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A COMPARISON OF LEARNING OUTCOMES IN TEACHER-DIRECTED
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COLLEGE-LEVEL LANGUAGE COURSES

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

By
Michael James Gibbons, A.B., A.M.

* * * * *

The Ohio State University
1975

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Major Field: Foreign Language Education

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Studies in Education: Special Services. Professors Joseph J. Quaranta and James A. Wigtil
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CHAPTER I

INTRODUCTION

Statement of the Problem

In recent years foreign language educators, supervisors, and classroom teachers have begun to turn their attention to the development of communicative competence in their students. They believe it essential that students be able to send and receive personal messages in the foreign language. In promoting the attainment of communicative competence, certain teacher educators and teachers have recognized the importance of developing and implementing activities that allow students to interact and to cooperate in their learning tasks. These teachers have been limited in their efforts to encourage interaction and cooperation in their classrooms by such factors as (1) a perceived or real lack of freedom to depart from the demands of a fixed curriculum; (2) lack of experience and training in developing and implementing strategies, materials, and activities that allow them to share their authority in the classroom with students; (3) a belief that students cannot interact and cooperate in small- or whole-group environments and still master the knowledge and skills that are required in
the course; (4) a belief that skill development or the attainment of knowledge is most efficiently and effectively promoted through the medium of activities that are teacher-directed.

Quite to the contrary, it is possible for foreign language teachers to encourage students to interact and cooperate without sacrificing efficiency in terms of mastery of course content; by encouraging these affective behaviors, they may indeed enhance academic learning. Supportive examples can be found in classroom research on foreign language learning and on learning in other subject-matter areas. Papalia and Zampogna\(^1\) report on the findings of their research comparing a teacher-dominated secondary-level French III class in which subject-matter was stressed with a class at the same level in which both the cognitive and affective domains were emphasized. To quote from their work:

Students in the experimental group who had more self-direction and responsibility, who participated in the planning of the curriculum, and who were more satisfied with the work in class scored significantly higher in the four basic skills of the language than those in the control group.\(^2\)


\(^2\)Ibid., p. 306.
The following examples are taken from other subject-matter areas. Schmuck and Schmuck\(^3\) declare:

We have shown that classroom groups with supportive friendship patterns enhance academic learning, while more hostile classroom environments reduce learning (Schmuck (1966)). Our research has indicated that student academic performances were conditioned by emotional contents associated with their self-concepts as peers and students, and that these self-concepts were influenced, in part, by the students' friendship and influence relationships with their classmates. Informal group processes in the classroom do make a difference in the accomplishment of the formal goals of the school.\(^4\)

In commenting on his research conducted in the classroom, Aronson\(^5\) states:

I now think it is idle to speculate on the relative benefits of competitiveness and cooperation or to try to balance them neatly. The important thing is that the kids were happier, felt better about themselves, and liked their classmates more as a result of cooperative groups, and that these good feelings did not interfere with learning and performance.\(^6\)

Exponents of the philosophy of affective education believe that teachers not only can promote affective kinds of learning in their classrooms but that they must do so if


\(^4\)Ibid., p. 10.


\(^6\)Ibid., p. 49.
they are to prepare students adequately for today's world. Foreign language teachers should examine critically their own teaching practices in light of this belief. Disick and Barbanel\textsuperscript{7} assert:

Schools must take the responsibility for preparing students to engage in constructive personal and social behavior. In a highly complex and precarious world, society has few alternatives but to strive toward the development of humanitarian behavior.\textsuperscript{8}

Some educators claim that cognitive course content should play only a secondary role in modern educational programs. A more common view is that there should be a linking of cognitive and affective goals and the classroom activities and materials that translate these goals into action. Schmuck and Schmuck\textsuperscript{9} reflect this view.

As a result of societal changes during the past several decades, schools have an increasing obligation to help students learn behavioral skills that will equip them to fill responsible and useful roles in society and to contribute maximally to the productivity of groups. This means to us that, concurrent with the teaching of an academic curriculum, schools should be concerned with the development of skills in interpersonal relationships, with the adequacy of the student's relationships to his classmates and teachers, as well as to himself.\textsuperscript{10}


\textsuperscript{8}Ibid., p. 190.

\textsuperscript{9}Schmuck and Schmuck, Group Processes in the Classroom.

\textsuperscript{10}Ibid., p. 1.
An affective component would seem to be particularly meaningful at the college or university level. The current curricular structure at this level imposes certain very real limitations on instructors. A moment's reflection brings to mind a number of these limitations. In many colleges and universities the beginning sequence of courses is required of large numbers of students. Instructors must deal with a special kind of student, one who is not there by choice. Instructors are often expected to cover a predetermined amount of subject-matter. Program development is slowed and at times impeded by a lack of time, necessary funding, and secretarial personnel. Typically, the curriculum is fixed. The student must progress from level to level in a sequential manner. A degree of choice exists only at the higher levels of the beginning sequence of courses. The textbook, course examinations, language laboratory assignments, homework assignments, the daily schedule of classroom activities, and the credits earned through each course are predetermined.

One might ask whether these factors preclude the possibility of instructors shaping for the student an experience that can satisfy to as great an extent as possible both his cognitive and affective needs. Rogers' response to this question is most illuminating. He states:

---

For example, I have taught one section of a large course, in which the curriculum and text were evaluated by the same examination, which I had had no part in formulating. There were, in that course, just as many excitedly learning individuals, just as many individual projects, as in the course described in these pages. Judging by my own experience and that of others, the amount of freedom which can be given to the group is not particularly important. The class and the instructor may have to accept the constrictions of a rigid examination, of a preset curriculum and text, and other limitations. What is important is that within these limits the freedom that is given is real, is not hesitantly or guardedly given by the leader, and is perceived as real by the students. Then— even in a seemingly narrow sector of their work— they can experience freedom of choice, freedom of expression, freedom to be.12

Objectives of the Study

The first objective of this study was to determine whether students could learn to apply a grammatical principle as well in small groups that were non-teacher-directed as they could in small groups that were teacher-directed. The second objective was to determine whether students in non-teacher-directed small groups learned more about this same grammatical principle when they worked in groups whose structure required them to cooperate in the learning task as opposed to groups whose structure did not incorporate this component of cooperation. The third objective was to determine whether students who worked in small groups whose structure required them to cooperate in a learning task

12Ibid., p. 74.
perceived their experience to be more positive than did students who worked in small groups whose structure did not incorporate this component of cooperation. The fourth objective was to discover whether a relationship existed between achievement and attitudes of French 101 students.

**Hypotheses**

The following null hypotheses were tested through this study:

**H₁**: There will be no significant differences among treatment groups in terms of achievement as measured by an instrument developed for this study.

**H₂**: There will be no significant differences among treatment groups in terms of the degree to which students perceive cooperation to be present in the interactions in their group as measured by an instrument developed for this study.

**H₃**: There will be no significant differences among treatment groups in terms of student attitudes toward their group experience as measured by an instrument developed for this study.

**H₄**: There will be no significant relationship between achievement and attitudes of French 101 students as measured by an instrument developed for this study.
Assumptions

For the purposes of this study, the investigator assumes that:

1. The students in each of the six beginning French classes are representative of the same parent population. This population consists primarily of students from the colleges of the Arts and Sciences. A more complete description of the population is offered in Chapter III.

2. The attitude scale developed for this study is a valid instrument. A more complete description of this instrument is provided in Chapter III.

3. The random assignment of students to each of the three treatment groups in this study minimized sufficiently differences arising from previous contact with the grammatical principle under examination.

Need for the Study

At a time when foreign language teachers find themselves confronted by an ever-increasing number of recommendations for curricular change, it is of paramount importance that educational research conducted in the classroom provide relevant empirical data so that intelligent decisions regarding classroom practice can be made. Among a number of other things, teachers need to know how student achievement of
subject-matter in small groups is affected by the incorpor-
ation of well-defined elements, each of which is a part of
the broader framework of the affective domain. They need
to know how students perceive their experiences in small-
and whole-group settings, and how their perceptions relate
to achievement of subject-matter. Exploratory research of
this kind is needed to answer these questions and the many
other questions that teachers face.

John Carroll\(^\text{13}\) stresses how important it is that such
research attempt to deal with the realities of the class-
room.

It may be recommended, therefore, that useful
experiments in foreign language teaching can be
conducted by adhering fairly closely, at least
initially, to patterns of teaching and types of
teaching materials which have already been devel-
oped and found successful by foreign language
teachers. Foreign language teachers sincerely
want to know how to improve their procedures,
but they are not likely to attend carefully to
the results of researches which utilize radically
different or unrealistic teaching methods, or
which appear to be formulated in terms of out-
moded conceptions of language learning or language
teaching.\(^\text{14}\)

The present study represents an initial attempt to work
with the realities of the college or university classroom.
Currently at the school involved in the study, one day is
devoted to the teaching of the use of prepositions with

\(^{13}\)John B. Carroll, "Research on Teaching Foreign Lan-
guages," in N. L. Gage, ed., Handbook of Research on Teaching

\(^{14}\)Ibid., pp. 1065-66.
geographical names. The duration of the treatment, then, corresponds closely to the amount of time presently devoted to the teaching of this particular grammatical principle. Activities and materials used within the small groups in the treatment correspond closely to those that are presently used. All students had already been exposed to small-group procedures.

Definition of Terms

1. Small Group:
For the purposes of this study a small group is defined as a classroom subgroup consisting of fewer than eleven students who engaged in the research tasks and provided the data for the study.

2. Whole Group:
For the purposes of this study the whole group is defined as the scheduled French class to which the student was assigned. It consisted of more than ten but fewer than twenty-nine students.

3. Subject-matter Mastery:
For the purposes of this study subject-matter mastery is defined as answering correctly 80% or more of the items on a discrete-point grammar test.
4. Cooperation:

For the purposes of this study cooperation is defined as mutual decision-making and sharing of information. It refers specifically to the small-group technique used in this study.

Overview

Chapter I gives a statement of the problem; statements of objectives, hypotheses, and assumptions; a discussion of the need for the study; definitions of terms.

Chapter II reviews the literature related to the problem.

Chapter III describes in detail the experimental design, population, sample, pilot study, classroom procedures, preparation of materials, and test instruments involved in the experiment.

Chapter IV describes the statistical analyses employed in the experiment, and presents the results of these analyses.

Chapter V contains a discussion of the findings of the statistical analyses, the major conclusions, the limitations of the study, and recommendations for further research.
CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

One of the main objectives of the present study was to discover the effects of a small-group cooperative procedure on subject-matter learning and on student attitudes. A mass of research has been done to compare the effects of various instructional procedures. From this vast amount of work it is possible to isolate a number of laboratory and classroom studies designed to compare cooperative and competitive groups on various dimensions. The classroom research designed to compare cooperative and competitive groups is directly related to the present study, and will be the focus of this chapter.

Studies in Non-language Classrooms

In a landmark study involving college students taking an introductory psychology course Deutsch\(^1\) investigated the effects of cooperation and competition upon group functioning.


12
An awareness of the instructions that were read to students in the cooperative and competitive classroom situations is essential to an understanding of Deutsch's work. The following passage summarizes the instructions that were read to students in the cooperative groups:

The 'co-operative situation' was produced by a set of instructions which stated essentially that the group, as a whole, would be rated in comparison with the efforts of four other similarly constituted groups; the grade or reward that each member received would be the same and would be determined by the relative position of this group in contrast with the other four similar groups.²

Students in the competitive groups received a different set of directions. To quote from the author's work:

The 'competitive situation' was produced by another set of instructions which stated essentially that each member would be rated in comparison with the efforts of the other four members composing his group, the grade or reward that each would receive would be different and would be determined by the relative contributions of each to the solution of the problem with which they were confronted.³

These instructions reveal, moreover, that cooperative behavior was induced by a systematic variation of the grading system.

The author reports a number of interesting findings. With respect to the cooperative group he states:

²Ibid., p. 229.

³Ibid.
The results, with respect to aspects of group functioning, indicated that the Indiv co-op showed more of the following characteristics than did the Indiv comp: (i) Co-ordination of Efforts; (ii) Diversity in amount of contributions per member; (iii) Subdivision of activity; (iv) Achievement Pressure; (v) Production of signs in the puzzle problem; (vi) Attentiveness to fellow members; (vii) Mutual comprehension of communication; (viii) Common appraisals of communication; (ix) Orientation and orderliness; (x) Productivity per unit time; (xi) Quality of Product and of discussions; (xii) Friendliness during discussions; (xiii) Favorable evaluation of the group and its product; (xiv) Group Functions; (xv) Perception of favorable effects upon fellow members; (xvi) Incorporation of the attitude of the generalized other.4

The expression "production of signs" used by Deutsch refers to the utilization of words to communicate ideas related to the group task. With respect to the competitive group he declares:

The Indiv comp showed more of the following:
(i) Production of signs in the human relations problems; (ii) Individual Functions.5

The groups did not differ significantly on certain dimensions of group functioning. Referring to these dimensions, he states:

No significant differences were found in the following: (i) Amount of interest or involvement in the situation; (ii) Amount of specialization with respect to function; (iii) Amount of learning (though the trend is in favor of the Indiv co-op). Nor did the data reveal any striking developmental differences with time.6

5Ibid.
6Ibid.
There is some question about the extent to which the component of cooperation explains Deutsch's findings with respect to the cooperative classroom situation. The problem lies in his choice of a reward system. Golembiewski explains the nature of the problem. He asserts:

One reservation requires note. Deutsch did not really study "co-operative" vs. "competitive" conditions. He actually studied intergroup competition vs. intragroup conflict. For Deutsch's "co-operative" condition provided that but a single group could win the prize (an A as half of a course grade), thus setting the stage for intergroup competition.

Perhaps an experimental design in which each cooperative group would have had the opportunity to receive an A as half of the course grade if it had met a certain preestablished criterion would have produced different results. In any event, it appears plausible to assert that such a design would provide for a more valid comparison of the effects of cooperation and competition on group functioning.

Haines and McKeachie report a study designed to compare cooperative and competitive techniques of teaching discussion sections of a general psychology course. In describing the nature of the comparison, they declare:

---


8Ibid., pp. 186-87.

The comparison was made in terms of the relative amounts of tension produced by each technique, the effect of each technique on student performance, and the effects of the techniques on student satisfaction and recall.\textsuperscript{10}

Significant differences were reported on all but one of the dimensions studied. The authors make the following conclusions:

The present research demonstrated that students in competitive discussion situations became more anxious, displayed a greater incidence of self-oriented needs, and found themselves losing self-assurance. Further, they were less able to perform effectively in recitation, and they became dissatisfied with the discussion procedure. When the discussion was structured cooperatively, students felt less tense, displayed more task-oriented behavior, worked more effectively, and enjoyed the discussion.\textsuperscript{11}

No significant differences were reported on a measure of achievement that was administered at the end of the experiment.

The results of the Haines and McKeachie study must be interpreted cautiously. As in Deutsch's experiment, there was a confounding of the components of cooperation and competition in their study. It might in fact be possible to explain the positive effects that have been attributed to cooperative intragroup relations in terms of competition that occurred among cooperatively structured groups.

\textsuperscript{10}Ibid., p. 386.

\textsuperscript{11}Ibid., p. 390.
Wheeler and Ryan\textsuperscript{12} report a study involving elementary school social studies classes that extends the work of Deutsch and that of Haines and McKeachie. They hypothesized that cooperative behavior could be induced not only through a systematic variation of the system by which grades were awarded to students, but also through a systematic manipulation of the organizational structure of the cooperative group. To accomplish this end, they analyzed the overall task, that is, the inquiry process itself. Based on this analysis, specific subtasks, or subprocesses, were delineated. Responsibility for these subtasks was given to specific members of the cooperative groups.

The authors report the following findings:

Results of the attitudes toward cooperation test suggest that cooperative subjects, more than competitive subjects, liked sharing information, working together, talking with one another, and receiving group versus individual grades.\textsuperscript{13}

No significant differences were found in terms of achievement between cooperative and competitive groups.

In discussing the finding of no significant differences on the achievement test, the authors suggest an interesting possibility in terms of testing procedures for subsequent


\textsuperscript{13}Ibid., pp. 405-6.
studies designed to compare the effects of cooperative and competitive classroom environments on achievement. To quote the authors:

In the present study all subjects were administered the achievement posttest under essentially competitive conditions, that is, students worked individually and did not communicate.14

Implicit in this passage is the suggestion that students in cooperative groups be allowed to work together on achievement tests. A cooperative testing procedure would appear to have the advantages of reducing test anxiety and of giving students the opportunity to learn from the test itself through a sharing of information.

In the studies cited above, the variables of cooperation and competition were confounded because of the nature of the experimental design. In the Wheeler and Ryan study these same variables were confounded. Consequently, it is impossible to determine whether or not cooperation within cooperative groups or competition among cooperative groups explains the positive effects attributed to the component of cooperation.

Aronson, et al,15 conducted a study on cooperative versus competitive groups in elementary school social studies classes. To the extent that they induced cooperative

---

behavior through manipulation of the organizational structure of cooperative groups, their study is similar to the study reported by Ryan and Wheeler. It was pointed out in the above discussion that Wheeler and Ryan delineated certain process tasks and then assigned these tasks to specific individuals in the cooperative groups. In the following passage Aronson, et al, describe the procedure they used to divide up the work among students in the cooperative groups:

We based our technique on the principle of the jigsaw puzzle: each child would have a piece of information and it would take all six group members to put the puzzle together.16

In both studies, then, a division of labor was accomplished, Wheeler and Ryan delineated process tasks; Aronson, et al., on the other hand, divided the content of the lesson into equal parts.

The authors set forth a number of objectives for their study. They declare:

This time we wanted to find out, not only how much the kids would come to like each other, but also how much they liked school, this year and last; how they felt about themselves, how well they did in school.17

They make the following conclusions: (1) in cooperative groups there was greater tolerance among children of different races; (2) children in the cooperative groups viewed each other as learning resources; (3) cooperative group

16Ibid., p. 47.

17Ibid., p. 49.
children grew more positive in their attitudes toward school; (4) self-concepts were stronger in the cooperative groups; (5) grades improved among cooperative students. Although course grades did improve among cooperative students, the authors caution against generalizing to other populations based only on differences in cooperative and competitive dimensions of the teaching-learning process. They point out teacher bias as another possible explanation for the improvement in grades.

Unlike the studies reviewed above, the Aronson, et al., study did not incorporate competition among cooperative groups into the experimental procedures. It is possible, therefore, to attribute the positive effects that were noted in the cooperative groups to the cooperative relations that existed among students working in these groups.

**Studies in Foreign Language Classrooms**

Papalia and Zampagna\(^{18}\) report a study in which a teacher-dominated class was compared with an experimental class that incorporated cooperation and other affective components into instructional procedures. The data from their experiment are surprising. In many of the studies reported above there was no significant difference in achievement among treatment groups. In the Papalia and Zampogna study,\(^{18}\)

however, significant differences in achievement were found. The experimental group, which incorporated into its structure various affective components, achieved higher in terms of the four language skills. Additional research is needed to isolate the factors that explain the superior performance of the experimental group.

**Conclusion**

The studies cited in this chapter show that investigators have begun to explore the effects of cooperative and competitive classroom environments on attitudes, learning, and group functioning. The exploratory work that has been done suggests that cooperative classroom environments as compared to competitive environments do promote more positive student attitudes and more effective group functioning. No clear relationship has been established between cooperative classroom environments and achievement. Much additional research is needed in all subject-matter areas (1) to show whether or not positive effects that are noted in cooperative groups can be attributed to the affective component of cooperation alone or whether or not other affective components contribute, (2) to establish whether or not cooperative conditions have a positive effect on student achievement, and (3) to determine whether or not by inducing cooperative relations among students, positive attitudinal and behavioral changes result. In summary, the existing body of
research information dealing with instructional procedures indicates that the incorporation of affective components into classroom practice improves attitudes and, at the least, does not impair achievement.
CHAPTER III

PROCEDURES AND DESIGN

This chapter is divided into six principal parts:

(1) Population and Sample—A description of the population studied and a description of the randomization procedure.

(2) Experimental Design—A description of the experimental design used for this study.

(3) Pilot Study—A discussion of the rationale for doing a pilot study, a description of the materials developed for it, and a description of the classroom procedures that were followed by the instructors, investigator, and students on the day of the pilot study.

(4) Preparation of Materials—A description of the various materials that were developed for the study.

(5) Classroom Procedures—A description of the procedures that were followed by the instructor, investigator, and students on the day of the experiment.

(6) Instrumentation—A description of the test instruments and the attitude scale that were
developed for the study and a description of certain items on a departmental grammar test used for this study.

Population and Sample

The Department of Romance Languages and Literatures was selected for the study because it provided a large number of students for the experiment and because the focus of the study was college-level instruction. In the Spring Quarter of 1975 eight day-time sections of French 101 were taught in the Department. French 101 is the beginning course in the elementary sequence of language courses. This course was chosen because it comprised a lesson that was especially well suited to the design of the proposed experiment.

The supervisor of French instruction prescribes what will be taught during each class period in the beginning French courses. Instructors who are teaching a beginning course for the first time are required to attend a demonstration section taught by the supervisor or by one of his assistants. Furthermore, instructors are required to follow this model in their teaching.

Instructors are provided with a schedule of lessons and student assignments. Students receive the same course schedule. They are expected to follow the daily schedule of assignments, to do their work on a regular basis, and to
attend class regularly. The careful structuring of the program precludes long-term research that would involve interventions of more than two days into classroom procedures.

Before beginning the study, it was necessary to obtain the cooperation of the Department. First, the permission of the supervisor of French instruction was secured. This permission was essential because the instructors and students participating in the study had to work within the guidelines set down by the supervisor. The supervisor granted permission for the study because no new content other than the names of certain countries and cities would be introduced by the experimental procedures into the current schedule of lessons, because teaching procedures would not depart radically from what was currently being used in the Department, and because the Spring Quarter of 1975 had more class meetings than other quarters.

Permission for the experiment having granted by the supervisor of instruction, the instructors of the eight sections were then contacted. One instructor declined to participate in the study because he felt uncomfortable working with small groups. Because two French 101 sections were taught at the ten o'clock hour, it seemed logical to use one of these sections for the pilot study. Thus, six sections were available for the study. A total of 155 students were enrolled in these sections; 130 were present on the day of the experiment.
The majority of students who take French 101 at The Ohio State University are freshmen and sophomores; the rest are nearly all juniors. Only a small percentage of seniors and special students can be found in this course. Table 1 shows the percentages of students in French 101 during the Spring Quarter of 1975 according to their class rank.

Table 1

PERCENTAGES OF STUDENTS IN FRENCH 101 ACCORDING TO CLASS RANK

<table>
<thead>
<tr>
<th>Class Rank</th>
<th>Number of Students</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen (Special Status)</td>
<td>2</td>
<td>1.3</td>
</tr>
<tr>
<td>Freshmen</td>
<td>62</td>
<td>40.0</td>
</tr>
<tr>
<td>Sophomores</td>
<td>46</td>
<td>30.0</td>
</tr>
<tr>
<td>Juniors</td>
<td>33</td>
<td>21.0</td>
</tr>
<tr>
<td>Seniors</td>
<td>7</td>
<td>4.0</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>3</td>
<td>2.0</td>
</tr>
<tr>
<td>Graduate Students</td>
<td>2</td>
<td>1.3</td>
</tr>
</tbody>
</table>

Nearly all students enrolled in French 101 in any quarter are taking the course to fulfill a College language requirement. Both as the Scheduling Coordinator for the Department of Romance Languages and Literatures and as an instructor of French, the investigator has had the opportunity to speak with large numbers of students enrolled in courses at each level of instruction. French 101 students
for whom the course is an elective have expressed the following reasons for enrolling in the course: (1) they have an interest in the French language or in French culture; (2) they plan to major in French; (3) they are confident they will receive a grade of A in the course, thus raising their cumulative grade point average.

Many of the students in French 101 have had some previous contact with French, either through a school experience, or sometimes through a period of residence or travel in a country where French is spoken, or through a combination of these factors. Most often, their contact with French has been through a school experience. A small percentage of these students has studied another Romance language, usually Spanish.

**Experimental Design**

A variation of the three-group, before-after design\(^1\) was used in this study. A pretest was administered in each of six beginning French classes--six classes were used in order to satisfy the demands of a replication--during regular class periods (see Appendix E for a copy of the test). The six classes met at consecutive hours. Students were given approximately 25 minutes to complete the pretest. Four days later the experiment was conducted

during regular class periods in these same classes. The treatment phase of the experiment lasted for approximately 25 minutes. Approximately 20 minutes were necessary to complete the posttest and attitude scale (see Appendix E for copies of these instruments).

A number of factors influenced the decisions regarding the time periods that were chosen for the phases of the study. It was feared that any experimental intervention into the prescribed schedule of lessons that would require more than two class days might have a negative effect on student learning, particularly as reflected in performance on weekly departmental grammar tests. It was decided that 25 minutes would be necessary to allow students sufficient time to complete enough test items so that the total body of information resulting from the test would be both reliable and valid. The instructors were then consulted. They indicated that a pretest of approximately 25 minutes would not interfere excessively with their daily lesson. Furthermore, the investigator wanted to keep the procedures used in the study as parallel to current classroom practice as possible. The time periods for the presentation and drill aspects of the experiment correspond closely to those that are prescribed by the Department for the presentation of the grammatical principle under consideration in the study. Finally, the investigator wanted to minimize the effects of history and maturation.
Originally, the experiment was planned for seven beginning French classes. The eighth section was reserved for the pilot study. One instructor declined to participate in the study thus reducing the total number of classes to six. The number of instructors taking part in the study was five, because one instructor was responsible for two sections of French 101. It was decided that replicating the same experiment five times would allow the investigator to look for trends that might develop among the classes because of the effects of the treatments.

Each class of approximately 22 students was divided into three experimental groups. Students were randomly assigned to the groups. The groups were of equal or nearly equal size. For the purposes of the experiment the groups were labelled Treatment Group I, Treatment Group II, and Treatment Group III. Students in each treatment group were asked to move their chairs into a circle. The groups were each given the task of learning how to apply a grammatical principle.

Each student in the three treatment groups was given a list of the French names of several masculine and feminine countries, and of several cities (see Appendix C for a copy of this list). The list included the names of a number of countries and cities that were not included in
the drill exercises in the textbook used in the course.²

Treatment Group I

Treatment Group I worked with the regular instructor. The instructor had been asked to present initially the grammatical principle, drill its use through pattern drills taken from the textbook (see Appendix B for copies of the principles and corresponding drills), and then relate it to the personal lives of the students through a supplementary personalized exercise developed by the investigator (See Appendix C for a copy of the exercise). So that instructors would not have to spend an excessive amount of time preparing such an exercise, the investigator provided them with a set of personalized questions. Students were permitted to ask questions at any time during the small-group activity.

Treatment Group II

Treatment Group II worked without the instructor. Students were given three packets with instruction sheets that directed them to form three committees (see Appendix C for a copy of the instruction sheet). The instructions further directed each committee to select a packet. Within each packet there was one essential component of the

grammatical principle to be covered during the lesson, an explanation of how to apply the component, model sentences, a number of written exercises designed for oral practice of the component, an exercise consisting of personalized questions, and the same list of the names of countries and cities that had been distributed to students in Treatment Group I (see Appendix C for copies of these materials).

The importance of working rapidly and effectively was stressed both by the instructor and through the written instructions. Emphasis was placed on the importance of working rapidly and effectively for a number of reasons: time was limited; each subgroup had only a part of the total learning task; and each part was essential to learning how to apply the grammatical principle.

For the purposes of the experiment it was assumed that learning the use of the prepositions à, au, and en with geographical names involves knowing how to apply the following three components of the grammatical principle:

1. Feminine countries end with an e and require the preposition en; 2. All countries not ending with an e are masculine and require the proposition au (exceptions: le Mexique, le Cambodge); 3. Cities require the preposition à and no article.

Each of the subgroups in Treatment Group II was given one of these components. Students in each subgroup were directed to consult briefly with their counterpart or
or counterparts about their particular component and to be prepared to present it to the other subgroups at the end of this brief consultation period. In one section of French 101 consultation between students in subgroups was impossible because of the size of the treatment group; there were only four students in the group.

Students were asked to decide upon the order in which the subgroups would present their component of the principle and, once they had made this decision, to present it deductively. Furthermore, they were asked to proceed in the following manner: each subgroup was directed to present its component first, then answer any questions from students in the other subgroups, and finally distribute drill sheets consisting of various exercises for oral practice of the component. These drill exercises were modelled closely after exercises in the textbook and were provided so that each subgroup would be able to engage the other subgroups in oral practice. A supplementary personalized exercise similar to the exercise used in Treatment Group I was incorporated into each set of textbook drills provided to the subgroups in Treatment Group II.

Treatment Group III

Treatment Group III also worked without the instructor. Students were given written directions instructing them to learn individually the grammatical principle set forth
above by referring to the textbook (see Appendix C for a copy of these instructions). After a brief period of time in which they studied the principle, they were asked to use drills in the text for oral practice, referring if necessary to the supplementary list of countries and cities in French provided them by the investigator. They were also given the supplementary personalized exercise that was provided to students in Treatment Group I.

**Pilot Study**

It was decided that a pilot study was necessary to determine whether or not (1) there was enough time in a class period for the presentation and drill phases of the treatment and for the administration of the posttest and attitude scale; (2) the instructions provided to each small group explained clearly the tasks they were to perform; (3) the instructions on each part of the test were clear; (4) any unforeseen problems would arise during the class period.

It was clear from the pilot study—which was carried out in the eighth section of French 101—that certain aspects of the proposed experiment would have to be modified. The instruction had been presented to the students working in the non-teacher-directed groups in paragraph form. It was learned that this format of presentation made it difficult for students to process the instructions, and that a format
whereby each element of the instructions would be numbered and included in a list would facilitate processing.

It was also learned that students in the pilot study section often failed to read the instructions carefully. Consequently, it was necessary to use underlining and capitalization to accentuate key words and phrases. In addition, it was necessary to add directions to the instruction and drill sheets in order to clarify procedural matters regarding tasks to be performed.

Students in this particular section of French 101 seemed unaware of the importance of working rapidly and accurately. Time was lost throughout the presentation and drill phases of the pilot study. It became obvious to the investigator that the importance of working quickly and accurately would have to be stressed both by the instructors and through written instructions on the day of the experiment and that one of the drills would have to be eliminated.

The investigator realized as a result of the pilot study that every effort would have to be made to spell out procedural matters. He indicated through oral and written directions to the instructors and students what sheets were to be distributed, when they were to be distributed, and how the drill sheets for oral practice were to be used.

The posttest that was used for the pilot study was found to contain too many items for the time available
(see Appendix E for a copy of this test). The investigator had to be absolutely certain that there would be enough time remaining for the posttest after both the warm-up period, which certain of the instructors believed should be done on the day of the experiment, and the treatment. This problem was resolved by reducing the total number of writing-type items on the test and by adding items to the multiple-choice section, thus reducing the total number of items on the test from 30 to 25. Reliability and validity data on the 25-item version are presented in the section of the chapter dealing with instrumentation.

Students who took part in the pilot study seemed very reluctant to work in small groups in which the instructor was not present. This reluctance identified a need for involving students in the experimental sections in small-group work on at least one occasion before the day of the experiment. The investigator or one of his colleagues was present in the classes prior to the day of the experiment to ascertain that small-group procedures were being implemented.

**Preparation of Materials**

In developing materials for the study, it was necessary to keep in mind the fact that to a large extent the success of the study would be determined by the clarity of the verbal and written instructions given to the instructors,
by the length and nature of the test instruments, and by the difficulty of the learning task.

Four days before the experiment a meeting was held with the instructors taking part in the study. A written handout was used as the basis of a discussion with them (see Appendix A for a copy of this handout). Through it were explained the purpose of the study, the design of the experiment, and the instructor's role prior to and on the day of the experiment.

Of the various matters regarding the experiment that were discussed in this meeting, three important points were stressed. The investigator asked the instructors to be sure (1) that students not be sensitized to the fact that they were part of a research study, (2) that they perceive as little deviation from everyday classroom practice as possible, and (3) that they be told that the posttest would not affect their grades in any way.

The written instructions provided to students in the two non-teacher-directed groups on the day of the experiment were designed to guide them as they worked to accomplish the tasks without programming every aspect of these tasks. It was decided that allowing students in Treatment Group II to organize themselves into subgroups rather than assigning them randomly to subgroups would give them still another opportunity to cooperate during the small-group activity. Another factor entering into this decision was
that of attendance. Because perfect attendance could not be
expected on the day of the experiment, it was feared that a
procedure involving the random assignment of students to the
three subgroups of Treatment Group II would have resulted in
certain of these subgroups having no students or in an im­
balance in the numbers of students in them. Students in
Treatment Group III formed a circle by rearranging their
chairs. They were free to decide which student would begin
the oral practice and whether they would proceed in a
clockwise or counterclockwise direction as they drilled.

The grammatical principle regarding the use of preposi-
tions with geographical names was divided into three com-
ponent principles. Each of these components was typed on
a separate sheet and was placed in a packet that included
corresponding drill sheets consisting of exercises de-
signed to allow students to apply the rule and a list of
masculine and feminine countries and cities in French. A
total of three packets was provided, one for each of the
subgroups. On the day of the experiment these packets were
distributed to the committees of Treatment Group II along
with a separate set of written instructions. Three of the
exercises on the drill sheet were modelled closely after
exercises in the textbook. Although they included certain
items that relate directly to the personal lives of the
students, they were designed primarily for drilling the
grammatical principle. The fourth exercise represents the
investigator's desire to relate the grammatical principle to the lives of the students through personal questions, within the limitations of vocabulary and structure at the French 101 level. A similar exercise was prepared to supplement the textbook exercises with which Treatment Groups I and III were asked to work.

A supplementary list consisting of groupings of the names of masculine and feminine countries and cities was prepared in order (1) to assist further the student in his efforts to see the applications of the three components of the grammatical principle, (2) to serve as a convenient reference for student practice of the components during the drill phase of the experiment, and (3) to provide the instructors and students with a listing of the names of countries and cities that is normally not found in beginning textbooks.

**Classroom Procedures**

Four of the teachers did a warm-up drill at the beginning of the class hour on the day of the experiment; the drill consisted of a review of major grammatical principles that had been introduced in previous lessons. The warm-up activity is typically a part of their daily lesson. The four instructors agreed that such an activity would be especially appropriate at the beginning of the class hour on the day of the experiment because it would
keep the experimental procedures within the framework of a typical daily lesson. The fifth instructor did not use a warm-up drill.

Each instructor was provided with three lists on index cards of students in his class. These lists were designed to assist the instructors in assigning students to the three treatment groups. They were based on random sampling from within each of the six classes.

Working with the lists, the instructors quickly assigned students to the treatment groups. Students arranged their chairs in three circles in different parts of the classroom.

The investigator was present in each of the six classes on the day of the experiment. The primary aim for being present in the classes was to ascertain through direct observation that the details of the experiment were being carried out in a parallel manner by each of the instructors. Interventions by the investigator into the lesson were made infrequently, and only in order to facilitate procedural matters. These interventions were necessary (1) to help certain instructors distribute materials, (2) to answer any procedural questions from the instructors or students, and (3) to clear up minor confusion that developed when students failed to follow the written directions.

The treatment phase of the study began once students had moved their chairs into circles and had received the
necessary materials. Treatment Group I worked with the instructor. The instructors had been asked to teach the lesson as they would have done had they been teaching the whole-group. Treatment Group II formed committees. Each committee presented its rule. In certain of the French 101 sections students in Treatment Group II chose to do the presentation of all three components initially, and then to do the oral drills. In other sections the oral drills corresponding to each component were done immediately following the presentation of the component. Because the three components are relatively simple, the investigator did not feel any need to intervene into the group interaction to insist that this latter procedure be followed exactly.

The treatment phase of the study lasted for approximately 25 minutes depending upon the speed at which the groups worked. When it was apparent to the investigator that each of the three groups had had sufficient time to cover the essential elements of the lesson, it was suggested to the instructors that they administer the posttest and attitude scale. The instructors asked the students to read the directions on these instruments and to work quickly. Students were told—as they had been before the pretest—that the posttest would not be averaged into their grades in the course. It was hoped that this announcement would help to reduce test anxiety. All of the students present for the experiment completed the posttest
and nearly all completed the attitude scale in the time allowed.

Instrumentation

Pretest

To measure previous student knowledge of the use of prepositions before geographical names, a pretest had to be developed and administered to all students. In order to keep the entire experiment as close to current classroom procedures as possible, and in order not to contaminate the test results by introducing a large number of new item types, it was necessary to construct an instrument that matched closely the tests being used in the Department. This common format provided both a familiarity of test administration and a face validity to the instruments.

Tests currently being used in the Department were studied. With one exception, identical or similar item types were used in the construction of the pretest. The one exception was taken from activities in the elementary reader Connaître et se connaître. Different item formats were used to add variety to the test.

The test itself is of the discrete-point type. It contains six item types and 26 items. Twenty of the items deal with the student's knowledge of the grammatical principle that is the focus of this study. The additional

\[3\] Gilbert A. Jarvis, Donald E. Corbin, Thérèse M. Bonin, and Diane W. Birckbichler, Connaître et se connaître (New York: Holt, Rinehart, and Winston, in press).
six items deal with other grammatical principles. They were included to serve as distractor items so that students would not be sensitized to the main focus of the study. The various items in the pretest fall under the headings of either multiple-choice or writing type. Twenty minutes were necessary to complete the test.

Reliability was determined by using the split-half (odd-even) procedure and the Kuder-Richardson formula 20 with the following results: \( r = .68 \); K-R 20 = .69. Item difficulty and discrimination indices were computed for the pretest. The following results were obtained: mean items difficulty = .42; mean item discrimination = .35.

Pilot Test

A pilot test was administered to determine the feasibility of such a testing procedure; the investigator had to be certain there was enough time in a class period for the administration of such a test. Like the pretest it contained a number of different item types: some of the multiple-choice type, others of the writing type. Six different item types were used. The test comprised a total of 30 items.

Posttest

The posttest paralleled very closely the two tests discussed above. Based on the pilot test, the multiple-choice section of the posttest, requiring the least
response time per item, was expanded from six to 15 items. One section of the test consisting of item types involving writing was dropped because it was similar to other item types; another section was reduced in length.

Reliability was determined by using the split-half (odd-even) procedure and the Kuder-Richardson formula 20 with the following results: \( r = .94; \) K-R 20= .92. An item discrimination index was computed for the posttest. The following result was obtained: mean item difficulty=.91; mean item discrimination=.26.

**Departmental Posttest**

For the purposes of the study items from a departmental grammar test will be referred to as the departmental posttest because the items analyzed provide a test for effects of the three treatments over a period of time; the departmental grammar test from which the items comprising the departmental posttest were taken was administered three days after the experiment. Seven items--multiple-choice or writing type--on this departmental grammar test dealt with the grammatical principle under consideration in this study. They were grouped together and were treated as a separate test in the statistical analyses.

Reliability was determined by using the split-half procedure and the Kuder-Richardson formula 20 with the following results: \( r = .75; \) K-R 20= .81.
Attitude Scale

An attitude scale was designed to measure student attitudes toward their small- and whole-group experiences, to ascertain possible relationships between attitude and performance on the posttest, and to determine whether or not students perceived cooperation to be present in their small group was constructed for this study. It contains eleven items. Each item consists of a statement that is followed by a six-point agree-disagree scale.

Table 2 presents the results of a factor analysis done on the attitude scale. From the analysis of the factor

<table>
<thead>
<tr>
<th>Attitude Scale Variables</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.09</td>
<td>0.35</td>
</tr>
<tr>
<td>2</td>
<td>-0.08</td>
<td>0.21</td>
</tr>
<tr>
<td>3</td>
<td>-0.27</td>
<td>0.34</td>
</tr>
<tr>
<td>4</td>
<td>0.50</td>
<td>0.62</td>
</tr>
<tr>
<td>5</td>
<td>-0.77</td>
<td>0.17</td>
</tr>
<tr>
<td>6</td>
<td>0.64</td>
<td>0.59</td>
</tr>
<tr>
<td>7</td>
<td>0.66</td>
<td>0.38</td>
</tr>
<tr>
<td>8</td>
<td>-0.83</td>
<td>0.22</td>
</tr>
<tr>
<td>9</td>
<td>-0.01</td>
<td>0.30</td>
</tr>
<tr>
<td>10</td>
<td>0.68</td>
<td>0.28</td>
</tr>
<tr>
<td>11</td>
<td>-0.81</td>
<td>0.10</td>
</tr>
</tbody>
</table>

loadings for factor 1, it is clear that the instrument contains one underlying factor that is bipolar in nature. For the purposes of this study the parts of this factor will be labelled pole I and pole II. Pole I, comprising items 5,
8, and 11, can be described as a student preference for teacher-directed whole-group instruction. Item 5 has a factor loading of -0.77, item 8 a factor loading of -0.83, and item 11 a factor loading of -0.81. Pole II, comprising items 4, 6, 7, and 10, can be described as a student preference for small-group instruction. Item 4 has a factor loading of 0.50, item 6 a factor loading of 0.64, item 7 a factor loading of 0.66, and item 10 a factor loading of 0.68. Each item and poles I and II of the attitude scale will be analyzed in Chapter 4 of this study.

Reliability was determined by using the Kuder-Richardson formula 8 with the following results: $K-R = .58$. Table 3 gives the mean score for each item and item to item-test correlational data.

Table 3

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Mean</th>
<th>Item-Test Correlational Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5.2</td>
<td>0.42</td>
</tr>
<tr>
<td>2</td>
<td>3.7</td>
<td>0.49</td>
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<tr>
<td>3</td>
<td>5.2</td>
<td>0.42</td>
</tr>
<tr>
<td>4</td>
<td>4.3</td>
<td>0.58</td>
</tr>
<tr>
<td>5</td>
<td>4.5</td>
<td>0.25</td>
</tr>
<tr>
<td>6</td>
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<td>0.52</td>
</tr>
<tr>
<td>7</td>
<td>4.4</td>
<td>0.44</td>
</tr>
<tr>
<td>8</td>
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<td>9</td>
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<td>0.38</td>
</tr>
<tr>
<td>11</td>
<td>4.0</td>
<td>0.15</td>
</tr>
</tbody>
</table>
Statistical Analysis

The **BMD-Olv Analysis of Variance for One-Way Design Program**\(^4\) developed by the Health Sciences computing Facilities at UCLA was used for the one-way analyses of variance; the **BMD-X72 Factor Analysis Program**\(^5\) was used to carry out the factor analysis on the attitude scale. The **SOUPAC Program**, **Balanova 5 and Correlations Version**\(^6\) developed by the statistical consultants of the Department of Computer Science at the University of Illinois was used to execute the two-way analyses of variance and to perform the intercorrelations among the variables. Two programs were used to obtain reliability and validity data: the **SOUPAC Program**, **Correlations Version**\(^7\) was used to carry out the split-half (odd-even) procedure; the **STATPACK Program, Item A Version**\(^8\) developed by the Center for Measurement and Evaluation at The Ohio State University was used for the Kuder-Richardson


\(^5\)Ibid.


\(^7\)Ibid.

\(^8\)Center for Measurement and Evaluation, **STATPACK**, Item A Version, The Ohio State University, 1973.
computations and for the item analyses. The STATPACK Program, SCST Version developed by Dr. R. J. Wherry at The Ohio State University was used to obtain reliability data on the attitude scale.

9Dr. R. J. Wherry, STATPACK, SCST Version, The Ohio State University, 1974.
CHAPTER IV

RESULTS

In the first section of this chapter the results of the analyses of variance on the pretest, posttest, and departmental posttest are analyzed and interpreted. The results of the two-way analyses of variance on the attitude scale are presented in the second section of this chapter. In the final section a correlation matrix of all the variables is presented. The results are organized according to the hypotheses set forth in Chapter I.

Treatment Group I worked with the teacher; Treatment Group II worked in a cooperative situation; Treatment Group III worked in a non-cooperative situation. Groups II and III were non-teacher-directed.

One-way Analyses of Variance

Hypothesis 1. There will be no significant differences among treatment groups in terms of achievement as measured by instruments used in this study.

One-way Analyses of Variance on the Pretest

Table 4 shows the results of the analysis of variance comparing the three treatment groups on the pretest. The mean scores for the groups were as follows: $X_1=8.7, X_2=8.5,$
and \(X_3=8.1\). The standard deviations were as follows: \(s_1=3.7\), \(s_2=2.9\), and \(s_3=2.7\). The F ratio of 0.40 indicates that the three treatment groups do not differ significantly.

**Table 4**

ONE-WAY ANALYSIS OF VARIANCE ON PRETEST

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>45</td>
<td>43</td>
<td>46</td>
<td>134</td>
</tr>
<tr>
<td>Mean</td>
<td>8.7</td>
<td>8.5</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.7</td>
<td>2.9</td>
<td>2.7</td>
<td></td>
</tr>
<tr>
<td>Highest Possible Score</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Analysis of Variance**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>7.93</td>
<td>2</td>
<td>3.96</td>
<td>0.40</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1283.20</td>
<td>131</td>
<td>9.80</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1291.13</td>
<td>133</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows the results of the analysis of variance comparing the six classes on the pretest. The classes were assumed to be representative samples drawn from a parent population of college-level beginning French students. The mean scores for the classes were as follows: \(X_1=8.7\), \(X_2=9.2\), \(X_3=7.7\), \(X_4=8.9\), \(X_5=7.6\), and \(X_6=8.7\). The standard deviations were as follows: \(s_1=3.8\), \(s_2=3.2\), \(s_3=2.1\), \(s_4=2.7\), \(s_5=2.6\), and \(s_6=3.8\). The F ratio of 1.02 reveals that the mean scores among the six classes do not differ significantly.
Table 5
ONE-WAY ANALYSIS OF VARIANCE ON PRETEST

<table>
<thead>
<tr>
<th>Classes</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>25</td>
<td>23</td>
<td>19</td>
<td>22</td>
<td>26</td>
<td>19</td>
<td>134</td>
</tr>
<tr>
<td>Mean</td>
<td>8.7</td>
<td>9.2</td>
<td>7.7</td>
<td>8.9</td>
<td>7.6</td>
<td>8.7</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.8</td>
<td>3.2</td>
<td>2.1</td>
<td>2.7</td>
<td>2.6</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Highest Possible Score</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Analysis of Variance**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>49.64</td>
<td>5</td>
<td>9.93</td>
<td>1.02</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1241.49</td>
<td>128</td>
<td>9.70</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1291.13</td>
<td>133</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The pretest was administered to measure previous knowledge of the grammatical principle under consideration in this study and to ascertain whether the three treatment groups and classes were equivalent. The mean scores for the treatment groups and classes indicate that previous knowledge accounted for only a small percentage of achievement as measured by the posttest. The F ratios did not attain significance thus indicating that the random assignment of students to treatment groups had minimized any differences that existed because of previous knowledge.
One-way Analyses of Variance on the Posttest

Table 6 presents the results of the analysis of variance comparing the three treatment groups on the posttest. The mean scores for the groups were as follows: $X_1 = 22.8$, $X_2 = 21.9$, and $X_3 = 23.4$. The standard deviations were as follows: $s_1 = 3.9$, $s_2 = 5.1$, and $s_3 = 3.3$. The $F$ ratio of 1.33 indicates that the posttest means do not differ significantly.

Table 6

**ONE-WAY ANALYSIS OF VARIANCE ON POSTTEST**

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>44</td>
<td>41</td>
<td>45</td>
<td>130</td>
</tr>
<tr>
<td>Mean</td>
<td>22.8</td>
<td>21.9</td>
<td>23.4</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.9</td>
<td>5.1</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Highest Possible Score</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Analysis of Variance**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>46.00</td>
<td>2</td>
<td>23.00</td>
<td>1.33</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2188.46</td>
<td>127</td>
<td>17.23</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2234.04</td>
<td>129</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7 gives the results of the analysis of variance comparing the six classes on the posttest. The mean scores for the classes were as follows: $X_1 = 22.4$, $X_2 = 22.4$, $X_3 = 22.2$, $X_4 = 21.8$, $X_5 = 22.4$, and $X_6 = 23.9$. The standard deviations
were as follows: $s_1=3.8$, $s_2=0.8$, $s_3=4.4$, $s_4=6.0$, $s_5=4.8$, and $s_6=1.4$. The F ratio of 1.24 indicates that there are no significant differences among the classes on mean scores on the posttest.

Table 7

ONE-WAY ANALYSIS OF VARIANCE ON POSTTEST

<table>
<thead>
<tr>
<th>Classes</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>26</td>
<td>19</td>
<td>21</td>
<td>23</td>
<td>26</td>
<td>15</td>
<td>130</td>
</tr>
<tr>
<td>Mean</td>
<td>22.4</td>
<td>22.4</td>
<td>22.2</td>
<td>21.8</td>
<td>22.4</td>
<td>23.9</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.8</td>
<td>0.8</td>
<td>4.4</td>
<td>6.0</td>
<td>4.8</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Highest Possible Score</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>106.64</td>
<td>5</td>
<td>21.33</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2127.82</td>
<td>124</td>
<td>17.16</td>
</tr>
<tr>
<td>Total</td>
<td>2234.46</td>
<td>129</td>
<td></td>
</tr>
</tbody>
</table>

Based on the findings of the posttest, Hypothesis 1 is retained. The scores on this achievement test do not differ significantly among the treatment groups.

Two-way Analyses of Variance on Departmental Posttest

Table 8 shows the results of the analysis of variance comparing the three treatment groups on the departmental posttest. The investigator analyzed the scores on seven
items that are related to the use of prepositions before geographical names. The mean scores for the groups were as follows: $X_1=6.2$, $X_2=6.6$, and $X_3=6.8$. The standard deviations were as follows: $s_1=1.6$, $s_2=1.0$, and $s_3=0.9$. The $F$ ratio of 2.76 reveals that the mean scores of students in the three groups do not differ significantly.

Table 8

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>48</td>
<td>47</td>
<td>49</td>
<td>144</td>
</tr>
<tr>
<td>Mean</td>
<td>6.2</td>
<td>6.6</td>
<td>6.8</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.6</td>
<td>1.0</td>
<td>0.9</td>
<td></td>
</tr>
<tr>
<td>Highest Possible Score</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>8.13</td>
<td>2</td>
<td>4.06</td>
<td>2.76</td>
</tr>
<tr>
<td>Within Groups</td>
<td>207.86</td>
<td>141</td>
<td>1.47</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>215.99</td>
<td>143</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9 gives the results of the analysis of variance comparing the six classes on the departmental posttest. The mean scores for the classes were as follows: $X_1=6.6$, $X_2=6.6$, $X_3=6.6$, $X_4=6.5$, $X_5=6.4$, and $X_6=6.2$. The standard deviations were as follows: $s_1=0.9$, $s_2=1.1$, $s_3=0.7$, $s_4=1.3$, $s_5=1.3$, and $s_6=1.9$. The $F$ ratio of 0.42 reveals that there are no
significant differences among the six classes.

Table 9

ONE-WAY ANALYSIS OF VARIANCE ON DEPARTMENTAL POSTTEST

<table>
<thead>
<tr>
<th>Classes</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Size</td>
<td>23</td>
<td>26</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>18</td>
<td>144</td>
</tr>
<tr>
<td>Mean</td>
<td>6.6</td>
<td>6.6</td>
<td>6.6</td>
<td>6.5</td>
<td>6.4</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.9</td>
<td>1.1</td>
<td>0.7</td>
<td>1.3</td>
<td>1.3</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Highest Possible Score</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Variance

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3.21</td>
<td>5</td>
<td>0.64</td>
<td>0.42</td>
</tr>
<tr>
<td>Within Groups</td>
<td>212.78</td>
<td>138</td>
<td>1.54</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>215.99</td>
<td>143</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of the departmental posttest must be interpreted cautiously since two days had passed from the time of the posttest to that of the departmental posttest. It was not possible to control the amount of time students spent preparing for the regular departmental grammar test from which the seven items that were grouped together to comprise the departmental posttest were taken. Consequently, it is not possible to determine whether the results of the departmental posttest are due to the effects of the experimental treatments or to additional time spent studying the
grammatical principle. The results of this latter test may provide at least some guideline for further research designed to reexamine Hypothesis 1 by adding a time dimension.

While there were no significant differences on these language skill measures, an analysis of the mean scores among treatment groups on the pretest, posttest, and departmental posttest shows an interesting reversal in terms of performance. Treatment Group III, one of the non-teacher-directed groups, had the lowest mean score on the pretest. On the posttest and departmental posttest, however, this group had the highest mean score. Further research could give consideration to procedures such as those used in Treatment Group III.

An examination of the structure of Treatment Group III suggests an explanation for this striking improvement in performance. Students in this group studied the grammatical principle individually. Students in the other treatment groups had to depend on the teacher or their peers. Studying the principle individually required a minimum of time. The rest of the time was spent practicing orally the principle. The oral practice itself was systematic. Students were instructed to proceed in a circular manner as they practiced the principle. This combination of individual study and systematic oral practice may have assured students more active practice as compared to the procedures used in the other treatment groups.
Two-way Analyses of Variance

Hypothesis 2. There will be no significant differences among treatment groups in terms of the degree to which students perceive cooperation to be present in the interaction in their group as measured by an instrument developed for this study.

Hypothesis 3. There will be no significant differences among treatment groups in terms of student attitudes toward their group experience as measured by an instrument developed for this study.

Two-way Analyses of Variance on Attitude Scale

Two-way analyses of variance were done on the scores on the attitude scale. Initially, the mean scores on each of the eleven items were compared among the treatment groups. The mean scores on poles I and II were then compared. When significant differences were found, the Scheffé procedure was used to discover which pairs of means were significantly different. Table 10 reports the results of these various computations.

The mean scores for item 1 were as follows: \( X_1 = 5.4 \), \( X_2 = 5.3 \), and \( X_3 = 5.0 \). These scores do not differ significantly.

It had been anticipated that students in the cooperative groups would perceive cooperation to be present in the group interaction and that their perceptions would be reflected by a high mean score on item 1. The findings
however, reveal that students in the three treatment groups valued cooperation to the same extent. The mean scores are high positive.

Table 10

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group I</td>
<td>5.4</td>
<td>3.7</td>
<td>5.1</td>
<td>5.0</td>
<td>4.0</td>
<td>5.0</td>
<td>4.9</td>
<td>3.8</td>
<td>5.5</td>
<td>4.5</td>
<td>3.5</td>
<td>11.3</td>
<td>19.4</td>
</tr>
<tr>
<td>Group II</td>
<td>5.3</td>
<td>3.5</td>
<td>5.3</td>
<td>3.8</td>
<td>4.9</td>
<td>4.0</td>
<td>4.7</td>
<td>5.4</td>
<td>3.5</td>
<td>4.3</td>
<td>13.9</td>
<td>15.3</td>
<td></td>
</tr>
<tr>
<td>Group III</td>
<td>5.0</td>
<td>3.8</td>
<td>5.2</td>
<td>4.1</td>
<td>4.7</td>
<td>4.4</td>
<td>4.3</td>
<td>4.5</td>
<td>5.5</td>
<td>3.7</td>
<td>3.9</td>
<td>13.1</td>
<td>16.6</td>
</tr>
</tbody>
</table>

Scheffé Procedure

<table>
<thead>
<tr>
<th>Items</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>I</th>
<th>II</th>
</tr>
</thead>
<tbody>
<tr>
<td>X₁ vs. X₂</td>
<td>11.86**</td>
<td>8.25**</td>
<td>9.29**</td>
<td>5.48**</td>
<td>5.43**</td>
<td>7.02**</td>
<td>5.94**</td>
<td>8.19**</td>
<td>11.88**</td>
<td></td>
</tr>
<tr>
<td>X₁ vs. X₃</td>
<td>6.98**</td>
<td>5.84**</td>
<td>3.02</td>
<td>2.54</td>
<td>3.24*</td>
<td>4.55*</td>
<td>1.91</td>
<td>4.35*</td>
<td>6.12**</td>
<td></td>
</tr>
<tr>
<td>X₂ vs. X₃</td>
<td>0.80</td>
<td>0.29</td>
<td>1.48</td>
<td>0.66</td>
<td>0.36</td>
<td>0.35</td>
<td>1.26</td>
<td>0.73</td>
<td>1.14</td>
<td></td>
</tr>
</tbody>
</table>

*Significance level = .05.
**Significance level = .01.

The mean scores for item 2 were as follows: X₁=3.7, X₂=3.5, and X₃=3.8. These scores do not differ significantly.

Item 2 was designed to yield information on student attitudes toward this same element of cooperation. A check was needed on item 1 to determine whether or not students read carefully the items on the scale. The mean scores show that students are decidedly less positive in their attitudes toward competition than in their attitudes
toward cooperation. Students in the cooperative groups expressed the least positive attitudes.

The mean scores for item 3 were as follows: $X_1 = 5.1$, $X_2 = 5.3$, and $X_3 = 5.2$. These scores do not differ significantly.

The purpose of item 3 was to ascertain whether students who had come in contact with non-teacher-directed classroom situations would express more negative attitudes concerning the value of the teacher than would students who had not come in contact with these situations. Quite to the contrary, students in the non-teacher-directed groups were found to be more positive in their attitudes concerning the value of the teacher than were students in the teacher-directed groups.

The mean scores for item 4 were as follows: $X_1 = 5.0$, $X_2 = 3.8$, $X_3 = 4.1$. These scores are significantly different. The results of the Scheffé procedure reveal that significant differences exist between Treatment Groups I and II and between Treatment Groups I and III.

Item 4 was designed to measure attitudes toward small-group procedures. The data for this item show that students felt they learned French better in small teacher-directed groups than in small non-teacher-directed groups.

The mean scores for item 5 were as follows: $X_1 = 4.0$, $X_2 = 4.9$, and $X_3 = 4.7$. These scores are significantly different. The results of the Scheffé procedure reveal that
significant differences exist between Treatment Groups I and II and between Treatment Groups I and III.

Item 5 was designed to measure attitudes toward whole-group instruction. Students in the teacher-directed groups expressed the least positive attitudes toward whole-group instruction. Students in the cooperative groups on the other hand expressed the most positive attitudes.

The mean scores for item 6 were as follows: \( X_1 = 5.0 \), \( X_2 = 4.0 \), and \( X_3 = 4.4 \). These scores are significantly different. The results of the Scheffé procedure reveal that a significant difference exists between Treatment Groups I and II.

Item 6 was designed to measure attitudes toward small-group instruction. Students in the teacher-directed groups expressed the most positive attitudes toward small-group instruction. Students in the cooperative groups expressed the least positive attitudes.

The mean scores for item 7 were as follows: \( X_1 = 4.9 \), \( X_2 = 4.0 \), and \( X_3 = 4.3 \). These scores are significantly different. The results of the Scheffé procedure indicate that a significant difference exists between Treatment Groups I and II.

Item 7 was designed to measure attitudes toward small-group instruction. Students in the teacher-directed groups expressed the most positive attitudes toward small-group
instruction. Students in the cooperative groups expressed the least positive attitudes.

The mean scores for item 8 were as follows: $X_1=3.8$, $X_2=4.7$, and $X_3=4.5$. These scores are significantly different. The results of the Scheffé procedure indicate that significant differences exist between Treatment Groups I and II and between Treatment Groups I and III.

Item 8 was designed to measure attitudes toward whole-group instruction. Students in the teacher-directed groups expressed the least positive attitudes toward whole-group instruction. Students in the cooperative groups expressed the most positive attitudes.

The mean scores for item 9 were as follows: $X_1=5.5$, $X_2=5.4$, and $X_3=5.5$. These scores do not differ significantly.

Item 9 was designed to measure attitudes toward small-group instruction. The data indicate that students in each treatment group felt well-prepared for the section of the next departmental grammar testing dealing with the use of prepositions before countries and cities.

The mean scores for item 10 were as follows: $X_1=4.5$, $X_2=3.5$, and $X_3=3.7$. These scores are significantly different. The results of the Scheffé procedure indicate that significant differences exist between Treatment Groups I and II and between Treatment Groups I and III.
Item 10 was designed to measure attitudes toward small-group instruction. Students in the teacher-directed groups expressed the most positive attitudes toward small-group instruction. Students in the cooperative groups expressed the least positive attitudes toward small-group instruction.

The mean scores for item 11 were as follows: $X_1=3.5$, $X_2=4.3$, and $X_3=3.9$. These scores are significantly different. The results of the Scheffé procedure reveals that a significant difference exists between Treatment Groups I and II.

Item 11 was designed to measure attitudes toward whole-group instruction. Students in the teacher-directed groups expressed the least positive attitudes toward whole-group instruction. Students in the cooperative groups expressed the most positive attitudes.

A two-way analysis of variance was done comparing the three treatment groups on poles I (items 5, 8, and 11) and II (items 4, 6, 7, and 11) of factor 1. Each pole, moreover, was considered a separate subtest of the attitude scale for this computation.

The mean scores for pole I were as follows: $X_1=11.3$, $X_2=13.9$, and $X_3=13.1$. These scores are significantly different. The results of the Scheffé procedure reveal that significant differences exist between Treatment Groups I and II and between Treatment Groups I and III. These findings are not surprising given the findings on the
individual items that comprise pole I (items 5, 8, and 11).

The mean scores for pole II were as follows: $X^1=19.4$, $X^2=15.3$, and $X^3=16.6$. These scores are significantly different. The results of the Scheffé procedure reveal that significant differences exist between Treatment Groups I and II and between Treatment Groups I and III. These findings were expected given the results of the comparisons of mean scores on the individual items that comprise pole II (items 4, 6, 7, and 10).

On the basis of the analysis of items 1 and 2 of the attitude scale, Hypothesis 2 is retained. The two-way analyses of variance done on the mean scores for these items produced no significant differences. Students in all of the treatment groups expressed highly positive attitudes toward cooperation.

Hypothesis 3 is rejected based on the results of the comparisons of the treatment groups on poles I and II of the attitude scale. The items that comprise pole I deal with attitudes toward whole-group instruction. Students in the teacher-directed groups expressed the least positive attitudes on these items (items 5, 8, and 11). Students in the cooperative groups on the other hand expressed the most favorable attitudes toward whole-group instruction. The items that comprise pole II deal with attitudes toward small-group instruction. Students in the teacher-directed groups expressed the most favorable attitudes toward small-
group instruction. Students in the cooperative groups on the other hand expressed the least positive attitudes on these items (items 4, 6, 7, and 11).

The results of the comparisons of the treatment groups on pole II indicate that students in the teacher-directed groups had a highly positive small-group experience. Given the highly positive attitudes they expressed on the items that comprise pole II, it is not surprising that they expressed less positive attitudes on the items that comprise pole I. These items were designed to measure attitudes toward whole-group instruction.

The results of the comparisons of the treatment groups on pole I indicate that students in the cooperative groups were positive in their attitudes toward their small-group experience. They were, however, much less positive in their attitudes than were students in the teacher-directed groups. Given their moderately positive attitudes toward small-group instruction, it is not surprising that they expressed highly positive attitudes on the items that comprise pole I. These items were designed to measure attitudes toward whole-group instruction.

**Results of the Correlation of all Variables**

In this part of the chapter significant relationships among the variables are reported. Table 11 presents a correlation matrix of all the variables. Table 12 gives the names and numbers of all of the variables, means and
### TABLE 11
CORRELATION MATRIX

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<th>9</th>
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<th>12a</th>
<th>13b</th>
<th>14c</th>
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<th>16e</th>
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*Significance level = .05.
**Significance level = .01.

aPosttest.
bPretest.
cDepartmental Posttest.
dPole I.
ePole II.
Table 12
VARIABLE NAMES AND NUMBERS, MEANS, STANDARD DEVIATIONS, SAMPLE SIZE

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<th>Standard Deviation</th>
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<td>1.1</td>
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</table>

Sample Size = 101
standard deviations, and an indication of the size of the sample that was used for these various computations.

The significant correlation coefficients that resulted from the intercorrelations of variables 4, 5, 6, 7, 8, 10, 11, 15, and 16 were not surprising. The factor analysis done on the attitude scale clearly showed the relationship of the items that comprised poles I and II (variables 4, 5, 6, 7, 8, 10, and 11).

The positive correlation coefficients that were produced from the correlation of item 1 with the other variables were unexpected (variables 1, 4, 7, and 16). These findings indicate that item 1 bears a weak relationship with pole II of factor 1 and that in subsequent research related to this study it should perhaps be included with items designed to measure attitudes toward small-group instruction.

The positive correlation coefficients that resulted from the correlation of item 3 with the other variables were not surprising. Item 3 correlated positively with item 8 and pole I (variables 3, 8, and 15). This item was designed to measure attitudes toward the teacher. Students in all of the treatment groups expressed positive attitudes toward teacher-directed whole-group instruction. Students in the non-teacher-directed groups were highly positive in their attitudes; students in the teacher-directed groups, however, expressed highly positive
attitudes toward teacher-directed small-group instruction. These findings appear to indicate that students in all of the groups value the teacher.

The findings for item 7 were expected with the exception of the negative correlation coefficient that resulted from the correlation of this item with the departmental posttest (variables 7 and 14). Previous research done in the United States has indicated that there is no relationship between attitude and achievement. The present finding, therefore, is difficult to explain.

Two significant correlation coefficients were produced from comparisons of the posttest and other variables (variables 12, 13, and 14). Scores on the posttest correlated positively with scores on the pretest and departmental posttest. These findings were expected.

Correlation of Achievement and Attitude Measures

In this final section of the chapter the results of the correlation of achievement and attitude measures are presented.

Hypothesis 4. There will be no significant relationship between achievement and attitudes of French 101 students as measured by an instrument developed for this study.

The correlation coefficients that were produced from the intercorrelations of each of the components of the attitude scale that measured student attitudes toward
small- and whole-group instruction and the posttest (variables 4, 5, 6, 7, 8, 10, 11, and 12) and the intercorrelations of poles I and II of the attitude scale and the posttest (variables 12, 15, and 16) did not attain significance. Based on these findings, Hypothesis 4 is retained.

This chapter presented the findings related to the hypotheses of the study. The next chapter provides a summary, limitations, conclusions, and recommendations.
CHAPTER V

SUMMARY, LIMITATIONS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter gives: (1) a summary of the study, (2) the limitations of the findings, (3) the conclusions that can be drawn from the data, and (4) recommendations for further research related to the study.

Summary

The major purpose of this study was to determine: (1) whether students in beginning college French classes would learn to apply a grammatical principle as well in small groups that were non-teacher-directed as they would in small groups that were teacher-directed; (2) whether students who worked in small groups whose structure required them to cooperate in a learning task would learn more about a grammatical principle than would students who worked in small groups whose structure did not incorporate this component of cooperation; (3) whether students who worked in small groups whose structure required them to cooperate in a learning task would perceive their experience to be more positive than would students who worked in small groups whose structure did not incorporate this
component of cooperation; and (4) whether or not there was any significant relationship between achievement and attitudes of French 101 students. It was necessary to develop instruments for the various phases of the study and to determine the validity and reliability of these instruments.

A total of 130 college students, who were enrolled in French 101 courses at The Ohio State University during the Spring Quarter of 1975, participated in the experiment. Six sections of French 101 were used for the study. There was an average of 22 students in each class. Students in each class were assigned randomly to one of three treatment groups. Treatment Group I was teacher-directed; Treatment Groups II and III were non-teacher-directed.

The instructional procedures used in the teacher-directed groups were nearly identical to procedures that had been used earlier in the Spring Quarter to teach other grammatical principles. At the beginning of the small-group activity the instructor handed out to each student a reference list of the French names of several masculine and feminine countries and of several cities. He then presented the grammatical principle deductively. After the presentation he helped students familiarize themselves with the principle through oral drills. Textbook exercises were used for this practice period. Finally, he related the principle to the lives of the students through
an oral personalized drill. Students were permitted to ask questions at any time during the small-group activity.

Novel instructional procedures were used in the non-teacher directed groups, in particular in the groups in which students cooperated in the learning activity. In the cooperative groups students were given three packets with instruction sheets that directed them to form three committees. The instructions further directed each committee to select a packet. Within each packet there was one essential component of the grammatical principle to be covered during the lesson, an explanation of how to apply the component, model sentences, a number of written exercises designed for oral practice of the component, an exercise consisting of personalized questions, and the same list of the names of countries and cities that had been distributed to students in the teacher-directed groups. Each committee was responsible for studying its particular component of the principle, presenting it to the other committees, answering any questions regarding its meaning and application, and helping the other committees practice it orally using textbook exercises.

In the other non-teacher-directed groups students were also given written instructions that outlined how they were to proceed with the lesson. They were asked to learn individually the same grammatical principle through written exercises identical to the exercises used in the teacher-directed groups.
A total of four tests were used in this study. Prior to the experiment, a pretest was administered to measure previous knowledge of the grammatical principle. Two criterion measures were utilized: an achievement test and attitude scale were given to measure the effects of the treatments. The third criterion measure consisting of items taken from a departmental grammar test administered during a regular class meeting three days after the experiment measured knowledge of the grammatical principle. These items were used to measure effects of the treatments over a period of time. With the exception of the attitude scale, the tests that were developed for this study were modelled after departmental grammar tests designed to test knowledge of the grammatical principle. These various tests were administered during regular class periods.

One-way analyses of variance were performed on the achievement scores to determine whether significant differences existed among treatment groups. Two-way analyses of variance were done on the individual items and on poles I and II of factor 1 of the attitude scale to discover significant differences among treatment groups. An intercorrelation matrix was also computed.

The one-way analyses of variance were computed by the BMD-01V Analysis of Variance for One-Way Design Program developed by the Health Sciences Computing Facilities at UCLA. The two-way analyses of variance and the correlations
were computed by the \textit{Soupac Program, Balanova 5 and Correlations Version} developed by the statistical consultants of the Department of Computer Science at the University of Illinois.

\textbf{Limitations of the Findings}

\textbf{Sample}

Because the demands of replication required a minimum number of classes and because the number of classes available for the study did not exceed the number required, it was not possible to select classes randomly; it was necessary, moreover, to experiment in fixed classes. Consequently, the sample used in this study is not necessarily representative of college students enrolled in elementary French courses throughout the United States nor even of students enrolled in French 101 at The Ohio State University. The Ohio State University is one of the largest American universities. There is some question, therefore, as to whether the findings of the study are generalizable to medium-sized and small colleges and universities, and to junior and community colleges. Because it was necessary to experiment in fixed classes, there is also some question as to whether the results of the experiment can be generalized to The Ohio State University.
Instruments

A limiting factor in this study is the extent to which the attitude scale is a valid instrument in determining student attitudes toward small- and whole-group instruction. The instrument is limited in terms of numbers of items; it contained a total of only eleven items. Of these eleven items only seven were shown by a factor analysis to be related. The remaining four had to be interpreted as separate subtests, each yielding a separate piece of information.

Procedures

Another limiting factor is related to the small-group procedures that were incorporated into the structure of the cooperative groups. These procedures were utilized in order to foster cooperative behavior among students. There is some question as to whether they did foster cooperative behavior.

Other techniques for fostering cooperative behavior are available. Their application could result in findings that would be different from the findings of the present study due to the fact that the techniques might foster varying degrees of cooperative behavior.

Conclusions

The conclusions discussed in this section of the chapter are based on the results of the various computations
presented in Chapter IV. The four primary objectives of this study provide an organization for the discussion of the conclusions.

Objective 1: To determine whether students would learn to apply a grammatical principle as well in small groups that were non-teacher-directed as they would in small groups that were teacher-directed.

The results of the one-way analysis of variance on the posttest showed that students can learn to apply the grammatical principle, which comprised the focus of this study, as well in non-teacher-directed groups as they can in teacher-directed groups. This finding suggests that teachers can incorporate into their lessons instructional procedures such as those employed by the non-teacher-directed groups and still have the confidence that for the grammatical principle under consideration in this study, and perhaps for other grammatical principles, students will attain a level of subject-matter mastery as high as the level attained by students in the teacher-directed groups.

Although no significant differences were found among treatment groups, there were slight differences in mean scores. These differences provide information that can be used as the basis for further research on the relative merits of the instructional procedures used in the treatment groups. The mean score data may indicate that the non-teacher-directed group, in which students studied the
grammatical principle individually and drilled it collectively, incorporated into its structure more of the necessary factors that promote subject matter learning than did the other groups. Further research could be designed to maximize the impact of this treatment.

The investigator believes that there is an important message—however tentative it may be—for foreign language educators, supervisors, and teachers in the results of the posttest. The data suggest that teachers give serious attention to the matter of implementing small-group procedures in their classrooms. Perhaps the greatest advantage of small-group procedures lies in the fact that they give students many more opportunities to interact than do whole-group procedures. It is obvious that frequency of interaction is directly related to amount of practice time available to students. It seems plausible to assert that small-group procedures given students many more opportunities to drill orally the essential grammatical principles and vocabulary of the language, to apply the grammatical principles and vocabulary they have mastered to communicative situations, and to practice important behavioral skills such as cooperation. As with whole-group procedures, the success of small-group procedures would appear to depend to a large extent on careful planning and implementation.
Objective 2: To determine whether students in non-teacher-directed groups would learn more about the use of prepositions before geographical names when they worked in small groups whose structure required them to cooperate in the learning task as compared to small groups whose structure did not incorporate this component of cooperation.

There is no evidence from the results of the tests used in this study to show that by incorporating into small-group procedures the affective component of cooperation, higher achievement scores resulted. It can be concluded, however, from the finding of no significant differences in mean scores on the posttest that the component of cooperation did not impede learning in the cooperative groups. Perhaps other affective components could be incorporated into small-group procedures without any negative effect on subject-matter learning.

Apart from a consideration of their effects on subject-matter learning, it is possible to consider affective components like cooperation in terms of affective learning. It seems plausible to assert that by repeatedly practicing cooperative behavior and other affective behaviors in class, students will in fact learn these behaviors.

Objective 3: To determine whether students who worked in small groups whose structure required them to cooperate in a learning task would perceive their experience to be more
positive in nature than did students who worked in groups where cooperation was not necessarily present.

The findings indicate clearly that students in the cooperative groups were less positive in their attitudes toward their small-group experience than were students in the teacher-directed groups. Further examination of the mean scores on the items designed to measure attitudes toward small-group instruction (items 4, 6, 7, and 10) shows that, although students were less positive, they did in fact express positive attitudes. The mean scores for the teacher-directed groups were more highly positive, thus explaining the significant differences between Treatment Groups I and II.

Significant differences were also found between the other non-teacher-directed groups and the teacher-directed groups. As in the comparison of the cooperative groups and the teacher-directed groups, each group expressed positive attitudes toward its group experience. Once again, the differences can be explained in terms of degree of positive attitude, the teacher-directed groups being more highly positive.

It had been anticipated that students in the non-teacher-directed groups, especially in the cooperative groups, would enjoy working apart from the teacher. The results of the comparisons discussed above, therefore, are surprising. In each case the teacher-directed groups
expressed more highly positive attitudes toward small-group instruction. Two factors appear to explain these findings: amount of individual attention received and degree of familiarity with small-group procedures and with fellow classmates.

The more highly positive attitudes of students in the teacher-directed groups seem to have resulted from the increased individual attention students received in the small-group setting. An examination of their responses on items designed to measure attitudes toward whole-group instruction provides evidence that appears to support this interpretation.

Students in the non-teacher-directed groups on the other hand had to rely on one another during the small-group activity. It must be pointed out that the experiment was conducted at the end of the second week of classes of the Spring Quarter. Whole-group instruction had been used almost exclusively up to this point in the quarter. Consequently, students had few opportunities to interact and to get to know one another. From the work that has been done on group dynamics, it is hypothesized that learning groups like the groups used in this study function well only after individuals have become familiar with one another and with small-group procedures. Furthermore, it is hypothesized that this process requires time. It appeared that students in the non-teacher-directed groups
were familiar neither with one another nor with small-group procedures on the day of the experiment. Their less positive attitudes seem to have resulted from this lack of familiarity with one another and with small-group procedures. Of the three treatment groups their attitudes toward whole-group instruction were most highly positive.

Objective 4: To determine the relationship that existed between achievement and attitudes of French 101 students.

The intercorrelations of the posttest with items on the attitude scale designed to reflect student attitudes toward their small-group experience show that there is no significant relationship among these variables. This finding supports the widespread research evidence of no relationship between attitude and achievement. It must be pointed out, however, that in the present study both attitude and achievement scores were high, that is, attitude scores were positive and achievement scores were at the mastery level.

Recommendations for Further Study

It is recommended that short-term empirical research such as this study be carried out on a widespread continual basis in foreign language classrooms. Investigations should attempt to isolate the factors in small-group instructional procedures that promote both affective and cognitive learning. In addition, they should attempt to discover whether
or not mean scores for teacher-directed and non-teacher-directed groups would consistently follow the pattern reported in this study.

This study was conducted in French classes. It is recommended that similar research be done in classes in other subject-matter areas.

Different grammatical principles should be the content focus of subsequent investigations. In addition to studying principles of equal difficulty it is recommended that principles of greater difficulty be studied. It seems plausible to expect that more difficult grammatical principles would provide a greater challenge to students and, consequently, would motivate them to cooperate to a greater extent.

It is suggested that a different testing procedure be used in other studies of small-group procedures. The present procedure appears to be biased in favor of students in the groups in which cooperation was not an essential component of the instructional procedures. If students in the cooperative group had been permitted to work together and to communicate information regarding the various components of the grammatical principle to one another during the posttest, the mean score for this group might have been considerably higher. This kind of testing procedure may be a more valid means of measuring the effects of cooperation on achievement.
It is recommended that additional research be done to ascertain whether or not affective behaviors such as cooperation can indeed be learned through small-group procedures similar to those described in this study and to determine the length of time necessary to practice these behaviors for transfer to other situations to take place.

The present study was carried out early in an academic term. It is suggested that similar experiments be conducted later in the academic term, after students have had more time to get to know one another and more experiences with small-group procedures. Previous studies in which students expressed positive attitudes toward cooperative small-group procedures were conducted over much longer periods of time than was the present study. It appears, therefore, that students participating in a short-term study such as the present study would express more positive attitudes toward a cooperative experience given increased familiarity with one another and with small-group procedures.
APPENDIX A

TEACHER INFORMATION SHEET
Purpose of the Study

The experiment is designed to show how much students learn in three different instructional settings and how they feel about their experiences in these different instructional settings. On Friday I would like you to divide your class into three groups. I will provide a list of student assignments to the groups as well as all other necessary materials. Please present the use of prepositions before geographical names as you normally would and drill orally for about twenty-five minutes. The other two groups will drill orally using the same written materials. In one of the other groups there will be a maximum of cooperation among the students—the written instructions will encourage them to cooperate in different ways. In the other group there will be less cooperation—that is, no guided cooperation. Each of these groups will drill for a period of twenty-five minutes. A follow-up quiz and attitude questionnaire will be administered. I would like to observe each of your classes so that I will be able to report on what took place. I will be happy to help you with the mechanics of the lesson.

IT IS IMPORTANT THAT:

1. The students be encouraged to attend on Friday.

2. The students perceive as little deviation from everyday classroom practice as possible—Friday appears to be a normal lesson.

3. The students work in small groups in advance of Friday.

4. The students not be sensitized to the fact that we are concerned with the use of prepositions before geographical names.

5. Any discussion of the use of the prepositions be postponed until Friday.

6. The students in the teacher-directed groups be permitted to have their books open during the oral drill period.

7. The students in the teacher-directed groups be told they are preparing for a short diagnostic quiz to be given at the end of the class hour.

8. The teacher present deductively to his/her small group the rules regarding the use of the prepositions.

9. The students be told that the quiz will not affect their grade in the course.
APPENDIX B

EXPLANATION OF GRAMMATICAL PRINCIPLE

AND TEXTBOOK DRILLS
Prepositions with Geographical Names

The preposition à (to, in, at) is used before the name of a city.

Je vais à Philadelphie. I am going to Philadelphia.
Paul va à Chicago. Paul is going to Chicago.

En (to, in, at) is used before the names of countries which are feminine. Most countries whose names end in e are feminine. Le Mexique is an exception. En /a/ is pronounced /än/ before a vowel sound.

Nous allons en Franc. We are going to France.
Paul est en Allemagne. Paul is in Germany.
Ils vont en Russie. They are going to Russia.

Au /o/ (to, in, at) is used before the names of countries which are masculine.

Je vais au Canada. I am going to Canada.
Paul est au Mexique. Paul is in Mexico.

Aux /oz/ (to, in, at) is used before Etats-Unis (united States).

Nous sommes aux Etats-Unis. We are in the United States
Paul va aux Etats-Unis. Paul is going to the United States.

a. Répondez négativement aux questions suivantes.

1. Allez-vous à Paris?
2. Allez-vous à Strasbourg?
3. Allez-vous à Marseille?
4. Allez-vous à Londres?
5. Allez-vous à Nice?
6. Est-ce que Paul va au Mexique?
7. Est-ce que Paul va aux Etats-Unis?
8. Est-ce que Paul va au Canada?
9. Est-ce que Paul va au Japon?
10. Habitez-tu en Italie?
11. Habitez-tu en Angleterre?
12. Habitez-tu en Suisse?
13. Habitez-tu en France?
14. Est-il en Allemagne?
15. Est-il en Espagne?
16. Est-il en Russie?
17. Est-il au Canada?
18. Est-elle au Mexique?
b. Formez des questions selon le modèle donné.

Le professeur: je vais à Londres. (Nice)
L'étudiant: Est-ce que vous allez à Nice aussi?

1. Je vais à Londres. (Nice)
2. Je vais à Paris. (Marseille)
3. Je vais à Lausanne. (Genève)
4. Je vais à New York. (Chicago)
5. Ils vont en France. (Angleterre)
6. Marie va en Suisse. (Allemagne)
7. Roger va en Espagne. (Italie)
8. Henrie va en Allemagne. (Russie)
9. Je vais au Mexique. (Etats-Unis)
10. Je vais au Canada. (Mexique)

c. Dans la phrase suivante, substituez les mots suggérés.

M. Dubois habite à Paris.

(Nice / Espagne / Londres / France / Lausanne / Mexique / Italie / Chicago / Etats-Unis / Angleterre / France / Canada)

d. Répondez aux questions suivantes selon l'indication donnée.

1. Où est Paul? (...Nice)
2. Où est M. Dubois? (...Angleterre)
3. Où sont M. et Mme Vincent? (...Etats-Unis)
4. Où habite Monique? (...Mexique)
5. Où habite Robert? (...Geneve)
6. Où habites-tu? (...----)
7. Où va Roger? (...Italie)
8. Où va Madeleine? (...Canada)

e. Posez les questions suivantes. Demandez à:

1. Chantal où elle habite.
2. Marc où il habite.
3. Jean où M. Dubois habite.
4. Hélène où Mme Legrand habite.

g. Donnez l'équivalent français des phrases suivantes.

1. He's French. He's a Frenchman. She's not German.
2. They're living in London. They live in Canada. They live in Spain.
APPENDIX C

MATERIALS FOR THE EXPERIMENT
INSTRUCTION SHEET: COOPERATIVE GROUP

INSTRUCTIONS (PLEASE READ CAREFULLY BEFORE OPENING THE PACKETS.)

1. If you do not know one another, please introduce yourselves using first names.

2. Please divide your group into three committees of equal size. Each committee will teach the other committees one of three rules regarding the use of prepositions before countries and cities.

3. The rules and a useful reference list of countries and cities are in the packets you have—there is a packet for each committee. Each packet also includes a series of exercises to be done orally—there are enough copies for everyone in the group.

4. Please distribute the packets quickly.

5. When you open your packet, read over the rule and exercises, and decide who will present the rule to the other committees and who will lead them in each exercise.

6. Each committee will have approximately five minutes to get organized and five minutes to teach.

7. Each committee has only one of the three rules. It is most important that you explain and drill your rule well.

8. After all three committees have taught one another, you will be given a short quiz to be used for diagnostic purposes. The results will not in any way affect your grade in the course.

9. Please get into committees and begin now.

10. Time is limited, so please work quickly.

11. The written drill exercises to be used for oral practice are the only thing you need distribute to the other committees.

12. It is important that each committee wait until it has presented its rule before passing out the drill exercises. This will minimize confusion.
GRAMMATICAL PRINCIPLE: COMPONENT I AND CORRESPONDING EXERCISES

Component I

The preposition à (to, in, at) is used before the name of a city.

Je vais à Philadelphie. I am going to Philadelphia.
Paul va à Chicago. Paul is going to Chicago.

EXERCISES (Please pass these out to the other committees only after presenting your rule. The drills are designed for oral practice.)

a. Answer the following questions negatively.

1. Allez-vous à Paris?
2. Allez-vous à Strasbourg?
3. Allez-vous à Marseille?

b. Substitute the suggested words in the following sentence.

   (Nice/Londres/Lausanne/Chicago/Chamonix/Québec)

c. Answer the following questions using the cue given.

1. Où est Paul? (... Nice)
2. Où habite Robert? (... Genève)
3. Où habites-tu? (...)
4. Vas-tu à Londres? (Non, ... Montréal)
5. Vas-tu à Paris? (Non, ... Marseille)
6. Vas-tu à Lausanne? (Non, ... Genève)

d. Answer the following questions.

1. Habites-tu à Cleveland?
2. Sommes-nous à Columbus?
3. Où êtes-vous?
4. Vas-tu à San Francisco ce week-end?
5. Où allez-vous ce week-end?
Component II

En (to, in, at) is used before the names of countries which are feminine. Most countries whose names end in e are feminine. Le Mexique is an exception. En /æ/ is pronounced /ən/ before a vowel sound.

Nous allons en France. We are going to France.
Paul est en Allemagne. Paul is in Germany.
Ils vont en Russie. They are going to Russia.

EXERCISES (Please pass these out to the other committees only after presenting your rule. The drills are designed for oral practice.)

a. Answer the following questions negatively.

1. Allez-vous en Italie?
2. Habites-tu en Angleterre?
3. Habites-tu en Suisse?

b. Substitute the suggested words in the following sentence.

1. M. Dubois habite en Espagne. (France/Italie/Angleterre/Ecosse/Autriche/Égypte)

b. Answer the following questions using the cue given.

1. Où est M. Dubois? (... Angleterre)
2. Où habites-tu? (...)
3. Où va Roger? (... Italie)
4. Vas-tu en France? (Non, ... Angleterre)
5. Vas-tu en Suisse? (Non, ... Allemagne)
6. Vas-tu en Italie? (Non, ... Espagne)

d. Answer the following questions.

1. Habites-tu en Russie?
2. Sommes-nous en Turquie?
3. Où êtes-vous?
4. Vas-tu en Écosse ce week-end?
5. Où allez-vous ce week-end?
Component III

Au /o/ (to, in, at) is used before the names of countries which are masculine.

Je vais au Canada. I am going to Canada.
Paul est au Mexique. Paul is in Mexico.

Aux /oz/ (to, in, at) is used before États-Unis (United States) and other plural countries.

Nous sommes aux États-Unis. We are in the United States.
Paul va aux États-Unis. Paul is going to the United States.

EXERCISES (Please pass these out to the other committees only after presenting your rule. The drills are designed for oral practice.

a. Answer the following questions negatively.

1. Habites-tu au Mexique?
2. Est-ce que Paul va aux États-Unis?
3. Est-ce que Paul va au Canada?

b. Substitute the suggested words in the following sentence.

1. M. Dubois habite au Mexique.
   (États-Unis/Canada/Japon/Portugal/Danemark/Sénégal)

c. Answer the following questions using the cue given.

1. Où sont M. et Mme Vincent? (... États-Unis)
2. Où habite Monique? (... Mexique)
3. Où habites-tu? (... )
4. Vas-tu au Mexique? (Non, ... Chili)
5. Vas-tu au Venezuela? (Non, ... Brésil)
6. Vas-tu au Portugal? (Non, ... Sénégal)

d. Answer the following questions

1. Habites-tu au Ghana?
2. Sommes-nous au Pérou?
3. Où êtes-vous?
4. Vas-tu aux Indes ce week-end?
5. Où allez-vous ce week-end?
INSTRUCTION SHEET: NON-COOPERATIVE,
NON-TEACHER-DIRECTED GROUP

INSTRUCTIONS (PLEASE READ CAREFULLY) (Please introduce yourselves.)

1. Being able to use the preposition a, au, aux, and en with the names of cities and countries involves knowing three rules.

2. Please open your books to page 42 and spend the next three minutes studying the rules for the use of prepositions before cities and countries.

3. Work individually as you study the rules. Please work quickly.

4. After studying the rules, practice orally with your group members.

5. Use drills a, c, and d on pages 42 and 43, and the supplementary drill below. Do the exercises aloud as you move from student to student going around the circle.

6. Refer to the useful Supplementary List of countries and cities on the next page is necessary. Cities and countries are listed separately.

7. Please work quickly so that you will have completed all drills in time for a short quiz to be given later in the class hour.

8. The results of the quiz will not in any way affect your grade in the course.

9. Time is limited so please work quickly.
Répondez aux questions suivantes.

1. Habites-tu à Pékin?
2. Allez-vous au Ghana?
3. Sommes-nous en Autriche?
4. Où êtes-vous?
5. Allez-vous au Pérou ce week-end?
6. Vas-tu à San Francisco ce week-end?
7. Où habites-tu?
8. Où allez-vous ce week-end?
### Supplementary List: French Names of Countries and Cities

<table>
<thead>
<tr>
<th>Feminine Countries</th>
<th>Masculine Countries</th>
<th>Cities</th>
</tr>
</thead>
<tbody>
<tr>
<td>la France</td>
<td>le Mexique</td>
<td>Paris</td>
</tr>
<tr>
<td>la Belgique</td>
<td>le Portugal</td>
<td></td>
</tr>
<tr>
<td>l'Italie</td>
<td>le Japon</td>
<td></td>
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<tr>
<td>l'Espagne</td>
<td>le Canada</td>
<td></td>
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<tr>
<td>l'Allemagne</td>
<td>le Brésil</td>
<td></td>
</tr>
<tr>
<td>l'Angleterre</td>
<td>le Chili</td>
<td></td>
</tr>
<tr>
<td>l'Autriche</td>
<td>le Pérou</td>
<td></td>
</tr>
<tr>
<td>la Hollande</td>
<td>le Venezuela</td>
<td></td>
</tr>
<tr>
<td>La Suisse</td>
<td>le Danemark</td>
<td></td>
</tr>
<tr>
<td>la Suède</td>
<td>le Kenya</td>
<td>Rome</td>
</tr>
<tr>
<td>la Norvège</td>
<td>le Nigeria</td>
<td></td>
</tr>
<tr>
<td>la Finlande</td>
<td>le Ghana</td>
<td></td>
</tr>
<tr>
<td>la Pologne</td>
<td>le Cameroun</td>
<td></td>
</tr>
<tr>
<td>la Tchécoslovaquie</td>
<td>le Sénégal</td>
<td>Londres</td>
</tr>
<tr>
<td>la Russie</td>
<td>les Etats-Unis</td>
<td></td>
</tr>
<tr>
<td>la Grèce</td>
<td></td>
<td></td>
</tr>
<tr>
<td>la Tunisie</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L'Égypte</td>
<td></td>
<td>Pékín</td>
</tr>
<tr>
<td>l'Algérie</td>
<td></td>
<td>Tokyo</td>
</tr>
<tr>
<td>la Turquie</td>
<td></td>
<td>Toronto</td>
</tr>
<tr>
<td>l'Arabie Saoudite</td>
<td></td>
<td>Montréal</td>
</tr>
<tr>
<td>l'Irlande</td>
<td></td>
<td>Québec</td>
</tr>
<tr>
<td>l'Ecosse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>La Chine</td>
<td></td>
<td>Berlin</td>
</tr>
<tr>
<td>l'Argentine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l'Australie</td>
<td></td>
<td>Venise</td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

APPENDIX D

ATTITUDE SCALE
PLACE AN X AT THE POINT ON THE SCALE THAT DESCRIBES YOUR FEELING ABOUT EACH STATEMENT.

1. I feel that cooperation among students in everyday classroom activities helps them to learn French most effectively.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

2. I feel that competition among students in everyday classroom situations helps them to learn French most effectively.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

3. I learn French best by working with the teacher.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

4. I learn French best by working in small groups like those used today.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

5. I learn French best by working teacher-directed whole-class activities.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

6. I would like to see more small group activities used in this course.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

7. I feel most comfortable working in small groups like those used today.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

8. I feel most comfortable working with the teacher and the whole class.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

9. I feel I will be able to perform well on the items on the next regular grammar test dealing with the use of prepositions before countries and cities.

   | Agree | Agree | Agree | Disagree | Disagree | Disagree |
   | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

10. I enjoy working in small groups more than I enjoy working with the teacher and the whole class.

    | Agree | Agree | Agree | Disagree | Disagree | Disagree |
    | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |

11. I enjoy working with the teacher and the whole class more than I enjoy working in small groups.

    | Agree | Agree | Agree | Disagree | Disagree | Disagree |
    | Strongly | Moderately | Slightly | Slightly | Moderately | Strongly |
APPENDIX E

A. Pilot Test
B. Pretest
C. Posttest
D. Departmental Posttest
A. PILOT TEST

DIAGNOSTIC QUIZ

Name ____________________________ French 101

This quiz is designed to give information about your knowledge of certain grammatical structures. It will not in any way affect your grade in the course.

Part I--Answer each of the following questions with a complete sentence using the word or words in parentheses. (1 point each)

1. Es-tu en Suede? (Non,...Canada)

2. Va-t-elle au Ghana? (Non,...Nice)

3. Où habitons-nous? (...Russie)

Part II--Rewrite each of the following sentences as a question replacing the underlined word with the word in parentheses and making other necessary changes. (1 point each)

1. Elle va en Allemagne. (Pérou)

2. Xavier et Sylvie sont à Chamonix. (Finlande)

3. J'habite à Québec (Marseille)

Part III--Rewrite each of the following sentences using the word or words in parentheses. (1 point each)

1. Nous sommes à San Francisco. (tu...Danemark)

2. Je vais au Sénégal. (tu...Berlin)

3. Dominique habite à Lausanne. (nous...Nigeria)

4. Patricia va en Égypte. (je...Turquie)

5. Tuez au Cameroun. (vous...Genève)
6. Elles habitent à Toronto. (il...Algérie)

PART IV--Circle the letter which corresponds to the best completion for each statement. (1 point each)

1. Nous sommes au ____.
   a. Irlande
   b. Chicago
   c. Portugal

2. Marie-Hélène habite à ____.
   a. Berlin
   b. Venezuela
   c. Japon

3. Vous allez en ____.
   a. Canada
   b. Norvège
   c. Leningrad

4. Tu es au ____.
   a. Brésil
   b. Venise
   c. Pologne

5. Ils habitent à ____.
   a. Washington
   b. Ghana
   c. Kenya

6. Les jeunes filles vont en ____.
   a. Rome
   b. Chili
   c. Argentine

Part V--Write complete sentences using the cues given. (1 point each)

1. nous/être/Nice

2. Paul/habiter/Espagne

3. elle/être/Moscou

4. Claire/aller/Pekin

5. tu/être/Mexique

6. je/aller/New York

Part VI--Circle a or b. If you choose b, rewrite the sentence replacing the underlined word with the correct geographical name and making other necessary changes in the sentence. (1 point each)

1. Toronto est en Finlande.  a. true  b. false

2. Londres est en Angleterre.  a. true  b. false

3. San Francisco est aux États-Unis.  a. true  b. false
4. Marseille est au Venezuela. a. true  b. false

5. Québec est au Canada. a. true  b. false

6. Tokyo est en Chine. a. true  b. false
B. PRETEST

DIAGNOSTIC TEST French 101

This test is designed to give information about your knowledge of certain grammatical structures. It will not in any way affect your grade in the course. Rather, it will be used to improve language programs. Please work quickly completing each item to the best of your ability. It is most important that you finish the test before leaving class.

Part I--Circle the letter which corresponds to the best completion for each statement. (1 point each)

1. Les garçons vont en____.
   a. Marseille
   b. Lausanne
   c. Hollande

5. Jacques et Claire____.
   a. aimons le vin
   b. va au restaurant
   c. vont au cinéma

2. Nous parlons____.
   a. à demain
   b. avec Jean
   c. San Francisco

6. Nous allons en____.
   a. Japon
   b. Chine
   c. Rome

3. Elle habite à____.
   a. Genève
   b. Portugal
   c. Mexique

7. Tu habites à______.
   a. Québec
   b. Brésil
   c. États-Unis

4. Nous sommes au____.
   a. Chili
   b. Nice
   c. Suisse

8. Je suis au______.
   a. Écosse
   b. Londres
   c. Mexique

Part II--Rewrite each of the following sentences using the word or words in parentheses. (1 point each)

1. Je parle avec Marie. (nous...)

2. Nous sommes au Pérou. (je...Montreal)

3. Jacqueline va en Ireland. (tu...Écosse)

4. Elles habitent à Venise. (vous...Ghana)
Part III—Answer each of the following questions with a complete sentence using the word or words in parentheses. (1 point each)

1. Où habites-tu? (...Autriche)

2. Comment vas-tu? (...bien, merci)

3. Vont-elles en Pologne? (Non, ...Pékin)

4. Sommes-nous en Italie/ (Non, ...Portugal)

Part IV—Rewrite each of the following sentences as a question replacing the underlined word with the word in parentheses and making any other necessary changes. (1 point each)

1. Il est à Washington. (Strasbourg)

2. Je vais en Tunisie. (Venezuela)

3. Tu parles français. (espagnol)

4. Pierre et Anne habitent à Amsterdam. (Hongrie)

Part V—Choose a or b. If you choose b, rewrite the sentence replacing the underlined word with the correct geographical name and making any other necessary changes. (1 point each)

1. Washington est aux États-Unis. a. true b. false

2. Rome est en Autriche. a. true b. false

Part VI—Write complete sentences using the words given. (1 point each)

1. vous/habiter/Athènes

2. nous-parler/français
3. vous/habiter/Danemark

4. Pierre/aller/Belgique
C. POSTTEST

DIAGNOSTIC QUIZ

This quiz is designed to give information about your knowledge of certain grammatical structures. It will not in any way affect your grade in the course.

Part I—Answer each of the following questions with a complete sentence using the word or words in parentheses. (1 point each)

1. Es-tu en Suède? (Non, ... Canada)

2. Va-t-elle au Ghana? (Non, ... Nice)

3. Où habitons-nous? (... Russie)

Part II—Rewrite each of the following sentences as a question replacing the underlined word with the word in parentheses and making other necessary changes. (1 point each)

1. Elle va en Allemagne. (Pérou)

2. Xavier et Sylvie sont à Chamonix. (Finlande)

3. J'habite à Québec. (Marseille)

Part III—Circle the letter which corresponds to the best completion for each statement. (1 point each)

1. Nous sommes au ___.
   a. Irlande
   b. Chicago
   c. Portugal

2. Marie-Hélène habite à ___.
   a. Berlin
   b. Venezuela
   c. Japon

3. Vous allez en ___.
   a. Canada
   b. Norvège
   c. Leningrad

4. Tu es au ___.
   a. Brésil
   b. Venise
   c. Pologne
5. Ils habitent à ____.
   a. Washington
   b. Ghana
   c. Kenya

6. Les jeunes filles vont en ____.
   a. Rome
   b. Chili
   c. Argentine

7. Tu es au ____.
   a. Égypte
   b. Danemark
   c. Athènes

8. Je suis à ____.
   a. Danemark
   b. Chili
   c. Berlin

9. Nous habitons au ____.
   a. Nigeria
   b. San Francisco
   c. Hongrie

10. Je vais en ____.
    a. Turquie
    b. Pérou
    c. Portugal

11. Vous êtes à ____.
    a. Grèce
    b. Japon
    c. Genève

12. Il habite en ____.
    a. Brésil
    b. Algérie
    c. Rome

13. Nous sommes en ____.
    a. Kanya
    b. Finlande
    c. Moscou

14. Il va au ____.
    a. Tours
    b. Suisse
    c. Venezuela

15. Tu es au ____.
    a. Canada
    b. Hongrie
    c. Rome

Part IV—Write complete sentences using the cues given.
   (1 point each)

1. nous/être/Nice

2. Paul/habiter/Espagne

3. elle/être/Moscou

4. tu/être/mexique
D. DEPARTMENTAL GRAMMAR TEST

I. Circle the letter which corresponds to the best completion.

1. Vous habitez au ____.
   a. Portugal  
   b. France  
   c. Paris

2. Les autres sont à ____.
   a. Strasbourg  
   b. Italie  
   c. Japon

II. Rewrite the sentences using the word(s) in parentheses. Make all necessary changes.

1. Elle habite à Paris. (Vous ... Mexique)

2. Je suis à Londres. (Ils ... Italie)

III. Answer the questions using the words in parentheses.

1. Où habitez-vous? (... Allemagne)

IV. Write complete sentences using the words given and making the necessary changes and/or additions.

1. tu/habiter/Marseille

2. elles/arriver/Portugal
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