repeat Yes, Paco speaks Spanish very well.
S: Yes, Paco speaks Spanish very well.
T: If I ask Paco speaks French, doesn't he? you will say Yes, Paco speaks French very well. Ready? Begin, Paco speaks French, doesn't he?
S: Yes, Paco speaks French very well.
T: Paco speaks English, doesn't he?
S: Yes, Paco speaks English very well.
T: Paco speaks Spanish, doesn't he?
S: Yes, Paco speaks Spanish very well.
T: Paco speaks German, doesn't he?
S: Yes, Paco speaks German very well.
T: Paco speaks Portuguese, doesn't he?
S: Yes, Paco speaks Portuguese very well.
T: Paco speaks Italian, doesn't he?
S: Yes, Paco speaks Italian very well.

and the Spanish:

T: Escuchen, no repitan. Yo digo Paco habla español no? Vds. dicen Sí, Paco habla muy bien el español. (2) Repitan Paco habla muy bien el español. (use backward buildup if necessary)
S: Sí, Paco habla muy bien el español.
T: Yo digo Paco habla francés ¿no? Vds. dicen Sí, Paco habla muy bien el francés. (2) Repitan Paco habla muy bien el francés.
S: Paco habla muy bien el francés.
T: ¿Listos? Vamos. Paco habla francés ¿no?
S: Sí, Paco habla muy bien el francés.
T: Sí, Paco habla muy bien el francés. Paco habla español ¿no?
S: Sí, Paco habla muy bien el español.
T: " " " " " " " " Paco habla alemán ¿no?
S: Sí, etc.
T: " " Paco habla portugués ¿no?
S: - - - - - - -
T: - - - Paco habla italiano ¿no?
S: - - - - - - -

This is not intended to prescribe anything but the treatment of a pattern response type of exercise, as contrasted with the substitution type which was illustrated first. Actually, one might prefer to use a substitution exercise first to practice the response, if the students found it too long. Another possibility would be to reverse the cue and response. The teacher would say Paco habla muy bien el español ¿no? and the student would respond No, señor, Paco no habla español. One might also prefer to do something else altogether.

Suppose you were working with the subjunctive in sentences where English uses an object pronoun and infinitive phrase while Spanish uses a noun clause. The experimental procedure might help to point out the difference in sentence structure, to make the student more cognizant of how the two operate in putting across the same idea.
T: Listen but don't repeat yet. I will say me and you'll say They want me to talk. (2) Repeat They want me to talk.
S: They want me to talk.
T: I'll say her and you'll say They want her to talk. (2) Repeat They want her to talk.
S: They want her to talk.
T: Ready? Begin. They want me to talk. her
S: They want her to talk.
T: They want her to talk. me
S: They want me to talk.
T: They want me to talk. us
S: They want us to talk.
T: him
S: They want him to talk.
T: Mary
S: They want Mary to talk.
T: them
S: They want them to talk.

followed by the Spanish version:

T: Escuchen, no repitan. Yo digo nosotros y Vds. dicen Quieren que nosotros hablemos (2) Repitan Quieren que nosotros hablemos.
S: Quieren que nosotros hablemos.
T: Yo digo yo y Vds. dicen Quieren que yo hable. (2) Repitan Quieren que yo hable.
S: Quieren que yo hable
T: ¿Listos? Vamos. Quieren que nosotros hablemos. yo
S: Quieren que yo hable.
T: Quieren que yo hable. nosotros
S: Quieren que nosotros hablemos.
T: Quieren que nosotros hablemos. ella
S: Quieren que ella hable.
T: Quieren que ella hable. él
S: Quieren que él hable.
T: Quieren que él hable. María
S: Quieren que María hable.
T: Quieren que María hable. ellos
S: Quieren que ellos hablen.

etc.
Other Types of Pattern Drills

There are other kinds of oral exercises that can be adapted to this procedure in a similar fashion. Some of the possibilities are listed below with application to one language structure or another, or to an expression that is to be used.

(1) Repetition: the simplest type. Often used to go into other more complex exercises. Longer ones may need to be shortened by dropping out modifiers (reduction), and taking them back into the frame, or by building the sentence from the back. Two of the biggest advantages in building up from the back, that is, the end of the sentence, are (a) the intonation pattern and terminal juncture are not disturbed and (b) the words that the student may have the most difficulty in remembering are those that will have been said the most. Longer lines of the dialog are frequently handled this way.

(2) Simple substitution: all changes are made in one slot and no others are needed because of that change.

a. Nos lo mandan mañana.  
   dan  
   venden
   compran
   traen
   enseñan
   escriben

b. Buscan a la profesora.  
   niña.
   señorita.
   muchacha.
   muchacha.
   señora.
   maestra.

(3) Some consider that drills requiring a substitution and a change in another slot because of that substitution should be put in another category. (It matters little what category you use, just so you are aware of what you can do with it.) A change of subject in (2)b.; a change to a masculine noun, or plural; a change of profesora to pluma: these would be illustrations.

(4) Reduction: a word or expression is dropped from the frame.
a. Prefiero la casa de Juan.
    Prefiero la de Juan.
    Prefiero la camisa de Juan.
    Prefiero la de Juan.
    Prefiero los cuentos de Juan
    Prefiero los de Juan.
    Prefiero el libro de Juan.
    Prefiero el de Juan.

b. Nos gusta el carro azul.
    Nos gusta el azul.
    Nos gusta la casa blanca.
    Nos gusta la blanca.
    Nos gusta la tela gruesa.
    Nos gusta la gruesa.
    Nos gustan los zapatos negros.
    Nos gustan los negros.

(5) Paired sentences: two sentences are put together to use the structure being drilled.

    Rafael es más alto que Pablo.
    Pablo es estúpido. Rafael es más estúpido.
    Rafael es más estúpido que Pablo.
    etc.
    etc.

b. No es Concha. Es María.
    No es Concha sino María.
    No usa pluma. Usa lápiz.
    No usa pluma sino lápiz.
    No es flaco. Es gordo.
    No es flaco sino gordo.
    No invito a Pepe. Invito a Raúl.
    No invito a Pepe sin a Raúl.

(6) Pattern response: the cue is a brief utterance, which contains the item or structure to be manipulated in a particular way.

a. Este parque es hermoso.
    Sí. Es el más hermoso de la ciudad.
    Este edificio es hermoso.
    Sí. Es el más hermoso de la ciudad.
    Esta avenida es ancha.
    Sí. Es la más ancha de la ciudad.
    Este barrio es antiguo.
    Sí. Es el más antiguo de la ciudad.
    Esta plaza es grande.
    Sí. Es la más grande de la ciudad.
b. ¿Por qué estudia Vd. tanto?
   Papá quiere que estudie mucho.
¿Por qué trabaja Vd. tanto?
   Papá quiere que trabaje mucho.
¿Por qué practica Vd. tanto?
   Papá quiere que practique mucho.
¿Por qué toca Vd. tanto?
   Papá quiere que toque mucho.
¿Por qué juega Vd. tanto?
   Papá quiere que juegue mucho.

(7) Replacement: usually refers to replacement of noun by object pronoun.

Dejaron los libros en casa.
   Los dejaron en casa.
Dejaron la seda en casa.
   La dejaron en casa.
Dejaron el dinero en casa.
   Lo dejaron en casa.

(8) Fixed increment: the same expression is added to the cue that is given. Sometimes an additional change is needed.

a. Mire Vd.
   Quiere que mire Vd.
Cante Vd.
   Quiero que cante Vd.
Estudie Vd.
   Quiero que estudie Vd.
Escuche Vd.
   Quiero que escuche Vd.
Lea Vd.
   Quiero que lea Vd.
Vaya Vd.
   Quiero que vaya Vd.
Escríba Vd.
   Quiero que escriba Vd.

b. No pueden venir.
   Siento que no puedan venir.
No saben la verdad
   Siento que no sepan la verdad.
Están enfermos.
   Siento que estén enfermos.
Vienen muy temprano.
   Siento que vengan muy temprano.
Las niñas salen pronto.
   Siento que las niñas salgan pronto.
No tienen dinero.
Siento que no tengan dinero.

(9) Transformation: the most common types are
(a) inversion of word order; (b) shift of tense; (c) active to passive, or vice versa;
(d) make a statement into a question, or vice versa; (e) affirmative to negative, vice versa.

a. Juan llegó — Llegó Juan.
b. No hace nada — No hizo nada.
c. Colón no descubrió la América — La América no fue descubierta por Colón.
d. José estudió en casa. — ¿Estudia José en casa?
   La secretaria del jefe vino tarde. — ¿Vino tarde la secretaria del jefe?
   La mamá está enferma. — ¿Está enferma la mamá?
e. Los jóvenes han llegado. — Los jóvenes no han llegado.

It goes without saying that there are inexhaustible numbers of possibilities among this class, as among any other.

(10) Translation. Often useful when the English and Spanish structure are in contrast, though not only in those cases. If the experimental procedure was modified to where each cue was in English and the response was in Spanish, it would represent a sampling of this class of exercise.

(11) Multiple substitution exercises: substitutions are made in more than one slot or position. They can be quite a challenge to the good student, though the more difficult ones are beyond the reach of the mediocre one.

A mí me gusta el café.
A él — la limonada.
A ti — los dulces.
A Vds. — la cerveza.
A Mamá — los zapatos nuevos.
A mis hermanas
Another type of exercise that adapts itself to pattern practice is one in which the cue is a statement that is to elicit a question. The purpose, of course, is to give the students practice in using interrogative words, and in their proper position in the sentence.

a. La carta es para Maríia.
   ¿Para quién es la carta?
   Los libros son para Maríia
   ¿Para quién son los libros?
   Los libros son para los muchachos,
   ¿Para quiénes son los libros?
Fueron con Ana,
¿Con quién fueron?
Estudiaron con las chicas
¿Con quiénes estudiaron?
Trabajó con la profesora,
¿Con quién trabajó?
El carro es de mi hermano,
¿De quién es el carro?
Esa casa es de mi tio,
¿De quién es esa casa?

Directions:
Por lo general, yo les hago preguntas a Vds.; esta vez Vds. me hacen preguntas a mí. Usen quién o quiénes en sus preguntas.

Yo les doy la respuesta y Vds. me hacen la pregunta.

Yo digo --------
Vds. dicen ------

b. El burro es un animal. —— —— —— ——
Eso es un insecto.
¿Qué es eso? etc.
La capital es Asunción
¿Cuál es la capital?
Jorge es el más grande.
¿Cuál es el más grande?
La manzana es una fruta de la zona templada.
¿Qué es una manzana?

c. Los señores López salieron para Cochabamba la semana pasada.
¿Cuándo salieron los señores López para Cochabamba?
¿Para dónde salieron los señores López?
¿Quiénes salieron para Cochabamba la semana pasada?
¿Qué hicieron los señores López la semana pasada?
¿Qué es Cochabamba?
¿Dónde está Cochabamba?
¿Cómo fueron?
¿Por qué fueron los señores López a Cochabamba?

The last examples are more open ended. Questions could be asked, also, that called specifically for the use of donde, cómo, por qué, etc.

Final Comments

Please call me if there is any way I can clarify any point of the experiment or in this manual. I recognize the very real possibility that, having thought about the different parts so much, I may well have taken something for granted, something that I did not explain or clarify. I can be reached at home at 272-1551, through the Humanities Education Office, 422-5381, or in Ramseyer 165, 422-1080.

The most important thing to do, to guard the internal validity of the study, is to make the experimental treatment of the pattern drill and directed dialog the only difference between the two classes that each one of you is involving. This includes assignments, tests, visuals, any type of aids, worksheets, etc. Otherwise, at the end, if there is a difference in achievement, we cannot say with nearly as much confidence that we know what caused it. To stay very close to the same lesson plan with two classes for a year is not an easy thing to do. The differences in aptitude between the two groups, and the difference in prior achievement are to be adjusted for in the final analysis of data. We cannot adjust for the personality of a class, which could also affect the results.

It might be a temptation, especially if the procedure seems to be helping the experimental group considerably, to give the control group something to help them also. That could erase part of the difference, the difference that we are spending a school year and a large amount of work to find. There is also the possibility of the students' making
errors that seem to be caused by practicing the English version first. I am hoping that it won't happen, and I don't believe that it will, but . . . . If the student says Mi llamo es instead of Me llamo more than what seems usual, refer to the section, *Explanation of Procedure to Students*, p. 5. The English cues need not be the cause, nevertheless.

If the student asks for the meaning of some word or expression, of course I have no objection to your telling him, but please tell him only what he asks for and absolutely nothing else along this line.

I would like very much to sit in your classes from time to time to see for myself how they react. If you would prefer that I let you know ahead, or that I not do it at all, please let me know. I will not be coming to check on you. If I had to do that I would not have asked you to participate in the first place.

Please write your observations as they occur to you. I will keep in touch. I will try to get around to talk to all of you every two or three weeks, more often if any of you wish. I will also be in your building to help give the tests. You will have advance notice and the Speaking test will be the only one that needs to be tightly scheduled.
Appendix C:
To Teachers:

Please make the following changes in your drill manual:

Page 4, line 1 of Introductory Comments to Students —

Please insert the word "casually" between "mention" and "to."

Please put period after "learn," strike out the rest of line 4, all of line 5, and the first word, "help," of line 6.

Avoid the use of such words as experiment. With the experimental procedure, if you really feel that an explanation is necessary, please tell the students that you want to be satisfied that they will always know what they are about to say in their exercises.

If you use the English cues and responses from time to time in your other classes it should help to "muddy the water" and lessen the possibility of their being alerted to the experiment and to the difference in treatment.

PLEASE READ, MAKE CHANGES, AND THROW AWAY THIS NOTICE IMMEDIATELY.
APPENDIX D:
Attached you will find a copy of the note that was sent home to parents requesting permission for their children to go to the Listening Center at Cunz Hall, O.S.U, where they have been taking the Speaking test in Spanish.

Each afternoon the bus picks up the students at the Junior high school, brings them to Cunz, drops them off, goes to Upper Arlington High School, picks up the high school students, who have just finished classes, brings them to the Listening Center and drops them off, at the same time picking up the junior high students who have just finished their test. The bus returns the junior high students to their school, then picks up the high school students, who have a five to ten minute wait because of the heavier traffic, and returns them to their school. Thanks to cooperation from everyone, things have gone as smoothly as could be.

I hope you realize how much I appreciate the support from you, the teachers, and the students who have given their time.

You may be very sure that you will be given all the information out of the testing program and from the study itself.

The pretests will be over on Thursday. They have consisted of proficiency tests in Speaking, Understanding, Reading, and Writing and a Language Aptitude Battery.

Sincerely,

Sidney N. J. Zelson
Dear Parent (or Guardian):

Your son's (or daughter's) Spanish class is being given tests to ascertain more precisely what Spanish he (or she) knows at this point and in what areas he will show strengths and weaknesses. One part of the test cannot be given without recording facilities, which the school does not have; however, Ohio State University is helping us by allowing us to use their language laboratory facilities.

It is planned for the students to be picked up at their school, after their classes, by O.S.U. bus. They will be taken to the Listening Center in Cunz Hall; they will take a 16 minute test; and they will then ride the bus back to their school.

It is necessary that all students participating in the language laboratory test at O.S.U. have written permission from a parent or guardian. Your signature on the line below will indicate your approval.

____________________ has my permission to take part in the above described laboratory test on September ____.

Signature of Parent/Guardian

Note: The students are to be given similar tests in May. The final results will help us to get a more accurate estimate of their progress in the various language skills. You will be asked for another authorization, then, in May.

Teacher's signature

Sidney N. J. Zelson
Teaching Associate/
Humanities Education
Ohio State University
Testing Schedule - Notes

Test A: Given in classroom. Students may use pens, pencils, crayolas, charcoal, etc.

B: same as above

C: You will need a tape recorder and five inch takeup reel. Please make sure ahead of time the recorder works. If you are unable to obtain one for that day please let me know immediately (if not sooner) so that I can see about getting one from Lord Hall A-V dept.

D: We will also need a tape recorder for this one, but with a seven inch takeup reel. See, also, above comments.

E: On each of the three days, Sept. 21, 22, and 23, one Jr. High and one Sr. High teacher with his or her two classes are scheduled for the Cunz Hall labs for the Speaking tests. (Exception: Reynoldsburg students will be scheduled and tested in their building)

Makeups: for A, B, C, and D we will arrange to have the students take them or not take them on an individual basis.

for E - Bus will be coming by the senior high school each of the three days, so it presents no problem for students in classes of Mrs. Campbell, Mrs. Gregory or Miss Maxwell who are absent or for whom the scheduled day is extremely inconvenient. Please don't announce this publicly-- once the groups find out they can change there may be an avalanche of requests for no good reason.

On Sept. 21 and 22 Hastings students go to Cunz, as indicated on the schedule. If they miss one day they may go the other. Jones students will not be in as flexible a situation as they wouldn't have transportation from Jones to Hastings, in all likelihood.
I would like to ask each one of you to ride the bus to Cunz the day your two classes are scheduled. I would also appreciate it if you would take other students on your day that weren't able to go on theirs. Of course you are welcome to come the other days also. There would be things you could do to distribute materials and change tapes on the remote control decks, I believe. Anyway, we'll see how the first day goes.

Please be sure to give tests to both of your classes the same day, as scheduled. If for some reason it is impossible in one of them, we will do both another day. I tried to give myself and you a certain amount of flexibility in the plan, so it shouldn't be too hard.

You will have test materials ahead of time and you may expect help.
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Test A: Reading 35 min. (+ directions)
Test B: Writing
Test C: Listening 15
Parts 1 & 2 of Aptitude Battery (very short)
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**35 min. (++) directions**

**Test D: Aptitude 38 minutes**

(Most directions are on tape)

**15 """"**

2 of Aptitude Battery (very short)

**E: Speaking 16 min. + directions (Cunz Hall after school)**
Teachers:

I should like to ask all of you to do something for me—something that I should have thought of before.

It would be very helpful to me if I knew the following:

1. How much time you have been able to spend each day (estimate) in using directed dialog, including English.
2. How much time you have been able to spend each day using pattern drills, including English.
3. A very brief description of each pattern drill: only the basic sentence with a few items (cues) and a response. That way I would know what kind it was and what you were using it for.

This information may be very important to me in interpreting the results, especially if different trends appear.

Therefore I am giving each of you a small notebook, which I would like you to use from here on. At the end of each day would you please make the appropriate annotations? I'm hoping that it won't take more than two or three minutes, if that long. At the same time it will help me to answer many natural questions that might arise in my defense of the dissertation, not to mention its contribution to our understanding of what has happened.

If the ten minutes per day of drill and directed dialog seems hard to live with, please comment, I'd still like you to come as close as you can to that figure, since we won't know what effects the procedure has if it is not used enough. However, as I said at the beginning, I don't want you to drastically or even significantly alter your day-to-day teaching plans and materials. I just want to know about it.

To impose on you further yet, I should like to ask you to try to make an estimate of the average number of minutes per week that you have spent using directed dialog in the experimental class and the amount of time you have spent on pattern drills with that group.

Please call me if a more painless way of getting this
information occurs to you or if this seems very inconvenient. Maybe we can figure out some other arrangement. This one is the best I've been able to come up with.

Sincerely,

Sid Zelson
Appendix G:
Dear Parent (or Guardian):

Your son's (or daughter's) Spanish class is being given a standardized Spanish Proficiency Test to evaluate achievement of the group in Reading, Listening, Writing, and Speaking skills over the past year. The Speaking test cannot be given without recording equipment which the schools does not have; however, Ohio State University is helping us by allowing us to use their language laboratory facilities.

These proficiency tests are the final part of a study that has been conducted over the past year to determine the value of a special pattern drill treatment. The procedure was designed to make a common language teaching-learning exercise more meaningful. We hope that you will permit, in fact, urge your son or daughter to take the 16 minute speaking test that is to be administered at the Listening Center at Ohio State University. This particular test is the most direct measure of the results of the treatment we are investigating; therefore, it is very desirable to have speaking scores for all students involved in the study.

Just as in the September pre-test, the students are to be picked up at their school (after classes) by O.S.U. bus. They will be taken to Cunz Hall for the test and ride the bus back to their school afterward.

It is necessary that all students participating in the test at the Listening Center have written permission from their parents or guardian. Your signature on the line below will indicate your approval.

____________________ has my permission to take part in the above described speaking test at the Ohio State University Listening Center on May _____.

Signature of Parent/Guardian

____________________ Teacher's Signature

Sidney N. J. Zelson
Teaching Associate/Humanities Education
The Ohio State University
Testing Schedule - Notes

Test R: given in classroom. Students may use pens, pencils, crayolas, charcoal, etc.

W: same as above

L: You will need a tape recorder and five inch take-up reel. Please make sure ahead of time the recorder works. If you are unable to obtain one for that day please let me know immediately (if not sooner) so that I can see about getting one from Lord Hall A-V dept.

S: On each of the three days, May 16, 17, and 18, one Jr. High and one Sr. High teacher with his or her two classes are scheduled for the Cunz Hall labs for the Speaking tests. (Exception: Reynoldsburg students will be scheduled and tested in their building)

Makeups: We will arrange to have the students take them or not take them on an individual basis.

for S - Bus will be coming by the senior high school each of the three days, so it presents no problem for students in classes of Mrs. Campbell, Mrs. Gregory or Miss Maxwell who are absent or for whom the scheduled day is extremely inconvenient. Please don't announce this publicly - once the groups find out they can change there may be an avalanche of requests for no good reason.

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course you are welcome to come the other days also. There would be things you could do to distribute materials and change tapes on the remote control decks, I believe. Anyway, we'll see how the first day goes.

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**Notes:**
- RA = Rading, Form A, Level One; WA = Writing; LA = Lis
- RC = Rading, Form C, Level Two; WC = "j"; LC = "j
- Rading and Writing 35 min. + directions (each)
- Listening and Speaking 16 min. + directions (each)
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$A$, Level One; $W_A$ = Writing; $L_A$ = Listening; $S_A$ = Speaking.

$C$, Level Two; $W_C$ = "Speaking 16 min. + directions (each)

55 min. + directions (each) (Cunz Hall after school)
SELECTED BIBLIOGRAPHY

Books


ARTICLES


REPORTS


- Foreign Language Attainments of Language Majors in Senior Year, A Study Conducted in U.S. Colleges and Universities. EDRES: ED 013343. 1967.


UNPUBLISHED MATERIALS

Ackerman, Thomas J. "Language Laboratory Instruction and the Achievement of First Year Students of Spanish in Florida." Dissertation Abstracts, 27, 1 (July 1966), p. 134-A.


OTHER MATERIALS
